northern ireland water

Delivering what matters

Annual Information Return 2021

for Public Domain

Annual Information Return 2021

for

Public Domain

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Annual Information Return 2021

Section 1

Board's Overview

Board's Statement

Northern Ireland Water's board of directors is required by the Utility Regulator to prepare a statement on the compilation of the Annual Information Return (AIR), explaining that it has satisfied itself as to the accuracy and completeness of the information provided.

The directors consider that the AIR provides a true and fair view of the state of affairs of NI Water for the financial year 2020/21. With respect to the preparation of the AIR, subject to any departure and explanation described in the commentary, the directors confirm:

- suitable accounting policies have been selected and applied consistently;
- judgements and estimates that have been made are reasonable and prudent;
- UK Accounting Standards and applicable law (IFRS) have been followed, subject to any material departures disclosed and explained in the financial statements.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that its financial statements comply with the Companies Act 2006.

The directors who held office at the date of approval of this Board's Statement confirm that, so far as they are each aware, there is no relevant audit information of which the company's auditors are unaware and each director has taken all reasonable steps they should have taken as a director to make themselves aware of any relevant audit information and to establish that the company's auditors are aware of that information.

The Board's Statement sets out how NI Water's Board has satisfied itself that the information provided in the AIR is as reliable, accurate and complete as is reasonably practicable.

Processes and Internal Systems of Control

The AIR has been compiled in accordance with NI Water's AIR Completion Manual, which ensures clear ownership of AIR data, evidence of peer review and procedural documentation covering the compilation processes were followed in completing the AIR submission.

The AIR Completion Manual details roles, responsibilities and governance procedures, and provides guidance and templates for the completion of AIR methodologies, data tables and company commentaries.

Project Governance

The AIR project was coordinated by NI Water's Regulation Manager and representatives (senior managers) from relevant functional areas, i.e. those functions which contribute data to the AIR submission.

The Regulation Manager ensured:

1. information was disseminated to and from AIR contributors;
2. adherence to the AIR submission programme;
3. implementation of Reporter's recommendations.

Senior managers from across NI Water were responsible for:

- ensuring that the Utility Regulator's AIR reporting requirements were understood and followed;
- ensuring that relevant AIR line methodologies were updated in accordance with the reporting requirements;
- coordinating the population of data tables and the drafting of associated company commentaries in accordance with line methodologies and reporting requirements in compliance with the AIR programme;
- ensuring that relevant line methodologies, data tables and company commentaries were reviewed and approved in accordance with the AIR Completion Manual's roles and responsibilities matrix.

In order to maintain accuracy, consistency and a clear audit trail, roles and responsibilities for each element of the AIR submission were defined for the three key components of AIR, namely:

- line methodologies,
- data tables, and
- company commentaries.

Population of data tables and drafting of associated company commentaries were in accordance with the Utility Regulator's AIR reporting requirements. In addition, company-specific methodologies (line methodologies), explaining how raw data is collected, processed and input to the data tables, were updated and adhered to when populating data tables and drafting company commentaries.

To ensure consistency of reporting for AIR, every item of data provided in the AIR tables had a designated author, reviewer and approver. In all cases, the approver was an appropriate senior manager.

Independent Review

Audit plans were developed by the Reporter and external Auditor. The Reporter's audit plan was developed in accordance with the Utility Regulator's AIR reporting requirements and was approved by NI Water and the Utility Regulator.

Audits were undertaken by the company's Auditor and the Reporter in May and June. Feedback from the Reporter and Auditor was used to amend tables and commentaries where appropriate.

The complete AIR was endorsed by NI Water's Executive Committee and Board on 10th and 23rd June 2021 respectively.

Board Involvement

In summary, the involvement of NI Water's Board in the completion of the AIR included:

- Reviewing monthly company business performance updates;
- Considering the findings of the Reporter and Auditor as presented in June 2021;
- Reviewing, commenting on and approving the Board's Overview;
- Reference to NI Water's Executive Committee and senior management team to verify corporate information;
- Executive Directors received regular reports on progress and reviewed, challenged, commented and influenced the content of the AIR.

The following measures help to ensure that the AIR complies with the Utility Regulator's reporting requirements and provides some assurance with respect to material assumptions and judgements included in the AIR commentaries:

- Clear accountability at senior management level for the ownership of all elements of AIR. NI Water has established an accountability trail from the information providers to the line owners through to heads of function.
- Every item of data in AIR has a designated author, reviewer and approver.
- Every provider of data produces a written methodology documenting the method used for the derivation of the data reported.
- Every item of financial data is prepared and reviewed by separate individuals and reconciled to the chart of accounts.
- Before each item of data is included in the AIR it is reviewed and approved by senior management in the data provider's business area.
- NI Water facilitates access to allow the Reporter and Auditor to review all relevant information required to discharge their duties.
- The Board receives regular presentations during the course of the year on key performance indicators, regulatory performance and key issues reported in the AIR.
- The Auditor presents to NI Water's audit committee and the Reporter presents to the Board at the conclusion of the AIR audit process.
- Directors may challenge the production and content of the AIR to satisfy themselves that their duties are fulfilled.
- In any case of uncertainty regarding data, commentary or line methodology, NI Water seeks advice and clarification from the Utility Regulator, the Reporter or the Auditor as appropriate.

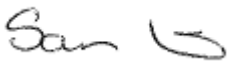
Directors' Endorsement

NI Water's board believes that it has developed and applied processes, governance and systems of internal control sufficient to meet its obligations for the provision of information contained in the Annual Information Return.

Each director is satisfied that:

a) so far as he/she is aware, there is no relevant audit information of which NI Water's auditors or reporters are unaware;
b) He/she has taken all reasonable steps as a director to make himself/herself aware of any relevant audit information and to establish that NI Water's auditors and reporters are aware of the information.

For and on behalf of NI Water:



Sara Venning
Chief Executive, Northern Ireland Water

Dr Leonard J. O. O'Hagan CBE
Chairman, Northern Ireland Water

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE A - WATER SERVICE - KEY OUTPUTS AND SERVICE DELIVERY (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	2 REPORTING YEAR 2013-14	3 REPORTING YEAR 2014-15	4 REPORTING YEAR 2015-16	5 REPORTING YEAR 2016-17	6 REPORTING YEAR 2017-18	7 REPORTING YEAR 2018-19	8 REPORTING YEAR 2019-20	9 REPORTING YEAR 2020-21
A	**Consumer Service**											
1	DG2 Properties at risk of low pressure removed from the risk register by company action	nr	0	297	132	186	171	40	175	176	115	168
2	DG2 Properties receiving pressure below the reference level at end of year	nr	0	1420	1257	1082	900	862	711	719	626	578
3	DG3 Supply interruptions > 12hrs (unplanned and unwarned)	%	2	0.32	0.14	3.10	0.10	0.06	0.10	0.04	0.09	0.00
4	DG3 Supply interruptions (overall performance score)	nr	2	1.98	0.97	11.72	1.14	0.66	0.81	0.44	0.79	0.21
5	DG6 % billing contacts dealt with within 5 working days	%	2	100.09	99.92	99.97	99.96	99.98	99.97	99.99	99.97	99.98
6	DG7 % written complaints dealt with within 10 working days	%	2	99.78	99.72	99.96	99.87	100.00	99.87	100.00	99.95	99.89
7	DG8 % metered customers received bill based on a meter reading	%	2	98.73	99.11	99.11	99.23	99.52	99.67	99.67	99.53	99.22
8	Call Handling Satisfaction	nr	2	4.54	4.63	4.65	4.59					
9	DG9 % calls not abandoned	%	2	98.45	98.40	97.99	99.43	99.54	99.51	99.45	99.50	97.64
10	DG9 % calls not receiving the engaged tone	%	2	100.00	100.00	99.99	99.92	99.97	99.99	99.99	99.98	99.96
11	Overall Performance Assessment (OPA) score (11 Measures)	nr	0	198	216	206	230	228	236	245	246	265
12	Total Leakage	Ml/d	0	162	167	166	162	163	162	160	161	158
13	Security of supply index	nr	0	100	100	100	100	100	100	100	100	99
14	Percentage of NI Water's power usage derived from renewable sources	%	1	13.4	33.1	51.4	39.8	35.5	36.9	39.4	44.3	43.1
B	**Quality Water**											
15a	% overall compliance with drinking water regulations	%	2	99.77	99.81	99.86	99.83	99.86	99.88	99.90	99.90	99.94
15b	% compliance at consumers tap	%	2	99.63	99.74	99.78	99.74	99.77	99.81	99.83	99.84	99.91
16	% iron compliance at consumers tap	%	2	97.25	98.08	98.95	98.40	98.66	98.85	98.94	98.89	99.56
17	% Service Reservoirs with coliforms in >5% samples	nr	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	**Water Outputs**											
18	Water mains activity - Length of new, renewed or relined mains	km	0	326	226	223	117	172	126	167	149	104
19	Completion of nominated trunk main schemes	nr	0	2	0	1	2	1	0	0	0	1
20	Completion of nominated water treatment works schemes	nr	0	0	0	3	1	0	0	0	1	1
21	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks	nr	0	1	0	1	0	0	1	0	1	1
D	**Serviceability**											
22	Water infrastructure serviceability	Text		Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
23	Water non-infrastructure serviceability	Text		Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
E	**New Output Measures**											
24	Number of Catchment Management Plans	nr	0		3	5	3	7	3	0	2	0
25	Number of lead communication pipes replaced under the proactive lead replacement programme	nr	0		0	401	1922	1867	1767	2070	1781	1675
26	Number of school visits	nr	0	138	150	209	277	257	219	246	229	266
27	Number of other education events	nr	0	35	38	59	65	64	62	66	143	12
28	% Service Reservoirs where sample taps have been assessed and are to required	%	1				0.0	0.0	72.9	98.3	100.0	100.0

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE B - SEWERAGE SERVICE - KEY OUTPUTS AND SERVICE DELIVERY - WATER SERVICE (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	2 REPORTING YEAR 2013-14	3 REPORTING YEAR 2014-15	4 REPORTING YEAR 2015-16	5 REPORTING YEAR 2016-17	6 REPORTING YEAR 2017-18	7 REPORTING YEAR 2018-19	8 REPORTING YEAR 2019-20	9 REPORTING YEAR 2020-21
A	**Consumer Service Sewerage**											
1	DG5 Properties at risk of flooding - number removed from 2 in 10, 1 in 10 and 1 in 20 risk register by company action.	nr	0	66	11	28	7	7	17	9	1	11
2	DG5 Properties on the 2 in 10, 1 in 10 and 1 in 20 risk register at the end of the year	nr	0	193	190	179	160	156	134	124	119	108
B	**Quality Sewerage**											
3	% of WwTWs discharges compliant with numeric consents	%	1	93.3	92.0	92.4	92.8	93.6	93.5	94.8	94.9	95.3
4	% of total p.e. served by WwTWs compliant with numeric consents excluding upper tier failures	%	1	98.8	98.0	98.4	98.6	98.9	98.7	99.4	99.5	99.5
5	Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%	2				80.72	83.99	87.21	86.64	89.29	90.91
6	Number of high and medium pollution incidents attributable to NI Water	nr	0	18	26	25	21	22	20	16	13	9
C	**Sewerage Outputs**											
7	Sewerage activity - Length of sewers replaced or renovated	km	0	24	25	21	17	9	15	11	19	13
8	Delivery of improvements to nominated UIDs as part of a defined programme of work	nr	0	38	11	17	26	11	11	8	3	1
9	Delivery of improvements to nominated WwTWs as part of a defined programme of work	nr	0	12	17	16	3	2	1	6	2	3
10	programme	nr	0	14	7	18	4	8	3	8	9	12
D	**Serviceability**											
11	Sewerage infrastructure serviceability	Text		Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
12	Sewerage non-infrastructure serviceability	Text		Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
E	**New Output Measures**											
13	CSO and EO discharges at which event and duration monitoring equipment has been installed	nr	0				0	0	0	115	37	127
14	WwTWs upgraded to comply with PPC Regulations	nr	0				0	0	1	6	7	2
15	Impermeable surface water collection area removed from the combined sewerage network	m^2	0				28,560	54,864	119,200	34,103	59,586	0
16	Number of sustainable WwTW solutions delivered (p.e. ≥ 250)	nr	0				1	1	1	1	0	0
17	Number of sustainable WwTW solutions delivered (p.e. < 250)	nr	0				0	1	0	0	1	1

Chapter 1
PC15 Outputs
Tables A and B

1.1 Improvements to Drinking Water and Environmental Quality

Water Quality

Overall drinking water quality compliance in 2020 was above the target of 99.79%.

In 2020/21 we successfully trialled an innovative mobile testing facility at Derg water treatment works, County Tyrone. This pilot provides real-time analysis to optimise capital investment at the treatment works. The system has been running in parallel with the existing treatment works, using a number of different processes and technologies to improve how we treat raw water and will be used across our treatment works to reduce energy and chemicals while maintaining wholesome drinking water quality.

NI Water is one of the largest land owners in Northern Ireland. The forests and peatbogs in our water catchments provide a natural form of water purification, protect against floods, help reduce greenhouse gas emissions by storing carbon and enable us to restore our biodiversity. Since 2017 we have been carrying out an EU INTERREG VA Programme funded investment of €4.9m under the Source to Tap project to improve the Erne and Derg cross-border river catchments that are a source of our drinking water: piloting changes in land management techniques, such as fencing to exclude livestock and replacing boom spraying of the herbicide MCPA with weed-wipers, which helps to reduce the amount of herbicide running off into rivers and streams.

Over 200 farm visits have been carried out to identify where improvements can be made to support both farm businesses and the water environment through a land incentive pilot scheme to help improve freshwater quality. Our project officers also work with volunteers and local communities to raise awareness of the importance of protecting drinking water resources.

Peatbog restoration work under the Source To Tap project in 2020/21 included 30 hectares of formerly afforested land on the Pettigoe Plateau, County Fermanagh. This pilot project involves the conversion of a previous commercial conifer plantation to a functioning bog. The pilot is trialling a technique called cell bunding, where low peat embankments are constructed in order to enclose 'cells' of variable shapes and sizes on both high bog and cutover. The aim is to establish peat-forming conditions within each cell by raising the water table within it to support Sphagnum Moss development. We will be comparing the recovery of the water table in the bog to other areas where, rather than building cell bunds, only the drains are blocked.

In 2020/21 we commenced a new peatland restoration project on the shores of Lough Bradan, County Tyrone to raise the water table and benefit water quality and biodiversity. We are exploring opportunities for EU PEACE PLUS funded catchment projects: the 'IDEALS' Project to build on the Source to Tap project and Killylane catchment restoration project in County Antrim.

Over 2020/21 NI Water provided resources for a 'wet wood' flood alleviation project alongside the Faughan River. Tree species planted together include alder, aspen, Sessile oak, Downy

birch and willows. The planting of 2,000 trees and creation of ponds within private land will improve water quality, store carbon, increase biodiversity by providing new havens for wildlife and contribute towards societal well-being. Our ambition over the next decade is to plant one million of the right trees in the right place.

Meenbog Landslide

The pollution incident caused by a peatland landslide in County Donegal in November 2020 had a devastating impact on the Mournebeg River in County Tyrone from which we abstract raw water. We had to react quickly to this incident in order to protect customers served by the Derg water treatment works. Resilience measures were activated to ensure that the drinking water supply was not impacted. These measures included taking raw water from the Strule River to feed the Derg water treatment works. The alternative water abstraction arrangements and enhanced monitoring will remain in place until it is safe to recommence abstraction of raw water from the River Derg. NI Water plays a key role in the Inter-Agency group which is aiming to remediation work to restore the Mournebeg and Derg Rivers.

Water Supply

We have embraced an 'every minute counts' ethos in response to supply interruptions. We are always looking at ways to improve our performance and are exploring innovative solutions to help us identify problems on our water network before customers are affected.

During 2020/21, we implemented key initiatives such as new planned work procedures and deploying water tankers and laying temporary supplies in order to minimise interruptions during planned and unplanned operations. These initiatives have helped us reduce lost minutes per property for our customers by 60% over 2020/21. Our PC21 Business Plan includes capital investment to reduce the minutes lost per property by 50%, aiming for zero lost minutes per property by 2050.

Demand Surge and Driest Spring on Record

With many people based at home from early April 2020, we saw a significant increase in household water use during periods of warmer weather.

In parallel with the first lockdown, Northern Ireland experienced its driest spring since records began, with a number of impounding reservoirs at their lowest level since 1995. As a consequence, demand surges were experienced, thus increasing pressure on the network and water treatment works.

Water supply was increased to maximum levels and supported by extensive tankering to vulnerable points in the network. To keep customers engaged, the media campaign was wide ranging from interactive videos on social media, to TV and radio advertisements. One strand focused on what each person could do to save water and made saving water sound easy and something we could all achieve. We also developed a live interactive map on our website where a simple click would display where your water comes from and what level the reservoir was sitting at.

In addition, as part of our Drought Plan, the Drought Order application process was instigated for the first time with a Drought Order implemented for an emergency abstraction to supplement a raw water source. This was despite the impounding reservoirs being full at the start of March 2020. A combination of our response and a period of cooler, wetter weather saw reservoir levels restore from June 2020.

Water Resilience for the North West, County Down and Belfast

Three key projects totalling £14m are being progressed in the North West to support future resilience of the water supply infrastructure over the next two years. The first project involves the replacement of a 4km water main, which supplies a large rural area outside Coleraine.

The second project, involving the construction of temporary water pumping stations at Moys in Limavady, will help supply additional water from Ballinrees water treatment works in Coleraine to Carmoney water treatment works, which serves the city of Derry/Londonderry. This will increase the capacity of the water supply infrastructure and provide additional resilience, particularly during emergency situations and extreme weather conditions. The third project involves an upgrade to the existing River Faughan raw water pumping station at Carmoney water treatment works. This will include replacement of the weir gates to provide extra security and resilience.

Another significant investment is a £13 million scheme to improve the security of the water supply at Drumaroad water treatment works, Castlewellan, County Down. This major programme of work will continue until summer 2021 and involves the construction of a new water storage tank. This treatment works is supplied by water from Silent Valley reservoir and delivers around 140 million litres of water every day to over 200,000 homes in County Down and Belfast. Once complete, this will have a positive impact on the lives of up to 540,000 people - a quarter of the Northern Ireland population, who can benefit from increased resilience and security of the water supply, particularly in emergency situations.

Leakage

In 2020/21 we reduced leakage by over 2.85Ml/d to 157.71Ml/d. Our leakage teams continued to work around the clock to locate and repair approximately 220 leaks per week.

Our highly skilled technicians use a variety of leakage detection methods to find the leaks, whether they are on burst water mains or in customer properties. Common techniques involve using listening sticks and ground microphones. In 2020/21 we tested a number of initiatives to detect leakage such as acoustic loggers and satellites. Acoustic loggers pinpoint leaks by measuring the noise of escaping water that follows a leak or burst and then sending an alert, together with details of its location, allowing us to focus effort in that area. Satellite technology uses various wavelengths of the visible and invisible light spectrum to locate leaks.

For PC21 we set ourselves the challenge of achieving the sustainable economic level of leakage (150Ml/d).

Lead Pipes

The water leaving our water treatment works and in the distribution systems contains only trace amounts of lead. However, where lead has been used for supply pipes between the water main and the kitchen tap or in domestic plumbing, there is a risk of non-compliance at customers' taps. So, even with the removal of all lead pipes within our network, there will be a risk to lead compliance due to lead pipe remaining within customers' properties.

During PC15 we replaced over 11,000 lead communication pipes at consumer properties in addition to lead pipe replacement as part of the water main rehabilitation programme and in response to sample failures.

We plan to replace over 11,000 lead communication pipes in PC21. We are also taking part in an UKWIR project looking at the water chemistry of lead. This project is focused on advancing the water industry's understanding of the chemistry that controls the solubility of lead and how to achieve compliance with the proposed reductions in the lead standard.

Wastewater

We recognise the need to improve how we measure wastewater compliance. The current regulatory monitoring programme is based on pre-announced rather than unannounced regulatory sampling at the treatment works and the reported wastewater compliance does not incorporate flow compliance for the wastewater treatment works or the sewer network. This provides an incomplete picture of environmental compliance and protection. We are working with the NIEA and other stakeholders to reform the wastewater compliance model to improve compliance across the whole wastewater system. This is known as the water reform programme.

The programme involves a review of discharge standards. To assist this, we are undertaking an unannounced sampling programme to get a better understanding of wastewater treatment works' performance. The unannounced sampling programme was paused in the period April to July 2020 due to Covid-19 restrictions, and recommenced from August 2020. We are also installing event and duration monitors on our sewer network to better understand spills from combined sewer overflows and enable regulatory reporting on spills over 2021/22.

A number of key PC21 projects will improve wastewater compliance and support the water reform programme. These include delivery of capital investment schemes to upgrade wastewater treatment works and parts of the network, doubling the number of event duration monitors to around 650, installing flow meters and improving our environmental models.

A £10m programme of work has commenced at Belfast wastewater treatment works. The extensive project involves the construction of two new treatment tanks to cope with current and short-term future wastewater requirements. The two new treatment tanks will provide much needed additional secondary treatment capacity and will facilitate essential improvements within the associated sewerage networks, ensuring wastewater treatment for Belfast remains compliant, in advance of the Living With Water Programme commencing.

A major cross-border project, aimed at improving water quality in Carlingford Lough and Lough Foyle through enhanced wastewater treatment, has seen the completion of four of its eight wastewater upgrades over 2020/21. The Shared Waters Enhancement and Loughs Legacy (SWELL) project is being led by NI Water, working in partnership with Irish Water, the Agri-Food & Biosciences Institute (AFBI), Loughs Agency and East Border Region. It was awarded €35m in 2018/19, as part of the EU's INTERREG VA Programme. The four-year project involves the construction of new wastewater treatment works as well as upgrades to sewerage networks at strategic locations on both sides of the border to address wastewater pollution in Carlingford Lough and Lough Foyle.

The four wastewater upgrades included new wastewater infrastructure at Warrenpoint wastewater treatment works and Newpoint wastewater pumping station (Newry) located in the Carlingford Lough drainage basin and at Strabane wastewater treatment works and Donemana wastewater treatment works located in the Lough Foyle drainage basin. SWELL partners, Irish Water, will deliver a further four projects in 2021/22 at Lifford, Killea and Carrigans in County Donegal and in Omeath, County Louth.

With match-funding for the SWELL project provided by the Department of Housing, Local Government and Heritage in Ireland and the Department of Agriculture, Environment and Rural Affairs in Northern Ireland, the SWELL project will culminate in the development of an innovative ecosystem legacy model. The model will link various aspects of environmental modelling such as urban drainage models, catchment models, coastal models and ecological models, undertaken within the catchments and the respective loughs over the lifecycle of the project. This will enable tracking the pathways of nutrients and contaminants of wastewater, industrial or agricultural sources to determine their impact on the receiving waters. Importantly, this legacy model will assist the water utilities and regulatory bodies on both sides of the border by identifying best approaches to achieving further improvement of overall water quality in the future.

1.2 Delivering Service to Customers

In our ambition to deliver an exceptional customer experience, we are embracing new ways to meet rising customer expectations. Over 2020/21 we enhanced our social media service, which now covers 08:00-20:00, seven days a week. Followers have increased by around 450 on Facebook and 60 on Twitter per month. We have also introduced live webchat, which customers have embraced.

We undertook a review of our website to make it more customer friendly and to encourage greater use of digital channels, such as optimising our automated chatbot to answer even more customer enquiries. We have also upgraded our incident management system to improve the information on our website when our customers experience an interruption to water supply.

In 2020/21 we started work on our new digital services platform. The first phase was completed in March 2021 and focuses on improving how customers can manage their accounts and perform activities such as paying bills or checking consumption.

Our customers tell us they want a modern, interactive web-based platform where they can submit applications for our services, track progress, make payments and digitally sign documents without the need for paper or telephone contact. Over 2021/22, we will offer digital applications for connections to our water or wastewater network for housing developers and applications for trade effluent. The scope of services offered on the platform will continue to grow in future years.

We are also applying digital solutions across other areas of the business. In PC21 we will implement a number of innovative strategic planning and business case processes, including combining a number of computer modelling programmes to replicate the outside environment, inside. This is commonly referred to as a 'digital twin' and incorporates our sewerage and storm systems, rivers and streams, overland flow of water and the analysis of how these impact upon our environment.

This analysis will allow us to participate in modelling potential multi-agency solutions to deliver cleaner water, reduce the risk of flooding and improve local amenity, whilst also increasing biodiversity within our towns and cities, working in partnership with other Government agencies and local councils.

Our Customer Care Register offers a range of free additional services for those customers who need extra help, such as an alternative water supply when supplies have been

interrupted for a prolonged period. We have worked closely with Health Trusts and Councils to garner support for promotion of our Register and developed ways in which customers can register by introducing online and postal services. Over 2020/21, we introduced the ability for customers requiring additional support to easily register online. Customers can also provide details of leaks and blocked sewers through this channel. We will continue our engagement with stakeholders to identify other avenues to grow the numbers on our register.

We have been particularly focussed through Covid-19 on providing support for our non-domestic customers who experience difficulty in paying their bills by working with them to agree repayment plans.

1.3 Delivering Sustainable Services

NI Water's ambition is that services will always contribute to a flourishing natural environment. The goal is to fully exploit innovative approaches to energy, new technology, revised design standards, reuse/repurposing of existing assets and artificial intelligence to reduce our carbon footprint and ultimately become carbon neutral.

NI Water manages a range of SCaMP (Sustainable Catchment Area Management Practice) projects in order to improve the quality and reliability of the water through sustainable catchment based solutions that focus on protecting and enhancing the natural environment. In order to achieve this, NI Water is adopting a range of adaptation and mitigation measures which will affect almost every aspect of our business, including improved instrumentation, automation and control of plant and equipment, investing in new treatment processes and pumping systems to reduce their energy demand and the emission of other greenhouse gasses, increasing self-generation of renewable energy and procurement of more renewable energy.

In 2020/21, we upgraded the existing wastewater treatment works in Ballykelly, County Derry/Londonderry by developing a sustainable integrated constructed wetland to enhance the traditional treatment works and reduce energy and carbon. We are also examining the potential of solar power to provide half of the energy needs for the works, lowering our electricity costs and carbon emissions.

We are continuing to invest in replacing our existing treatment assets with lower energy solutions as part of our part of our £47m rural wastewater investment programme. The recently completed Lisnagunogue rural wastewater treatment works in County Antrim involved replacing an existing aeration process with a lower energy process, and with the addition of solar panels, is delivering a 75% reduction in energy consumption at the site. Further work is ongoing to identify opportunities for lower carbon treatment solutions, with a target of seven wastewater treatment sites within our PC21 business plan.

We deal with around 15,000 blockages of our sewers each year, over 11,000 of which could have been prevented. The most common causes of these blockages is the flushing of items which do not dissolve down the toilet such as wet wipes and the disposal of fats, oils and grease (FOG) down the sink. Our 2020/21 media campaign employed a Covid-19 related strand due to the rise in toilet roll purchased and the increased use of wet wipes. Further customer campaigns focussed on rubble blocking a sewer, historic seabed wet wipes, sewer related debris in Lough Erne, County Fermanagh and fatbergs in Portrush, County Antrim.

We continued the seasonal campaigns around bag it and bin it and FOG over Christmas and Easter. This was accompanied with bag it and bin it messages in specific geo-located areas through social media and working with a variety of stakeholders to highlight the issue. This was in turn supported by the work of our education team who engage school children and the community to support and spread the message. Over 2021/22, our campaigns will continue to highlight the reasons behind out of sewer flooding and pollution incidents.

Carbon Footprint

As Northern Ireland's single largest electricity consumer, our goal is to fully exploit innovative approaches to energy and new technology to reduce our carbon footprint and ultimately become carbon neutral by 2050.

There have been a number of significant developments over 2020/21 including the move towards mandatory climate change reporting against the Taskforce for Climate-related Financial Disclosures (TCFD) for large sections of the UK economy by 2025, a consultation on a Climate Change Bill for Northern Ireland and the publication of Water UK's net zero carbon route map.

We have undertaken a gap analysis with TCFD and identified a number of actions to take in advance of mandatory TCFD reporting for large companies such as NI Water, which HM Treasury has provisionally scheduled over 2022 and 2023. Over 2021/22 we plan to develop a climate change strategy in liaison with key stakeholders such as the DfI and the Utility Regulator covering mitigation and adaptation measures. The strategy will outline the governance arrangements, include a net zero carbon route map to 2050 and address climate resilience.

In 2020/21, we increased our electricity consumption from renewable sources such as solar and hydro power to 40%. We unveiled a ground breaking concept to help kick start the hydrogen economy in Northern Ireland. We were awarded £5m of funding from the Department for the Economy (DfE) to undertake an innovative oxygen and hydrogen demonstrator project that will deploy a state-of-the-art, 1 Megawatt electrolyser at a major wastewater treatment works. This will be the first in the UK and Ireland to demonstrate how electrolysis can help to increase processing capacity, reduce carbon emissions and improve flexibility in the electricity grid.

During 2020/21 we have made total energy savings of 9,567,896 kWh through energy reduction projects and the use of energy from renewable sources. We are targeting a reduction of around 20% in operational emissions over each of the next five price controls to reach net zero operational emissions by 2050. Developments in future technologies and the growth of renewables may enable us to reach this goal sooner.

The majority of our carbon emissions are from grid electricity, with the remaining emissions being attributed to areas such as sludge emissions and transport. The annual carbon emissions resulting from activities of NI Water have decreased by 8.2%, decreasing from 79,327 t/CO2e in 2019/20 to 72,862 t/CO2e in 2020/21. This equates to 0.175 tonnes of carbon dioxide equivalent per million litres of treated water in 2020/21 (2019/20: 0.118 tCO2e/Ml) and 0.501 tonnes of carbon dioxide equivalent per million litres of treated wastewater in 2020/21 (2019/20: 0.386 tCO2e/Ml).

The annual carbon emissions resulting from the purchase of electricity have decreased by 7.74%, decreasing from 75,111 t/CO2e in 2019/20 to 69,300 t/CO2e in 2019/20.

1.4 Health and Safety

Health and safety is an integral part of NI Water's day-to-day business. NI Water's vision for health and safety for employees, contractors and customers is the 'pursuit of zero harm by raising standards and performance through the identification and adoption of industry best practice and the development of an empowered, valued, engaged, accountable and competent workforce'.

NI Water continues to work very closely with all our contractor partners and staff ensuring that we always provide a safe, healthy work environment for all.

We have recently taken some major steps along continual improvement with the procurement of new technical software to assist in the management of health and safety. We have also just commenced a five year strategy aimed at further improving safety, health and welfare.

With regard to direct safety performance reporting, NI Water had five reportable workplace incidents during 2020/21, each of which resulted in more than three days' absence from work. This was within our corporate H&S KPI target of not more than seven work related incidents - the same as in the previous reporting year.

Each lost time incident at NI Water is reviewed by both our SHE Team and our Health & Safety Focus Group in order to learn from past experience and further improve safety. The table below indicates our annual safety performance on 'Reportable Incidents' since 2007.

1.5 PC15 Funding

NI Water was subject to public expenditure capital budget reductions in the first three years of PC15. The Project Alpha acquisition in 2017/18 further reduced gross capital expenditure. Although the impact of these budget adjustments was somewhat mitigated by lower than

expected inflation, the real terms budget reduction at the start of PC15 led to delays in capital output delivery which continued to impact the PC15 programme.

In advance of the commencement of 2019/20, NI Water advised DfI and principal stakeholders of the funding profile necessary in 2019/20 and 2020/21 to enable completion of PC15 nominated outputs. Whilst this did not exceed the total anticipated funding envelope for PC15, it necessitated a capital budget in 2019/20 of c.£171m and c.£123m in 2020/21.

Ultimately, this level of funding was not available in 2019/20 and, as a consequence of the resulting late start of multiple projects, several nominated outputs did not achieve beneficial use in the PC15 period. The biggest impact was on the delivery of wastewater treatment, water mains and UID outputs.

1.6 PC15 Targets for 2019/20

Tables 1.1 and 1.2 below provide a tabular summary of NI Water's delivery of services and outputs in 2020/21 compared to PC15 Final Determination targets. Where appropriate, these have been adjusted to take into account variations resulting from PC15 change controls and carry-over from PC13. The following targets have not been achieved:

1. **Leakage:**

   Despite a reduction of 2.85 Ml/d in 2020/21, we did not meet our PC15 leakage target of 153 Ml/d.

   We have struggled with leakage over PC15. Our PC21 Business Plan set out how we can achieve the sustainable economic level of leakage of 150 million litres per day. To succeed we need to find more innovative ways to track down leaks and save water.

   In 2020/21 we tested a number of initiatives to detect leakage, such as acoustic loggers and satellites. Acoustic loggers pinpoint leaks by measuring the noise of escaping water that follows a leak or burst and then sending an alert, together with details of its location, allowing us to focus effort in that area. Satellite technology uses various wavelengths of the visible and invisible light spectrum to locate leaks.

2. **Security of Supply Index (SoSI):**

   Increased distribution input (DI) was observed in 2020/21 due to changing working and hygiene habits in response to Covid-19. In the western supply zone, where there is limited headroom, the impact of increased DI resulted in a small theoretical deficit within the zone of 0.12Ml/d, giving a SoSI of 99.9953. The SoSI reporting methodology requires this to be rounded down to 99%.

   The PC21 plan includes a strategic pipeline from Carmoney to Strabane to provide future resilience to this area.

3. **Properties receiving pressure below reference level (DG2):**

   Whilst we outperformed against our target to remove properties from the low pressure register through company action, more properties have been added to the register than anticipated through better information, gathered through a variety of activities. These include:

   - pre/post-rehabilitation logging and analysis,

- routine pressure logging,
- operational changes (e.g. rezoning, etc.),
- RAPID property updates (e.g. new/unknown properties, etc.)
- customer contact (e.g. low pressure complaints, etc.).

As set out in our PC21 business plan, we recognise that the low pressure register requires a full refresh. Our intention is to complete this work in the first year of PC21.

4. Calls Not Abandoned (DG9)

During 2020/21 we undertook a pilot trial which relaxed some KPIs (including DG9), used existing systems to deflect warm voice calls and enhanced our social media offerings to give an even better customer experience.

These new channels of choice have provided extra support to customers, offering real-time engagement. Whilst the PC15 abandoned calls target for 2020/21 was 99%, under the trial this was relaxed to 95%. Customers have embraced and welcomed our new offerings which has been reflected in our customer experience scores in both SIM and NPS.

5. Water Mains

In advance of the commencement of 2019/20, NI Water advised DfI and principal stakeholders of the funding profile necessary in 2019/20 and 2020/21 to enable completion of PC15 nominated outputs. Whilst this did not exceed the total anticipated funding envelope for PC15, it necessitated a capital budget in 2019/20 of £171m and £123m in 2020/21.

Ultimately, this level of funding was not available in 2019/20 and, as a consequence of the resulting late start of multiple projects, several water mains projects did not achieve beneficial use in the PC15 period.

6. Water Treatment Works

The PC15 final determination was not fully funded in the early years of the PC15 period. This necessitated reprioritisation of the capital programme and resulted in delays to the commencement of several nominated water treatment works (WTW).

The pilot trial at Derg WTW (from March to Sept 2020) was delayed by Covid-19, which required the implementation of additional safeguards to allow the work to continue in proximity to the operational WTW.

Upgrades to Derg, Ballinrees and Dorisland WTW will be completed in PC21.

7. Properties removed from the flood risk register (DG5)

Rephasing of construction, as a consequence of the engineering complexity and traffic management constraints of the Ravenhill Avenue sewerage scheme, meant that the final PC15 target for the removal of properties at risk of flooding could not be achieved by the end of 2020/21.

8. Unsatisfactory Intermittent Discharges (UIDs)

In advance of the commencement of 2019/20, NI Water advised DfI and principal stakeholders of the funding profile necessary in 2019/20 and 2020/21 to enable completion of PC15 nominated outputs. Whilst this did not exceed the total

anticipated funding envelope for PC15, it necessitated a capital budget in 2019/20 of c.£171m and c.£123m in 2020/21.

Ultimately, this level of funding was not available in 2019/20 and, as a consequence of the resulting late start of multiple projects, several UID projects did not achieve beneficial use in the PC15 period.

9. Wastewater Treatment Works (WwTW)

Problems acquiring land resulted in a delay to the Ards North scheme (3 WwTW) and to the Ballygowan upgrade. Land for both Ards North and Ballygowan has now been acquired and work commenced in the fourth quarter of 2020/21. Covid restrictions resulted in delays to Ballykelly WwTW, with beneficial use anticipated in August 2021.

10. Small WwTW Compliance

Small WwTW compliance can be influenced and improved both through operational and/or capital interventions. The Rural Wastewater Investment Programme (RWwIP) delivered capital improvements to 44 small works during the PC15 period. The programme was largely prioritised by compliance.

Delivery of capital improvements at some of the small WwTW sites is dependent on the successful acquisition of land. In order to maintain progress, capital improvements were completed at some lower priority sites (with operational or asset condition drivers) that may not contribute to the small WwTW compliance target.

11. CSO and EO event and duration monitoring equipment

The PC15 final determination included a target for the installation of 347 CSO/EO monitors. Following initial investigation of the sewerage network to determine the specific requirements at each CSO/EO, a number of sites were found to have been decommissioned or to lie outside the intended monitoring area. Consequently, we anticipated the installation of 279 monitors in the PC15 period.

Although the planned number of monitors in PC15 has reduced, the investment required per monitor has increased due to enhanced functionality at each site. For example, for health and safety reasons it has been necessary to move instrumentation into kiosks. In addition, pilot trials indicated that the new monitor design should be mains powered in order to deliver consistent information via telemweb.

Table 1.1 – 2020/21 Targets and Outputs: Customer Service and Water

	Units	20/21 FD Target #	2020/21 Outturn
DG2 Properties at risk of low pressure removed from the risk register by company action *	nr	836	845
DG2 Properties receiving pressure below reference level at end of year	nr	296	578
DG3 Supply interruptions > 12hrs (unplanned and unwarned)	%	0.15	0.00
DG3 Supply interruptions (overall performance score)	nr	0.96	0.21
DG6 % billing contacts dealt with within 5 working days	%	99.90	99.98
DG7 % written complaints dealt with within 10 working days	%	99.50	99.89
DG8 % metered customers received bill based on a meter reading	%	99.00	99.22
DG9 % Calls not abandoned	%	99.00	97.64
DG9 % calls not receiving the engaged tone	%	99.90	99.96
Overall Performance Assessment (OPA) score (11 Measures)	nr	236	265
Total Leakage	Ml/d	153	158
Security of supply index	nr	100	99
Percentage of NI Water's power usage derived from renewable sources	%	40.0	43.1
% overall compliance with drinking water regulations	%	99.79	99.94
% compliance at consumers tap	%	99.69	99.91
% iron compliance at consumers tap	%	97.10	99.56
% Service Reservoirs with coliforms in >5% samples	%	0.00	0.00
Water mains activity - Length of new, renewed or relined mains *	km	905	835
Completion of nominated trunk main schemes *	nr	4 [1]	4
Completion of nominated water treatment works schemes *	nr	6	3
Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks *	nr	3	3
Water infrastructure serviceability	Text	Stable	Stable
Water non-infrastructure serviceability	Text	Stable	Stable
Number of Catchment Management Plans *	nr	15 [2]	15 [2]
Number of lead communication pipes replaced under the proactive lead replacement programme *	nr	11,064	11,082
Number of school visits *	nr	1,056	1,494
Number of other education events *	nr	342	412
% Service Reservoirs where sample taps have been assessed and are to required standard *	%	100	100

* PC15 cumulative target / outturn
# Final Determination targets for 2020/21 amended to reflect PC15 change controls and PC13 carry-over.

[1] Includes 1 PC13 carry-over trunk main (Castor Bay – Belfast) added to Final Determination target
[2] Includes 2 funded by EU INTERREG VA and excludes all out-of-service catchments.

Table 1.2 – 2020/21 Targets and Outputs: Sewerage

	Units	20/21 FD Target #	2020/21 Outturn
DG5 Properties at risk of flooding - number removed from the 2 in 10, 1 in 10 and 1 in 20 risk register by company action *	nr	62	52
DG5 Properties on the 2 in 10, 1 in 10 and 1 in 20 risk register at the end of the year	nr	124	108
% of WwTWs discharges compliant with numeric consents [NIW + PPP]	%	94.5	95.3
% of total p.e. served by WwTWs compliant with numeric consents excluding upper tier failures [NIW + PPP]	%	99.2	99.5
Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%	96.7	90.91
Number of high and medium pollution incidents attributable to NI Water	nr	23	9
Sewerage activity - Length of sewers replaced or renovated *	km	74	83
Delivery of improvements to nominated UIDs as part of a defined programme of work *	nr	78 [1]	60 [2]
Delivery of improvements to nominated WwTWs as part of a defined programme of work *	nr	21 [3]	17 [4]
Small wastewater treatment works delivered as part of the rural wastewater investment programme *	nr	44 [5]	44
Sewerage infrastructure serviceability	Text	Stable	Stable
Sewerage non-infrastructure serviceability	Text	Stable	Stable
CSO and EO discharges at which event and duration monitoring equipment has been installed *	nr	347	279
WwTWs upgraded to comply with PPC Regulations *	nr	n/a [6]	16
Impermeable surface water collection area removed from the combined sewerage network *	m^2	190,000	296,313
Number of sustainable WwTW solutions delivered (p.e. ≥ 250) *	nr	2	4
Number of sustainable WwTW solutions delivered (p.e. < 250) *	nr	3	3

* PC15 cumulative target / outturn
# Final Determination targets for 2019/20 amended to reflect PC15 change controls and PC13 carry-over.

[1] Includes UIDs added to 2018/19 Final Determination target via Change Control
[2] Excludes PC15 UIDs completed in PC13
[3] Includes 3 WwTW added to Final Determination target: 2 PC13 carry-over (Artigarvan, Castle Archdale) + Loup (via Change Control). Excludes Maghaberry, which is currently treated as an additional output.
[4] Excludes Annacloy WwTW: delivered in PC13
[5] Excludes 1 WwTW (Loup) removed from Final Determination target via Change Control
[6] No target set in Final Determination

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE C - EXPENDITURE & FINANCIAL PERFORMANCE MEASURES (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	2 REPORTING YEAR 2013-14	3 REPORTING YEAR 2014-15	4 REPORTING YEAR 2015-16	5 REPORTING YEAR 2016-17	5 REPORTING YEAR 2017-18	6 REPORTING YEAR 2018-19	7 REPORTING YEAR 2019-20	8 REPORTING YEAR 2020-21
A	**TOTAL EXPENDITURE**											
1	Total operating expenditure - water service (NI Water only)	£m	3	71.882	70.914	69.932	76.947	80.362	84.765	90.334	80.971	88.141
1a	Total operating expenditure (PPP) - water service	£m	3	1.845	8.234	8.431	8.225	9.062	9.323	9.721	9.549	10.076
2	Total capital expenditure (excl. adopted and nil cost assets) - water service	£m	3	69.303	71.809	86.920	63.796	67.719	62.807	70.162	75.556	78.493
3	Total operating expenditure - sewerage service (NI Water only)	£m	3	72.113	73.300	71.330	73.126	71.950	74.758	76.367	74.216	79.273
3a	Total operating expenditure (PPP) - sewerage service	£m	3	26.488	24.896	24.323	25.096	25.377	25.693	10.908	12.722	14.052
4	Total capital expenditure (excluding adopted and nil cost assets) - sewerage service	£m	3	92.709	95.548	71.881	79.692	86.551	89.721	100.824	96.699	98.706
B	**CURRENT COST ACCOUNTS - PROFIT & LOSS**											
5	Total Turnover	£m	3	366.398	361.313	364.407	367.287	372.854	381.099	409.662	422.314	412.533
	Lines 6 & 7 not used											
C	**CAPITAL BASE & POST TAX RETURN**											
8	Capital Value Year - End (outturn)	£m	3	1,812.80	1,948.80	2,045.50	2,133.30	2,244.90	2,396.10	2,537.90	2,672.40	2,611.20
9	Total net debt	£m	3	868.158	909.323	946.748	980.545	1010.647	1079.329	1330.886	1370.422	1420.825
10a	Post tax return on capital	%	2	1.12	1.05	2.96	2.57	2.60		5.72	5.48	4.37
10b	Pre tax return on capital	%	2	1.12	1.05	2.96	2.57	2.60		5.72	5.48	4.35
D	**KEY FINANCIAL INDICATORS**											
11	Cash interest cover (funds from operations; gross interest)	ratio	2	3.34	3.60	3.52	3.38	3.45	3.50	3.20	3.31	2.99
12	Adjusted cash interest cover (funds from operation less capital charges; gross interest)	ratio	2	-0.03	0.27	0.91	0.83	0.91	1.98	1.61	1.70	1.15
13	Adjusted cash interest cover (funds from operation less capital maintenance; gross interest)	ratio	2	1.70	1.67	2.00	1.76	1.58	1.74	1.78	1.97	1.45
14	Funds from operations: debt	ratio	2	0.15	0.13	0.13	0.12	0.12	0.12	0.10	0.10	0.08
15	Retained cash flow: debt	ratio	2	0.12	0.12	0.12	0.09	0.10	0.07	0.08	0.09	0.07
16	Gearing: D/RCV	%	2	47.89	46.66	46.74	46.24	47.46	45.86	53.61	52.64	56.36
17	Gearing: D/RCV (adjusted for PPP liability)	%	2		49.12	49.09	48.47	49.45	47.78	56.96	55.84	59.25

Chapter 2
Financial Performance Measures
Table C

2.1 Financial Performance

The financial performance section refers to NI Water (the Group) unless otherwise indicated.

Summary Consolidated Statement of Comprehensive Income

	Year to 31 March 2021 £m	Year to 31 March 2020 £m
Revenue	**418.9**	429.1
Results from operating activities	**117.4**	147.3
Net finance charges	**(59.2)**	(62.8)
Profit before tax	**58.3**	84.5
Income tax expense	**(11.5)**	(36.1)
Profit for the year	**46.7**	48.4
Other comprehensive expenditure, net of income tax	**(29.0)**	(0.3)
Total comprehensive income for the period	**22.8**	48.1

Revenue

Domestic consumers are not charged directly for water and wastewater services. As a result, NI Water is dependent on Government subsidy for more than 70% of its total revenue.

Revenue was £418.9m for the year to 31 March 2021 (2020: £429.1m). Included in revenue was £337.0m (2020: £332.5m) received from DfI, being subsidy of £314.2m (2020: £309.9m) and road drainage charges of £22.8m (2020: £22.6m). All the revenue was in relation to NI Water Limited as subsidiary revenue was all within the Group.

A reduction of £2.0m (2020: £0.8M) to Revenue was made to take account of the estimated impact of COVID-19 on our billed customers towards the end of the financial year. It is expected that there will be a more significant impact in 2020/21.

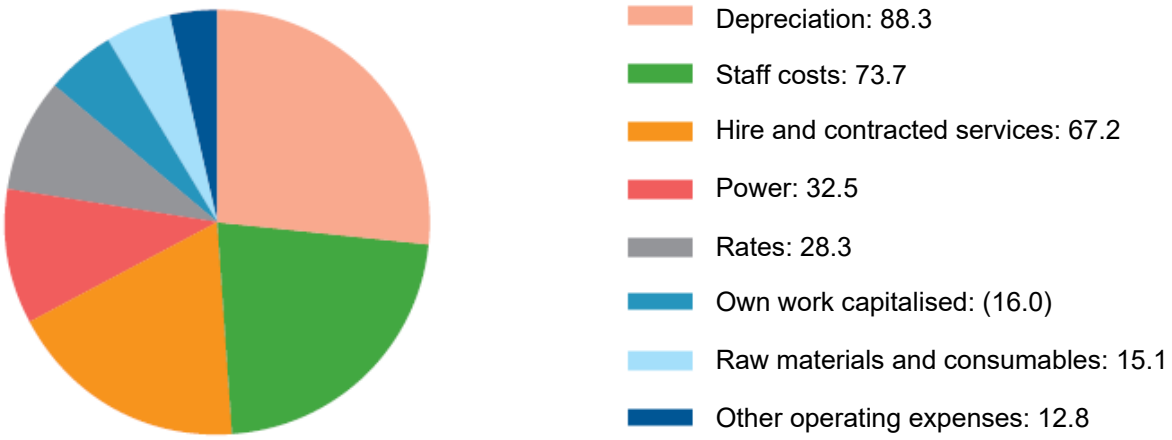
Sources of revenue 2020/21 (£m)

2.2 Costs (capital and operating) against expectations

Operating activities

Operating expenses in 2020/21 of £301.9m (2020: £282.0m) increased from last year. The increase primarily resulted from higher hire and contracting costs arising largely due to COVID-19, higher staff costs and higher depreciation costs as a result of the increased asset base. Results from operating activities before interest for the year was £117.4m (2020: £147.3m).

Operating expenses 2020/21 (£m)



Finance income and costs

The net finance costs are primarily due to interest on our borrowings of £49.5m (2020: £50.0m); our Public Private Partnership (PPP) liabilities of £11.7m (2020: £12.2m) and net finance costs on the pension fund of £0.6m (2020: £0.7m). This was partly offset by £2.1m (2020: £nil) fair value amortisation in the value of financial liabilities and fair value impairment of senior loan debt and bank interest received of £0.5m (2020: £0.1m).

Taxation

The tax charge for the year was £11.5m (2020: £36.1m) for which payment is deferred to future years. The effective tax rate for the year to 31 March 2021 was (19.8%) (2020: 42.6%). The decrease from 2020 is largely due to the increase in the rate of corporation tax by 2% to 19% experienced in 2019/20.

Distributions

The Board will consider a proposal to declare a dividend of £31.2m in July 2021 (2020: £29.9m).

Capital Structure

The Consolidated Statement of Financial Position (SOFP) at 31 March 2021 as presented on page 132 is summarised below. In 2020/21 we adopted IFRS 16 Leases. The Group has a limited number of lease contracts and the value added to the asset base at the start of the year was £2.6m with an equivalent amount added to lease liability.

Total assets increased by 4.6% to £3,515.0m (2020: £3,359.1m).
Our net debt figure was £1,416.9m at 31 March 2021 (2020: £1,370.1m).
Gearing (the ratio of net debt to equity and net debt) was 56.0% (2020: 55.0%).

Summary Consolidated Statement of Financial Position

	At 31 March 2021 £m	At 31 March 2020 £m
Total non-current assets	**3,437.8**	3,298.1
Total current assets	**77.2**	61.0
Total assets	**3,515.0**	3,359.1
Equity	**1,115.2**	1,122.3
Total non-current liabilities	**2,243.7**	2,106.2
Total current liabilities	**156.1**	130.6
Total liabilities	**2,399.8**	2,236.8
Total equity and liabilities at 31 March	**3,515.0**	3,359.1

Liquidity

Operating activities generated a net cash inflow of £200.7m (2020: £235.3m). Net cash outflows of £159.5m (2020: £179.7m) related to investing activities. Net financing activities created a cash outflow of £16.4m (2020: £59.5m).

Our working capital requirements are met from a committed working capital facility of £20m and from available positive cash balances.

Interest is accrued on the working capital facility at floating interest rates based on London Inter-bank Offered Rates (LIBOR).

Investing activities included the acquisition of property, plant and equipment of £170.9m (2020: £186.1m), proceeds from the sale of property, plant and equipment of £0.3m (2020: £1.5m), interest received of £0.3m (2020: £0.1m) and grants received of £11.1m (2020: £4.8m).

Pension funding

The pension scheme was valued at a liability of £62.6m at 31 March 2021 (2020: liability of £42.5m). This was made up of a total market value of assets of £293.6m (2020: £234.0m) less actuarial value of liabilities £356.2m (2020: £276.5m). The increase in the net liability arises primarily due to the lower than expected return on the Scheme's assets and the impact of COVID-19.

Capital

We have invested £2.6bn in Northern Ireland's water and wastewater infrastructure since our formation in 2007/08.

Around £177m of capital investment was delivered during 2020/21. £97m was invested in maintaining the current assets and a further £81m was invested to deliver quality enhancements, improve service and accommodate growth.

2.3 PPP contracts

Kinnegar Wastewater Treatment Works

A contract with Coastal Clear Water Limited was signed on 30 April 1999 for the provision of sewage treatment, which covered the upgrading of the Kinnegar Waste Treatment Works with a capital cost in the region of £11 million. The contract is for 25 years with an end date of 30 April 2024. The cost and net book value of assets included in Property, Plant and Equipment at 31 March 2021 is £12.89m and £5.37m respectively (2020: £12.35m and £5.22m). The amount included in PPP Creditors at 31 March 2021 is £1.02m (2020: £1.87m).

Alpha

A contract with Dalriada Water Limited was signed on 30 May 2006 for the provision of bulk drinking water supplies. This has a capital cost in the region of £111 million. The service provision commenced roll-out from November 2008. The contract is for 25 years with an end date of 29 May 2031. The cost and net book value of assets included in Property, Plant and Equipment at 31 March 2021 is £126.81m and £82.05m respectively (2020: £125.16m and £84.35m). The amount included in PPP Creditors at 31 March 2021 is £79.1m (2020: £82.41m). With the acquisition by the Group of Dalriada Water Limited during 2017/18 the PPP creditor at group level is eliminated on consolidation.

Omega

A contract with Glen Water Limited was signed on 6 March 2007 for the provision of sewage treatment / sludge disposal at six sites with a capital cost in the region of £132 million. The contract is for 25 years with an end date of 5 March 2032. The cost and net book value of assets included in Property, Plant and Equipment at 31 March 2021 is £150.4m and £100.54m respectively (2020: £149.07m and £102.28m). The amount included in PPP Creditors at 31 March 2021 is £103.3m (2020: £107.03m).

On Balance Sheet ***Alpha***	**Alpha** **£k**	**Omega** **£k**	**Kinnegar** **£k**
Opex	10,076	12,452	1,600
Interest	5,821	11,246	414
Total P&L Impact	**15,897**	**23,698**	**2,014**
Capital Repayment	3,268	3,693	856
Life Cycle Maintenance	1,516	2,018	124
Total Balance Sheet Impact	**4,784**	**5,711**	**980**
Total PPP Payments	**20,681**	**29,409**	**2,994**
Effective Interest Rate used to calculate Alpha finance charge	**7.14%**	**10.60%**	**24.75%**
Estimated Residual Value at End of Contract	£84m	£113.5m	£5.98m

2.4 Regulatory Capital Value (RCV)

The Regulatory Capital Value (RCV) has been developed for regulatory purposes and represents the capital base established for the purposes of setting price limits.

In line with Regulatory Accounting Guideline (RAG) 1.04, this note is compiled using figures assumed in setting prices during the Price Control (PC) process. Figures in the year to 31st March 2021 are therefore consistent with figures contained within the Water and Sewerage Service Price Control 2015-2021 (PC15) published by the Utility Regulator in December 2014.
Within the RCV, the prior year balance and in year capital expenditure have been indexed by the average Retail Price Index (RPI) over the year to March.

	At 31st March 2021 £'m	At 31st March 2020 £'m
Prior Year Closing RCV	**2,672.4**	2,537.9
Indexation and other adjustments	**35.1**	65.7
Opening RCV	**2,707.5**	2,603.6
Capital expenditure	**140.3**	137.7
Infrastructure renewals expenditure	**27.1**	26.9
Infrastructure renewals charge	**-27.1**	-26.9
Grants & contributions	**-6.7**	-6.6
Depreciation (including capital grants)	**-61.6**	-60.9
Disposal of assets	**-1.4**	-1.4
Closing RCV (pre adjustments)	**2,778.1**	2,672.4
Regulatory adjustments	**-166.9**	
Closing RCV (pre adjustments)	**2,611.2**	2,672.4
Average RCV	**2,641.8**	2,605.1
Regulatory Adjustments for the PC15 period		
i) Logging up / (down)	**-100.4**	
ii) Asset disposals	**+4.3**	
iii) Depreciation of capital grants	**-39.1**	
iv) Indexation and return	**-31.7**	
Total PC15 Regulatory Adjustments	**-166.9**	

The PC21 Final Determination includes a number of regulatory adjustments within the roll forward of the PC15 RCV at 31st March 2021. These adjustments are set out in the Utility Regulator's PC21 Final Determination 'Annex A - Financing Investment'.

Chapter 3

Efficiencies

Using new efficiency models developed with the Utility Regulator, we estimate the gap to the upper quartile company in England and Wales is reduced to 5.7% in 2018/19 from 49% in 2007/08. Whilst we recognise it is progressively harder to deliver efficiencies when quick wins have already been captured, following our 'Planning for the Future' review we have identified opportunities to further reduce our opex sustainably over the course of PC21, which should see the remaining efficiency gap to upper quartile company in England and Wales eliminated.

Some of the measures undertaken in 2020/21 to deliver a reduction in day to day running costs are set out below.

Energy

As the biggest user of energy in Northern Ireland, the second largest landowner and with over 3,000 network-connected sites we recognise our responsibility to become a Net Zero organisation, whilst also supporting Northern Ireland to address the Climate Emergency. Clean energy, low-carbon and digital solutions are widely recognised as the pillars of a better economy.

Our deliverables in 2020/21 focussed on Reduce Use, harnessing more renewable energy and driving income opportunities.

Working with our Analytics team, we have continued to reduce our energy use and improve operational efficiency within the Water and Wastewater Production Lines through, for example: Real Time Control, Process Control Improvements, Odour Control improvements at selected Wastewater sites, Source Optimisation and Water & Wastewater Pump Optimisation.

We have developed Business Cases/acquired consents necessary to implement further innovative changes to address the climate emergency in conjunction with key external stakeholders, for example: further solar opportunities, Merchant Wind, Electrical Energy Storage System (battery) trials, Hydro, Hydrogen, Resource Hubs and Power Purchase Agreements, Electric Vehicles and Re-Greening programme.

SBRI funding was secured for Energy Storage opportunities, Hydrogen-Oxygen Ecosystem, Hydrogen Logistics and Wastewater Energy Recovery.

Production Lines

The Water and Wastewater Production Lines (WPL and WWPL) are at the core of delivering our services to our customers and we are continuing to build capability, capacity, resilience and further drive "end to end" efficiencies for our business.

Through reorganisation of WPL and WWPL operating models we have established more integrated ways of working (e.g. within the Assets and Networks teams), reduced duplication and improved process efficiency (e.g. Interruption to Supply, Networks Maintenance, sludge projects).

We have established further value through contractor and energy efficiencies (e.g. Category Councils, Energy Reduce Use projects – WW treatment, recycling and collection and Water supply and delivery).

We have continued the development of production line talent (individual and team) through training, mentoring, upskilling and multiskilling e.g. network modelling, leakage, data analysis and apprentice programmes.

We are aligning and integrating production line direction with PC21 Intelligent Operations and the Asset Delivery Programme.

Capital Efficiency

Development of Integrated Partnerships are enabling a more collaborative approach and ensuring earlier engagement with our supply chain. The IF105 Framework was awarded and approved for three lots and the team have been working to establish for delivery in PC21. Key documents supporting this venture were developed and issued to the Supply Chain, namely: Relationship Management Plan, Collaboration Playbook and Collaborative Leadership Framework.

The team has been focussed on Investment Planning, Resourcing for PC21, continuing to build capability and performance management. For example, changes in ways of working to deliver "more for less" (e.g. modular manufacture), rollout of Primavera P6 planning tool, supplier performance management via development of Dashboard and KPI's, completion of the Team Charter and Project Execution Strategy (PES) for the Water TM delivery team (LEAN methodology) and resource plans to ensure we have a robust and coherent strategy to increase capability and resource in line with Investment Planning and delivery.

The ISO55001 Asset Management three year roadmap is complete.

Customer Excellence

By delivering a series of digital tools we have provided service improvement and a better customer experience through our enhanced website and customer channels of choice, for example: Website Knowledge Base, IVR, web self-serve, social media and webchat.

The Development of the Digital Services Platform will enable both domestic and non-domestic customers to access a wide range of NI Water services on demand and on a self-service basis. This transformation is well underway with digital design, development work and build for a number of processes in Developer Services, Trade Effluent and eBilling. The Digital Services eBilling functionality has gone "live".

The Metering & Billing project has increased business income and achieved significant improvements in customer, property and meter data quality.

The new Developer Services operating model is now in place.

The Customer and Operations Directorate "Hub" has essentially been established in preparation for the transition to Intelligent Operations.

Commercial Excellence

The commercial contract management team has been formed, responsible for all strategic and key operational contracts they have continued to build capability, drive value through category management and councils and work closely with the supply chain.

The Commercial Management Office (CMO) has been established and is responsible for providing support and guidance for, as well as performance management of, all commercial activity. This business performance service has been established to ensure:

- Value is driven from category and contract management and captured through delivered benefits,
- Continuous improvement of commercial processes and procedures, and
- A Performance driven environment with clear targets, measurement and meaningful reporting - all supported by the introduction of the Commercial Contract Management System (CCMS - Atamis) enabling enhanced information through automated reporting/dashboard.

The Fleet Operating Model has been implemented (maintenance outsourced) with ongoing appraisal and evaluation.

Building towards the Commercial Centre of Excellence: the wider team has been developing this in line with the Commercial Excellence Design Principles (Strategy, Process and Control, Organisation, People & Culture, Technology and Performance Management).

Business Analytics

Analytics capability has continued to grow and drive value through building up our business intelligence and insight, for example: customer dashboard, asset energy performance dashboards, cost to serve and also through problem solving and piloting/implementing innovative solutions.

Process reviews, automation and use of data, digital dashboards, analytics and metrics have supported decision making, performance and efficiency. AI and trend analysis have enabled a more predictive view and scenario modelling has supported the management of risk.

Work is continuing to optimise production line performance and costs in near real time, for example:

- Wastewater Treatment and Network Optimisation: Optimising the network – level of flows, optimising the treatment works to increase total throughput, creating value from sludge/residuals, reducing the volume of non-compliant waste entering our system, improving pumping station optimisation and reducing energy consumption.
- Water Treatment and Network Optimisation: Reducing the costs associated with abstraction/sourcing/delivery of water, groundwater abstraction, source optimisation, improving pumping station/service reservoir pumping optimisation, reducing energy consumption.

SBRI funding has been secured for improving water and wastewater treatment processes through innovative applications of artificial intelligence and machine learning

PC21

The Planning for the Future Team, supported by EY, developed the ten key opportunity areas for the PC21 Change/Transition Programme.

The PC21 Programme Structure and Governance has been approved and established.

Chapter 4
Competition

There are no developments to report in respect of inset appointment proposals, common carriage or water supply licensing proposals. NI Water has made no requests for common carriage or wholesale water supplies.

Annual Information Return 2021

Section 2

Tables and Commentary

Chapter 1 - Promoting the Efficient Use of Water

This report examines a range of water efficiency activities undertaken by Northern Ireland Water for household and non-household customers over the course of this reporting period. The company is committed to promoting and improving water efficiency for all its customers.

Covid-19 has had an adverse impact on the Education sector throughout this last reporting year, with all educational establishments being affected by extreme closure. The NI Water Education Team (WET) had to adapt their water education programme in response to the challenges presented as a result of the Covid-19 pandemic. In responding to this ever-changing situation the education team became innovated by moving to deliver virtual live and pre-recorded programmes and created a platform where NI Water customers could access water saving advice and devices online.

The Water Education Team (WET) consists of two full time employees who visit schools, community, specialist groups and organisations and working in partnership with stakeholders and other partners. Approximately 60% of the Educator's time is spent promoting water efficiency.

The key elements of our strategy are as follows:

1. Efficient use of water in the home
   a) ensuring no leaks from taps, toilets, pipe joints etc.
   b) cistern displacement devices used where necessary;
   c) efficient use of domestic appliances e.g. full load for washing machine, dishwasher and selecting water saving options on appliances;
   d) use of showers rather than baths, and using a shower timer to reduce time spent in the showers; and
   e) shower head and water tap aerators are recommended.
2. Efficient use of water in the garden
   a) awareness of the amount of water used through garden hoses and sprinklers;
   b) encourage the use of a water gun if using a hose;
   c) encourage the use of water butts;
   d) use water retaining gels for plant containers;
   e) encourage use of mulch; and
   f) plant drought resistant plants.

WET have facilitated a variety of educational/public events:-

- Co-host of Water UK's 'World Toilet Day' – 19 November 2020
- Co-host of Water UK's 'World Water Day' – 22 March 2021
- Online live virtual classroom and assembly lessons
- Online pre-recorded virtual classroom and assembly lessons

Events that were attended on request:-

- 10 x Eco schools cluster group meetings with local councils – October & November 2020
- GAA Green Clubs November 2020

Staff who facilitated and attended the above online educational events promoted the practice of water conservation through these online channels and by means of follow-up visits to schools providing leaflets, promotional items and giving advice on using water wisely.

A variety of water efficiency promotional items are used whilst delivering all the above educational events which include:-

- Waterbutts
- Leaky Loos
- Toothy Timers
- Shower timers (4mins)
- Waterwise Leaflet
- Promotional and Educational leaflets
- School water audits
- Water efficiency bookmarkers
- Interactive games encouraging conservation
- Save-a-Flush

Water efficiency leaflets are also available for download from the NI Water website along with a printable poster “Stop those drips”.

Household

1. Cistern Displacement Devices (CDDs)

These can be requested by the customer directly through NI Water’s Customer Service Centre (CSC) or from the Save Water Save Money online platform. For 2020/21 NI Water has distributed 921 CDDs.

The calculation for the water savings achieved in 2020/21 report year is as follows:

S*O*F*(D*I) = Savings in litres

S= Savings per flush, O= Occupancy rate, F= Flushing frequency per person per day,
D= Number distributed, I= Installation rate.

Values derived from the Ofwat Water Efficiency Targets were used to estimate the number of CDD’s installed. Using the Ofwat Efficiency Report the volume displaced per flush was recorded as 2.5 l/per flush and flushes per person per day as recorded as five. This figure is the average savings per flush achieved through the installation of save-a-flush, which are the CDDs distributed by NI Water. An installation rate of 70% was due to the distribution method used i.e. through requests, schools and community groups. Occupancy rate was 2.5 from NISRA.

Calculation:
2.5*2.5*5*(921*0.7) = 20,146.875 l/per day = 0.02014688 Ml/d

2. Distribution of Water Butts

During this reporting period, NI Water distributed water butts to schools and wider community. The total for this year is 53.

The calculation for the water savings achieved in 2020/21 report year is as follows:

S=V*F*1*N

S= savings per butt, V=volume of water butt, F= fills per year I= instillation rate, N= number of Water butts Using the Ofwat Efficiency Report the volume (190L) is company based (NI Water) and the fills per year is estimated at 6 and the installation rate is 100%.

Calculation:
200*6*1*53 = 63,600 l per year:
63,600/365 days = 174.246575 l per day = 0.00017425 Ml/day

3. Household Water Audits

During 2020/21 the self-water audit for domestic households which can be accessed through the company's website, have been 823 hits to the online audit. An advantage of the website self-water audit is that as soon as the customer completes the form the information is emailed directly to WET and this data can then be collated in a spreadsheet to accumulate water usage across NI Water's customer base.

D*A*S = Savings in litres

D = Number water audits carried out by company, A = Likelihood acted upon, S = Savings in litres per water audit.

From the figures supplied by IT division of the Corporate Affairs Team, 823 hits have been recorded for observations of the online water audit.

To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets). The percentage acted upon is assumed at 10% saving 10 litres per property per day:

The number of online audits recorded
Calculation: 823* 0.10* 10 = 823 l/per day = 0.000823 Ml/d

4. Shower Timers

Over the reporting year 3,758 shower timers were distributed through the Save Water Save Money online platform site. The installation rate of these can be assumed at 23% (Ofwat Water Efficiency Targets). The calculation for the savings achieved in 2020-21 report year is as follows:

The calculation for the savings achieved in 2020/21 report year is as follows:

D*I*S = Savings in litres

D = Number of shower timers distributed, I = Likelihood installed, S = Savings in litres per property per day.

Calculation: 3758* 0.23* 5 = 4,321.70 l/per day = 0.0043217 Ml/d

5. Gel Bags

There were 2,711 gel bags distributed as part of the allotment group talks and shows. Using the Ofwat Water Efficiency Targets a saving of 0.1 litres per property per day can also be assumed. Installation percentage would be 25% due to their distributed method.

The calculation for the savings achieved in 2020/21 report year is as follows:

D*I*S= Savings in litres

D = Number of gel bags distributed, I = Likelihood installed, S = Savings in litres per property per day.

Calculation 2711*0.25*0.1= 67.775 l/per day= 0.00006778 Ml/d

6. Toothy Timers

There were 857 Toothy Timers distributed through the Save Water Save Money online platform.

The installation rate of these can be assumed at 23% (Ofwat Water Efficiency Targets) a saving of 12 litres per property per day can also be assumed. The calculation for the savings achieved in 2020-21 report year is as follows:

The calculation for the savings achieved in 2020/21 report year is as follows:

D*I*S= Savings in litres

D = Number of Toothy Timers distributed, I = Likelihood installed, S = Savings in litres per property per day.

Calculation 857*0.23*12* = 2,365.32 l/per day= 0.00236532 Ml/d

7. Leaky Loo

There were 993 Leaky Loos distributed through the Save Water Save Money online platform.

The installation rate of these can be assumed at 23% (Ofwat Water Efficiency Targets) a saving of 5 litres per property per day can also be assumed. The calculation for the savings achieved in 2020-21 report year is as follows:

The calculation for the savings achieved in 2020/21 report year is as follows:

D*I*S= Savings in litres

D = Number of Toothy Timers distributed, I = Likelihood installed, S = Savings in litres per property per day.

Calculation 993*0.23*5* = 1,141.95 l/per day= 0.00114195 Ml/d

8. Water Audits Completed by Company

No audits were completed in the homes of customers for 2020/21.

Presently in Northern Ireland domestic customers do not pay for their water and wastewater services and customers are not metered. Therefore, the only way to help foster change in attitude and behaviour is by demonstrating to the customer how they can financially benefit i.e. save money on electricity, for example by reducing time spent in the shower or reducing the number of showers they have in a week and the number of times the washing machine and or dishwasher is used.

Non-household

NI Water operates a larger user discount scheme which is dependent on the commitment of the customer to water efficiency. The customer will have to provide evidence of promoting water efficiency; this may be through changes in procedure, installing water saving devices, installation of recycling plants and the review of water efficiency by an independent industry expert. (www.niwater.com/largeusertariff.asp)

The NI Water website is updated and reviewed on a regular basis. The site has been developed to encourage water efficiency within the commercial customer sector. The areas included are:

- Why Save Water?
- What is Normal Water Use?
- What is a Water Balance?
- Water Efficient Plumbing Appliances?

The website is accessible to all customers with internet access enabling them to source information to assist them in making decisions about water efficiency.

9. Water Audits

During 2020/21 reporting period 341 Water Audits were processed through Save Water Save Money online platform.

To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets). The percentage acted upon is assumed at 20% saving 10 litres per property per day:

D*A*S = Savings in litres

D = Number water audits carried out by company, A = Likelihood acted upon,
S = Savings in litres per water audit.

Calculation: 341*0.20*10 = 682 l/per day = 0.000682 Ml/d

No Commercial Audits were distributed during this reporting period. The document is available on line as an advice leaflet for business customers titled “Advice for Business Customers” with an additional document “Business Water Audit”. Due to cost restrictions, these leaflets have not been published but are easily available on the NI Water website.

Savings and Costs

These savings have been achieved by adding together

- Household-Water Efficiency Methods
- Non Household-Water Efficiency Methods
- Other Water Efficiency Methods

Leakage: No savings or costs are sustained by NI Water through supply pipes being repaired, as NI Water does not operate a free/subsidised repair/replacement scheme. If NI Water repairs any leaking supply pipes, this will only happen after a leakage notice has been issued and the customer has failed to carry out sufficient work to rectify the problem. NI Water will then repair the supply pipe and any cost will be then charged to the customer.

Water Efficiency Methods

In a year that presented endless challenges with the rapid spread of Coronavirus, one of NI Water's Water Efficiency key methods is education based. The education programme had to adapt and become more innovative around their delivery to schools and the wider society. At the start of the new reporting year (April 2020) we seen how schools across the country had to close due to Covid-19 and when they eventually reopened in September 2020 it wasn't too long before we again seen schools shutting their campuses and moving to home-schooling and virtual learning. This disruption caused by the pandemic on children's education had been immense and along with a renewed importance for the value of home-schooling, the WET quickly developed a home-schooling pack around water topics in line with the school curriculum for pupils to continue with their studies while at home.

From September 2020 the education team transferred their programme delivery to online where they delivered live classroom presentations through virtual technology. However, with the virus once again on the rise and spreading fast throughout the community, schools again closed their doors to pupils and returned to home-schooling, which meant we could not deliver live virtual classroom talks. To overcome this issue the team developed three online video lessons to support schools with their 'World Around Us' topic. These lessons are Watercycle, Water Conservation and Cleaning Water/Waste Water including bag it & bin it. These three online videos all outlined the importance of looking after and conserving water and to date we have received over 170 request from schools to use these as part of their home learning programme with excellent positive feedback. The WET during the course of this reporting (2020/21) period facilitated 266 school (KS2/KS3) request for live and pre-recorded virtual assembly/classroom visits along with 12 live virtual community visits/events.

Also in the absence of face to face contact during this period given that all interaction had moved online due to the pandemic, had created a new issue of how to distribute many of our water saving devices such as save-a-flush and shower timers along with our new water saving additions of toothy timers and leaky loos. To overcome this new difficulty we developed a partnership with 'Save Water Save Money' which is an online platform where NI Water customers would go online and complete a household water audit of their daily water usage and in return would avail of free water saving devices in areas of need that were identified through the audit and delivered straight to their homes.

Another area used to highlight water efficiency was our annual school competition with this year's theme being 'We Use How Much Water'. The aim of this competition was to ask pupils to draw a poster to show how much water we use every day and the simple things we can all do to help reduce this through awareness of our daily water usage.

The resilience demonstrated by NI Water's education team to adapt and quickly overcome the above obstacles presented from the coronavirus pandemic and to ensure the water education programme continued during these difficult times has been exceptional.

Interactive Education & the Community section on NIWater.com

NI Water has dedicated website pages with advice on household and commercial water efficiency. Included in these pages is a domestic self-water audit, which allows domestic customers to calculate their average daily consumption per resident. This audit has the added benefit of doing calculations automatically and provides NI Water with completed audits instantly once the customer has submitted it. The website also includes guidance on the types of appliances that could be installed into houses and business, which would help them to be more water efficient in the future. During this past year, NI Water's education

site which includes water efficiency tips has had 3,423 views and we have also seen 823 views on our water saving site.

www.niwater.com/education-and-the-community/

Over this past year we have continued to update the Education & Community section with rich, informative content focused on informing water users about our key messages.

The extensive interactive content is used to not only educate users but also to position NI Water as a key stakeholder in the community, addressing important water use issues with a slightly more informal tone of voice.

The content is primarily targeted at school pupils with an animated design but is equally accessible by adults. It has been benchmarked against other leading water companies' equivalent sections and has been built with future proofing in mind by using non-native code platforms.

Main interactive sections:

- **Bag it & Bin it**
  www.niwater.com/bag-it-and-bin-it-interactive/

  Scrolling content building on the key "Bag it and Bin it" message and the importance of not flushing the "dirty dozen" down the toilet.
- **Water Saving Calculator – How much water do you use?**
  www.niwater.com/why-save-water/

  The calculator is designed to provoke awareness and thought on how much water households are wasting.
- **Silent Valley**
  www.niwater.com/silent-valley/
  This sub-section promotes Silent Valley as a visitor destination for families, groups and schools:
  - Image Gallery
  - Walking trails map
  - How to get there - embedded Google map for users to find directions from their address; and
  - Visitor information, downloads, podcasts.

Print, Broadcast and Online Media Value

Throughout this past financial year NI Water's Communication Team have been proactive in promoting water efficiency through various media campaigns. At the start of this financial year (April 2020) the situation around the COVID-19 Virus Pandemic had resulted in a lockdown whereby most of the population have been spending more time at home, resulting in higher domestic water usage. The NI Water Communications Team delivered several media campaigns (including social media) around promoting water efficiency whilst at home, including tips on how best to conserve water when using household appliances. An investment of £160k financially supported this message which engaged customers on a wider scale and made them think about how important water is in their daily lives. The team used a mix of communication channels in this campaign from radio, print, online and social. New animated videos on social media brought to life the amount of water a swimming pool and power hose use as these were popular during the hot weather. The team also employed

a new initiative and collaborated with a social media influencer i.e. a local radio DJ. Particular emphasis was placed in specifically targeted areas through social media when needed.

Also this past year we have seen how NI Water had been active in encouraging water efficiency through educational and community campaigns. Another mechanism of raising the importance of water efficiency has been through the use of media. These NI Water campaigns have generated **112** media (print, broadcast and online) items with an overall financial value of **£73k** and has reached a potential audience of over **2m**.

NI Water also highlighted throughout the year the issue of water efficiency and in particular the potential for frozen pipes as part of its "Winter Preparation Campaign". The campaign generated **112** articles (print, broadcast, online) media items relating to NI Water's Winter preparation between November 2020 and February 2021, generating **£104k** financial PR value with a **4.9m** potential reach.

This specific message of preparing your property for winter focused on how important a water supply was while in a pandemic. Property owners were asked to protect their properties from the freeze. As the pandemic prevented any face to face engagement, the team relied on reaching out to specific organisations and pushing the message through their channels. Specific commercial sites were also targeted such as caravan parks and the education authority, business owners who would have vacant buildings this year that would have otherwise been occupied. The team also joined up with the save water save money initiative and offered a free stop valve tag and leaflet posted directly to the home. It was positively received. Some of the campaigns are as follows:-

- Frozen Pipes Can Flood Home/Insulate Your Pipes
- Be prepared for winter
- Vacant buildings during the covid period
- Utilities Winter Readiness Campaign
- Watersafe promotion

Efficiency Method	**Total**	**Cost £**	**Savings per Ml/ day**
Household			
Measurable Methods			
Cistern Devices (0.57p each)	921	524.97	0.02014688
Water butts (£24.52 each)	53	1,299.56	0.000856
Self-audit (On Line)	823		0.000823
Total		**1,824.53**	**0.02182588**
Other Measurable Methods			
Shower timers (£0.68 each)	3758	2555.44	0.0043217
Gel Bags (£0.31 each)	2711	840.41	0.00006778
Toothy Timers (£0.83 each)	857	711.31	0.00236532
Leaky Loos (£0.49 each)	993	486.57	0.00114195
Education Depart (UKWIR)		57,326.75	1.3034763
Total		**61,920.48**	**1.31137305**
Leaflets			
How water wise are you (0.10peach)	5734	573.40	

Freezing Pipe (0.17p each)	1359	231.03	
Total leaflets	**7,093**	**804.43**	
PR items			
Bookmark- “Flo” kids (0.07p each)	152	10.64	
Game: Snakes and Ladders (0.18p each)	0	0.00	
Stop Tags (0.43p each)	4174	1,794.82	
Efficiency Method	**Total**	**Cost £**	**Savings per Ml/ day**
Tap cover (£4.66 each)	0	0.00	
Ice scraper (0.73p each)	0	0.00	
Thermometer (0.76p each)	0	0.00	
Total PR	**4,326**	**1,805.46**	
Total		**66,354.90**	**1.33319893**

NI Water has a large range of leaflets that promote water efficiency, the distribution of these may also lead to increased water savings but at present these savings cannot be calculated, but the costs for this year is £804.43.

Assumed Savings

Household-Water Efficiency Methods = 0.02182588
Other Water Efficiency Methods = 1.31137305
The total recorded savings are **= 1.33319893** Ml/d

The work of the Education Department has continued to significantly improve NI Water’s water efficiency figure. This can be demonstrated through the behavioural chance activity which has led to our customers becoming more efficient in their use of water and the UKWIR method is now being used to quantify the water saving benefits for “softer measures” (2010 Reporters recommendation 1, (document reference)T1niw.R10 P1 S2).

The UKWIR spreadsheet WR25 “Estimating water saving calculator for baseline water efficiency” has been used. These activities have been apportioned between Medium and High Levels of engagement.

This is summarised in the following table:

Level of Engagement	Ml/day
High	0.176
Medium	0.023
Totals	**0.199**

Using the UKWIR Methodology, which as previously mentioned was recommended by the Reporter, has resulted in a general improvement in water efficiency measurement for the company.

Year	Assumed Savings
2009/10	0.048 Ml/day
2010/11	0.216 Ml/day
2011/12	0.264 Ml/day
2012/13	0.227 Ml/day
2013/14	0.219 Ml/day

2014/15	0.304 Ml/day
2015/16	0.299 Ml/day
2016/17	0.517 Ml/day
2017/18	0.502 Ml/day
2018/19	0.782 Ml/day
2019/20	0.830 Ml/day
2020/21	0.199 Ml/day

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 2 KEY OUTPUTS
WATER SERVICE - 2 (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	DG2 PROPERTIES RECEIVING PRESSURE/FLOW BELOW REFERENCE LEVEL																				
1	Total connected properties at year end	000	1	818.0	A2	825.0	B2	828.1	A2	839.7	A2	852.4	A2	863.0	A2	874.3	A2	883.4	A2	892.9	A2
2	Properties below reference level at start of year	nr	0	1,748	B3	1,420	B3	1,257	B3	1,082	B3	900	B3	862	B3	711	B3	719	B3	626	B3
3	Properties below reference level at end of year	nr	0	1,420	B3	1,257	B3	1,082	B3	900	B3	862	B3	711	B3	719	B3	626	B3	578	B3
4	Properties receiving low pressure but excluded from DG2	nr	0	0	B3	0	B3	0	B3	0	B3	0	B3	0	B3	0	B3	0	B3	0	A2
4a	DG2 Properties with pressure below a surrogate level of 7.5m at end of year	nr	0	176	B2	169	B2	137	B2	126	B2	124	B2	103	B2	125	B2	129	B2	107	B2
4b	DG2 Properties at risk of low pressure removed from the risk register by company action	nr	0	297	B3	132	B3	186	B3	171	B3	40	B3	175	B3	176	B3	115	B3	168	B3
4c	Average capex cost of permanent solutions to DG2 problems	£000/prop	1	0.8	C4	9.1	C4	8.2	B2	13.9	B2	26.8	B2	9.8	B2	4.7	B2	18.7	B2	4.7	B2
B	DG3 PROPERTIES AFFECTED BY SUPPLY INTERRUPTIONS																				
	(i) UNPLANNED INTERRUPTIONS																				
5	More than 3 hours	nr	0	53,458	B3	41,412	B3	112,653	B3	105,235	A3	90,094	A3	108,386	A3	58,816	A3	49,181	A3	24,443	A3
6	More than 6 hours	nr	0	10,487	B3	6,742	B3	43,767	B3	8,699	A3	5,128	A3	6,097	A3	3,509	A3	6,157	A3	1,834	A3
7	More than 12 hours	nr	0	2,607	B3	1,195	B3	25,693	B3	841	A3	494	A3	861	A3	308	A3	751	A3	0	A3
8	More than 24 hours	nr	0	1,554	B3	12	B3	13,788	B3	32	A3	0	A3	0	A3	0	A3	23	A3	0	A3
	(ii) PLANNED AND WARNED INTERRUPTIONS																				
9	More than 3 hours	nr	0	50,096	B3	35,468	B3	47,216	B3	33,929	A3	35,484	A3	38,225	A3	38,289	A3	28,245	A3	5,306	A3
10	More than 6 hours	nr	0	20,674	B3	18,454	B3	19,127	B3	13,767	A3	13,247	A3	14,809	A3	7,313	A3	11,463	A3	743	A3
11	More than 12 hours	nr	0	0	B3	0	B3	44	B3	0	A3	0	A3	0	A3	0	A3	0	A3	0	A3
12	More than 24 hours	nr	0	0	B3	0	B3	0	B3	0	A3	0	A3	0	A3	0	A3	0	A3	0	A3
	(iii) INTERRUPTIONS CAUSED BY THIRD PARTIES																				
13	More than 3 hours	nr	0	1,778	B3	2,452	B3	4,710	B3	4,739	A3	12,691	A3	4,078	A3	12,089	A3	2,712	A3	2,183	A3
14	More than 6 hours	nr	0	561	B3	121	B3	974	B3	476	A3	842	A3	1,145	A3	2,780	A3	166	A3	300	A3
15	More than 12 hours	nr	0	1	B3	33	B3	1	B3	0	A3	30	A3	193	A3	0	A3	0	A3	0	A3
16	More than 24 hours	nr	0	0	B3	0	B3	0	B3	0	A3	0	A3	0	A3	0	A3	0	A3	0	A3
	(iv) UNPLANNED INTERRUPTIONS (OVERRUNS OF PLANNED INTERRUPTIONS)																				
17	More than 6 hours	nr	0	311	B3	1,004	B3	2,521	B3	1,141	A3	1,611	A3	1,630	A3	159	A3	222	A3	0	A3
18	More than 12 hours	nr	0	60	B3	20	B3	16	B3	159	A3	417	A3	1,107	A3	0	A3	0	A3	0	A3
19	More than 24 hours	nr	0	0	B3	5	B3	0	B3	140	A3	0	A3	0	A3	0	A3	0	A3	0	A3
C	POPULATION																				
20	Population (winter) (total)	000	2	1,842.61	C2	1,850.54	C2	1,862.72	C2	1,874.73	C2	1,887.10	C2	1,896.46	C2	1,900.66	C2	1,914.49	C2	1,905.05	C2
D	DG4 RESTRICTIONS ON USE OF WATER																				
21	% population - hosepipe restrictions	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	93.4	B2	0.0	A1	0.0	A1
22	% population - drought orders	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	B2	0.0	A1	0.0	A1
23	% population - sprinkler/unattended hosepipe restrictions	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	93.4	B2	0.0	A1	0.0	A1

Table 2 – Key Outputs - Water Service - 2

Line 1 - Total Connected Properties at Year End

NI Water's data on property counts and classifications is reported monthly from RapidXtra within the Rapid Property Summary (RPS). The data is extracted from the Diamond Warehouse via Microsoft SQL Server to produce the RPS report.

Our AIR21 methodology has remained consistent with previous years – using the automated Property Model tool to populate Table 2 figures (this was first introduced in AIR12 – the RPS as the input).

The RPS provides us with a snapshot at the end of each month in terms of net movement; however it alone does not support in the explanation of gross movements within the data. With this is mind, during the 20/21 reporting year the CSD Services MI & Data Team explored the use of Power BI to re-create the RPS with a drill down function to display the gross movement. The Power BI property models developed take their direct feed from the Diamond Warehouse in order to refresh. These models provide us with information on gross movements and allow us to 'slice and dice' the data from various angles, providing invaluable insights. The plan is to further enhance and incorporate these models across the business during 2021/22.

Customer/Property information is updated through:

- BAU ('business as usual') customer contacts, such as new connection requests, customer move in/move outs, or
- through Data Quality initiatives/Projects, and/or
- Metering work streams e.g. UNHH (Selectives), Optants, and Proactive Meter Exchange etc.

Under the Water & Sewerage Services (2006) Order, NI Water were required to install meters on all new household connections from April 2007. This practice has stopped as directed by a change in legislation, which took effect in July 2016. The legislation was amended by Regulations, which in effect relieved NI Water of the obligation to install meters at newly connected domestic properties. As domestic customers are not charged on a measured basis, the property is reported as unmeasured. Some domestic properties were initially reported as measured in AIR10 but this was rectified as per the erratum to AIR10. Depending on the basis for charging when domestic billing is introduced, these customers can be activated as measured household if required.

The difference between the AIR20 and the AIR21 figures is 9487. The breakdown can be explained as follows:

1. New Connections during the 2020/21 reporting year. The figures are based on data supplied by our Customer Connections Team and represent completed connections during the reporting year. The projections for New Connections remain in line with the agreed PC15 forecasts.
2. Added as a result of a customer contact. i.e. septic tank empty request, no water complaint, blocked sewer, updating of standing data e.g. removal of services etc. Within this category there are 2 scenarios:
    (a) The adding of properties NI Water allegedly did not know about
    (b) The adding of duplicates as the customer's address could not be found on Rapid. Rapid may hold the site number but when the customer contacts NI Water, they quote the verified postal address, which is different, therefore

creating a duplicate. The street name may also have changed from the time of New Connection to that of customer contact (street names can change in the early stages of site development).

3. Removal/reclassification of properties as a result of data quality initiatives/projects
    a. Duplicate properties
    b. Reclassification of properties that were recorded in error
4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

For NI Water, accurate property data is fundamental for many systems and processes, including customer service, metering, billing, consumption, leakage and Major Incident Planning & Response. The Rapid Customer Contact System contains the master property data for NI Water.

As Data Owner for Property Standing Data, The Head of CSD Services is responsible for the property standing data held by NI Water; this is monitored and managed through the Property Information Group (PIG). The CSD Services MI & Data Team chair this group.

The role of PIG is to ensure that there is appropriate governance, controls and reporting for changes made to core data on the system. As Property Data Owners, we need to ensure the processes around creation, maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. Control is key for us; as such we have identified the systems, processes and people using property information across the business, alongside confirming data accuracy and endeavouring to reduce the opportunities for erroneous data entry and creation (such as the inability to recreate demolished properties or duplicate properties).

The issues under consideration were identified as of corporate relevance, therefore to ensure appropriate direction and governance the PIG was formalised. Key objectives include:

1. To agree a single consistent source of property data.
2. To ensure the source property data represents accurate, up-to-date information appropriate for use by the business.
    a. To understand and agree data primacy in respect of data updates from NI Water and external (Land & Property Services - LPS) sources
    b. To ensure the processes around creation (i.e. New Connections), maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. i.e. through CBC Data Validation (Phase 1, Phase 2, Phase 3, 105 Days DV)
    c. To co-ordinate property reconciliations between NI Water & external sources i.e. Data Sharing Agreements between NI Water & LPS, NI Water & Belfast City Council (BCC) etc. and understand the reasons and validity of any differences
    d. To understand and ensure the adequacy of long term procedures for database maintenance, including the updating of data standards and associated CDE M&M Plans
3. To ensure the reporting requirements for the business are met relating to data held on Rapid, particularly, but not exclusively, in respect of tariffs, leakage, Annual Information Returns (AIR) & Principle Statement (PS) returns.
4. Challenge the data in the areas of
    a. Data categorisation & structure

   b. Data robustness – i.e. where is our data good and where is there opportunity for improvement? Identify projects that could aid improvement
   c. Data alignment – both internally and externally. Internally between systems such as Rapid, Ellipse, GIS, Diamond, Netbase, IMS etc. Externally through data reconciliations, such as LPS above.
5. To agree measures to improve the quality and integrity of the data, particularly the key CDEs as monitored by IMU
6. To agree the content and frequency of reports required by NI Water.
7. To agree the quality checking criteria for the above data and reporting and develop a Quality Plan including the determination of responsibilities and audit trails.
8. To produce & circulate an 'operate and maintain' programme for property data to the business.

The COVID 19 pandemic has caused delays to our 20/21 plans, however our aim for 2021/22 remains the same with continued focus for PIG including analysis and action on:

- Volume of properties coming onto the Rapid billing system on a monthly basis
    - new connections
    - customer contact
    - project work
- Volume of properties coming off the Rapid billing system (demolished)
    - sample check to ensure reason for demolition has been noted and on system audit trail recorded
- Volume of properties amended on the Rapid billing system
    - In particular, address fields -> building number, street name, town and postcode
    - sampling to identify if the data changes are data improvement or data regression
    - if data regression, further analysis into the process is undertaken
- Review of access privileges
    - Rapid audit
    - Through monthly audit samples
    - Internal CRs require sign off from PIG as BAU
    - Working with Echo to review access privileges on an ongoing basis
- Interruptions to supply notices – returned mail
    - This returned mail was brought to the attention of LPS and include properties that LPS have classified as live properties despite being returned as 'no such address' etc.
    - The 2 way communication with LPS will help underpin our governance work and provide direction to the business on practices

The PIG Strategy for 2021/22 will include the following:

- New Connections - A push to move to on-system reporting following the Business Improvement New Connections Review
- Further use of PowerBI – We currently use Power BI to create and issue the monthly Rapid Property Summary (RPS) and will continue to explore the use of Power BI in other aspects of our property work throughout 2021/22
- Rapid-POINTER Reconciliation - follow on actions to be worked through and benefits realised. i.e. Uploading of UPRNs from POINTER where a property can move from an A match to an A* match

- Continued monitoring of data alignment between systems – Rapid and Ellipse, GIS, Netbase, Diamond, IMS etc.
- Smart Cities (Belfast City Council Rates Maximisation Project) – Ongoing data sharing project that commenced in August 19
- Continuation of the 2 way communication with LPS - This will help underpin our governance work and provide direction to the business on practices that will work alongside LPS
- Student Accommodation – further case studies on student accommodation re-development sites. Liaise with Belfast City Council to understand at what stage they can inform NI Water of properties that are to be re-developed as student accommodation.
- Test Meters – monitor numbers of 'retain for review' meters
- Properties with 'no water supply' (no water/well water) – review and validate on a monthly basis

Annex A details the Line Methodology followed by the figure for Table 2 Line 1.

Line 2 – Properties below the reference level at start of year

The number of properties on the Register at the start of the year was 626, as reported in line 3 of the AIR20 submission.

Line 3 – Properties below the reference level at end of year

As per the regulatory guidance, as issued and directed by Utility Regulator, this line includes properties within a 10m height of service reservoirs, there are currently 53 DG2 properties located within 10m of the supplying SR.
It should be noted that NI Water will not be able to provide such properties with adequate pressure through normal hydraulics; however they will be included in the DG2 register. The final number of properties recognised as being below the reference level at year end is 578.

The year-end figure is the direct result of removals due to Company Action as well as additions identified throughout the year. Throughout this process a surrogate pressure of 15m head in the adjacent water main has been adopted as the reference level. All properties removed from the Register during the reporting period are supported by a report and appropriate logged data. The removals process is as per NI Water's methodology and is consistent with previous AIR submissions.

Line 4 – Properties receiving low pressure but excluded from DG2

As per the Utility Regulator determination, properties within 10m are no longer excluded from the DG2 Register. Therefore there are currently zero properties that are justifiably covered by the exclusions as per the DG2_LoS_Methodology document. It should be noted that NI Water will not be able to provide such properties with adequate pressure through normal hydraulics.

Line 4a – DG2 properties with pressure below a surrogate level of 7.5m at end of year

A query of the DG2 register confirms that 107 properties experience a pressure below the 7.5m surrogate level.

Line 4b – DG2 properties at risk of low pressure removed from the risk register by Company Action

Calculation of the total number of properties removed as a direct result of Company Action is generally achieved by adding the properties identified by removal reports resulting from Rehabilitation schemes.

Table 1

Removals Due to Company Action	Number
Rehabilitation Schemes	168
Total	**168**

The final number of properties removed due to Company Action is recorded in Table 1 above as 168.

Line 4c - Average Capex cost of permanent solutions to DG2 problems

This is the sixth and final year of PC15 that the company has reported this figure and it will allow the benchmarking of NI Water costs. The variability of cost per property removed as outlined in the table below is reflective of the current method of delivery of the Water Mains Rehabilitation Programme. Work packages have multiple drivers and assignment of costs to DG2 removal relies on the use of the Enhancement part of the CIDA allocation for the schemes below rather than directly attributable costs. (And includes individual schemes for clusters of properties rather than arising from individual projects designed solely to remove DG2 properties.) NIW will continue to develop these reporting lines to deliver a more robust process for attributing costs to DG2 properties.

The scheme costs and number of properties removed from the register are reported for each WP where a PPRA/DIR report was produced. The costs included are for mains, with the primary justification for rehabilitation listed as “Hydraulic”, which were generally replaced with a larger size of main. These mains may have a secondary structural or water quality driver also but there was no cost reduction for asset maintenance or quality enhancement applied. This matches the approach used for CIDA allocation at CIP A1 stage.

OUTPUT 2020/21

PPRA reports covering Clonvaraghan Rd, Castlewellan, Dairy Lane Newtownhamilton, Dunmallaght Park, Ballycastle, Parkgate Rd Ballymena, Creamery Rd Carran Rd and Annaghamare Rd Crossmaglen, Finvoy area, Loughan Hill/Baron Rd, Farm Lodge Magherafelt, Beltany, Brootally Killylea, Blacklough Omagh and Meenacloy Rd Castlederg were produced during 2020-21 which removed a total of 168 properties from the register. These are detailed in the Table below.

Table 7

Road Name and WP Title	DG2 Properties Removed (nr)	Total Cost £	Cost Per Removal £
Clonvaraghan Rd, Castlewellan within Fofanny North/Lisburn South WP JI087	1	81330	81330
Dairy Lane, Newtownhamilton within Clay Lake Keady WP JF606	3	21624	7208
Dunmallaght Pk area, Ballycastle within High Priority WM Phase 1 WP JI046	11	85583	7780
Parkgate Rd, Ballymena within Dunore East WP JA310	6	24437	4073

Road Name and WP Title	DG2 Properties Removed (nr)	Total Cost £	Cost Per Removal £
Annaghamare Rd, Carran Rd and Creamery Rd Crossmaglen within Carran Hill Crossmaglen WP JV881	21	280082	13337
Finvoy area within Antrim North WP JA313	18	162205	9011
Loughan Hill/Baron Rd within Tyrone North WP JN547	3	23766	7922
Farm Lodge, Magherafelt completed utilising Operational Capital Budget	19	12162	640
Beltany within Tyrone North WP JN547	6	2751	458
Brootally, Killylea completed utilising Operational Capital Budget	62	1432	23
Blacklough, Omagh within Omagh Phase 2 WP JN512	7	75685	10812
Meenacloy Rd, Castlederg within Killylane North and South WP JI089	11	16916	1538
TOTAL Pro Active NIW DG2 Removals 2020-2021	**168 against 160 target**	**787973**	**4690**
Plus 1 Carried forward from 2019/20	1		

Therefore the average overall cost of removing a DG2 property from the register is obtained by dividing the total cost £787973 by the total number of properties removed (168 for this year) utilising the EP Budget. Average removal cost is therefore

Average cost per DG2 removal = £4690

The hydraulic models were used to size the replacement mains with a future demand calculated using the 2010 WRS Report. Current practice would use the future model with the current mains to generate future level of service failures and then check that these were resolved by the replacement mains. This gives the modelled future Level of Service (LoS) failures that the mains resolve.

Note

A Supplementary Information Report similar to that requested by the reporter last year will be available for use at the annual reporter review meeting. This report will highlight the relevant cost lines from the CMS system and the corresponding removal data taken from the PPRA Reports.

Workpackage Descriptions

Through its Water Mains Rehabilitation Programme (WMRP) Northern Ireland Water (NI Water) is replacing and rehabilitating its network assets to improve serviceability levels to its customers. As part of its regulatory undertakings, NI Water is also required to target and monitor the removal of properties at risk of receiving low pressure, which it maintains on the DG2 register.

Clonvaraghan Road, Castlewellan.

The JI087 Fofanny North Lisburn South Rural Zone encompasses a total area of 603 km² including Dromore, Hillsborough, Dromara and the surrounding environs in County Down. The Work Package work included 29.23km of new mains which had an estimated overall

civil cost of £2,544k including risk. Within the WP a scheme identified was a new link watermain along Clonvaraghan Road, Castlewellan to deal with an existing DG2 issue at no.128 Clonvaraghan Road. This new watermain provided a link between Hamiltons Folly, Slievenisky Road DMA and Dechommet HL, Clonvaraghan Road 2 DMA and enabled a previous DG2 property within Hamiltons Folly Supply Zone to now be supplied from Dechommet HL Supply Zone.

Dairy Lane, Newtownhamilton.

The JF606 Clay Lake zone encompasses a total area of 695.5km² including Craigavon, Gilford, Keady and the surrounding environs in County Armagh. The work package included 31.4km of new mains which had an estimated overall civil cost of £2,784k including risk. A scheme within the WP was identified to resolve existing DG2 issues at nos. 10, 12 and 17 Dairy Lane, Newtownhamilton which was previously supplied within Knockavannon DMA.

This scheme involved the laying of 390m of 90mm HPPE along with a new PRV and associated valves to enable Dairy Lane to be supplied from Armaghbreague DMA.

Dunmallaght Park area, Ballycastle

The JI046 High Priority WM Phase 1 Work Package covers mostly rural areas in Tyrone and Armagh, and also contains some urban areas particularly in Ballycastle and Newry. The Work Package covers a total area of 182km². The work package included 12.3km of new mains and 3.1km of mains to be abandoned. It had estimated overall civil costs including risk of £1,362K.

Parkgate Road, Ballymena.

The JI089 Killylane North and South Zone encompasses a total area of 170 km² including sections of Larne Town, Glynn, Ballycarry, Doagh, Parkgate and the surrounding environs in County Antrim. The work package included 14.9km of new mains which had an estimated overall civil cost of £2,447k including risk and previously approved enabling costs of £45k.

Creamery Road, Carran Road and Annaghamare Road, Crossmaglen.

The JV881 Carran Hill Crossmaglen zone encompasses a total area of 146km² including Crossmaglen, Creggan, Cullyhanna and the surrounding environs in County Armagh. The work package included 38.7km of new mains which has an estimated overall civil cost of £3,753k including risk. A scheme identified as a change request to the WP was created to deal with existing DG2 properties on Carran Road, Annaghmare Road and Creenkill Road, Crossmaglen. This scheme involved the construction of a new WPS located at the entrance to Carran Hill WTW**.**

Finvoy Area, Ballymoney.

The JA313 Antrim North zone encompasses a total area of 1,425km² including Claudy, Dungiven, Limavady, Bushmills, Ballymoney, Cushendun and Kilrea. Schemes within this WP were identified to alleviate DG2 problems within the Finvoy networks area.

Loughan Hill/Baron Road.

The JN547 Tyrone North zone encompasses a total area of 880km² including Cookstown, Draperstown, Magherafelt, Tobermore, Moneymore, Pomeroy and Maghera. A scheme was identified to alleviate DG2 problems within the water network around Loughan Hill and completed as a change request to this WP.

Farm Lodge, Magherafelt.

As a result of new housing development in the Magherafelt area, 19 DG2 properties had been identified at the highest area within the Farm Lodge development. A scheme to resolve the issue was developed by the WPL Asset Performance Team in conjunction with the Water Model Team and Asset Strategy Team, and was constructed on site utilising the Networks Capital Budget.

Beltany

The JN547 Tyrone North zone encompasses a total area of 880km² including Cookstown, Draperstown, Magherafelt, Tobermore, Moneymore, Pomeroy and Maghera. The work package included 26.9km of new watermains with an overall civil cost of £2,745k including risk. Also within the WP a scheme was identified to upgrade the pumps at Beltany WPS in order to alleviate DG2 problems within the network.

Brootally

The Brootally supply area serves a mostly rural area around Co Armagh. A relatively large number of DG2 properties (62no.) existed in Killylea Village. A scheme was identified to upgrade an old WPS which previously supplied a now abandoned water tower and to utiise it to boost the supply to the village area.

Blacklough, Omagh.

The JN512 Omagh Phase 2 Zone encompasses a total area of 324 km² in Omagh and its surrounding environs in mid Tyrone. The work package included 32.6km of new mains and 3.7km of abandoned mains. It had an estimated overall civil cost of £2,940k including risk and an 85% rural 15% urban location split. 7no. DG2 properties existed around Sultan Road area within Lough Macrory High DMA and a scheme was developed and constructed under this WP to address these issues.

Meenacloy Road, Castlederg.

A scheme was identified for construction by the WMRP Programme by Asset Performance to resolve existing DG2 issues on Meenacloy Road, Castlederg. The scheme which identified the need to replace approx. 600m of 90mm water main on Meenacloy Road in order to extend a boosted supply area was added as a change request to JI089 Killylane North and South WP for construction. This WP also included 14.9km of new mains which had an estimated overall civil cost of £2,447k.

Additional information regarding the cost calculations for DG2 removals had been requested by the reporter during last year's audit to complement the methodology. This information has again been produced this year and is available on request.

Further Work Packages to be reviewed next year 2021/22

A spreadsheet listing the Work Packages awaiting completion of PPRA reports was produced and it identifies the estimated number of DG2 properties to be removed during 2020/21 using predicted pressure from Hydraulic Modelling. The actual pressure will be confirmed by logging before formal removal of properties from the register. The table below lists the Work Packages and the predicted number of properties identified to date for removal. (This may rise or fall with further investigation or some omissions throughout the year)

Table 8

Work Package Name	No of properties to be removed(nr)
Church Road, Holywood	10
Falgotrevy Road, Maghera	10
Kilcoole Gardens, Belfast	6
Caugh Hill, Bannagher	9
Turnabaston Road	8
Heathfield, Londonderry	5
TOTAL	**48 against 160 target**

Removals Pending

It should be noted that there are currently 48 properties identified for removal from the register in 2021/22 to a target of 160 in the plan following the submission of PPRA Reports. However the 2020/21 target was for the removal of 160 DG2 properties and the actual achieved removals was 9 over this figure. And so in reality the totals are 48 planned for next year against a 151 (i.e. 160-9) target to get NIW up to the planned cumulative target for end of next year.

This will be the first year of the PC21 period and due to a reduced number of DG2 schemes currently with Asset Delivery for construction, the removal numbers are predicted to be below target this year. With a refresh and update currently under way with the DG2 register and with proposed major construction work due to begin, the emphasis will be on over delivery of removals as the PC21 period continues.

These removals are subject to the completion of rehabilitation work, collation of pressure data and submission of completed reports. In previous years, more detailed work throughout the year resulted in more DG2s being delivered than planned .These reviews are ongoing.

Confidence Grade Line 4c

The confidence grade for this line has remained at B2 this year. This has been achieved by Asset Delivery ICD and Asset Strategy Performance Team working together to improve the granularity of the returns and to improve the accuracy of the methodology and figures. This was done by making use of the scheme approval analysis that presents the contribution from each of the investment drivers (structural improvements, water quality, operational issues (leakage) and hydraulic drivers (DG2).

Lines 5-19 - DG3 Properties Affected by Supply Interruptions

The rules governing the recording and collation of data for the DG3 Register are explained in the DG3 Levels of Service Methodology. DG3 procedures were established and implemented by NI Water in April 2007.

Note: This commentary includes figures based on a Total Connected Properties at Year End figure of **892,910** as confirmed by CSD Services in AIR21 Table 2 Line 1.

Significant year on year changes in reported figures including an explanation of any factors that may have influenced the figures

Unplanned, Unwarned Interruptions

AIR	DG3 Properties Affected	2018/19	2019/20	2020/21
Table 2: Line 5	More than 3 hours	58,816	49,181	**24,443**
Table 2: Line 6	More than 6 hours	3,509	6,157	**1,834**
Table 2: Line 7	More than 12 hours	308	751	**0**
Table 2: Line 8	More than 24 hours	0	23	**0**

The AIR21 outturn numbers of properties affected by unplanned, unwarned interruptions that lasted **more than 3 hours** *(24,443)* and **more than 6 hours** *(1,834)* were the lowest since regulatory reporting commenced in 2007/08. For the first time since regulatory reporting commenced, no properties experienced an unplanned, unwarned interruption that lasted **more than 12 hours.** And for the first time since 2018/19, no properties experienced an unplanned, unwarned interruption that lasted **more than 24 hours**.

The figures confirm that between AIR20 and AIR21, there was a 50% reduction in the Line 5 outturn and a 70% reduction in the Line 6 outturn and unlike previous returns, these trends were not reflected in the Table 11 Line 11 burst rate outturn. There are **three** main reasons why the outturns have reduced.

Firstly, the ongoing implementation of the **ITS Strategy** is continuing to have a positive impact on performance as a number of proposals and initiatives are taken forward.

- Post interruption reviews are establishing learning points from past events that can be developed though the ITS Project Board and adopted as BaU.
- Significant engagement work has been undertaken in the last year by the ITS Project Manager with the implementation of the new *'working differently'* process aimed at reducing the Minutes of Lost Supply per Property outturn.
- NI Water's Water Production Line and Asset Delivery staff have been *'working together'* for the benefit of customers.
    - Tankers have been deployed during ITS events to maintain storage levels at service reservoirs and to feed directly into the water distribution network.
    - Temporary supplies have been laid in order to minimise interruptions during planned and unplanned operations.
- Additional equipment has been purchased to assist colleagues, including ITS Trailers.

Secondly, the **detailed review process** for unplanned interruption events lasting between 3 hours and 6 hours has been expanded to include events involving between 100 and 500 properties. Previously, only events involving more than 500 properties had been the subject of a detailed review. The review process is identifying property counts that would, in the past, have been over-reported and this is helping to improve the accuracy of the outturn.

Thirdly and in line with government guidance, there was a reduction in non-essential, planned work on the distribution system for parts of the year during the **Covid-19** pandemic. Less disturbance to the network meant that there were fewer issues associated with changes in pressure and hence, fewer unplanned interruption events.

In order to verify the accuracy of the quantified reduction in the Table 2 Line 5 outturn, the Company carried out an analysis to determine what typically happens to the durations and property counts of unplanned interruption events between 3 hours and 6 hours involving between 100 and 500 properties when they are subject to a detailed review. The analysis was based on 74 unplanned interruption events that were known to have been reviewed

and whose accuracy therefore benefited as a result. The results are summarised in the following table.

Impact on Duration	Impact on Property Count	Events Reviewed	Original Property Count	Post-Review Property Count		
				>0hrs	>3hrs	>6hrs
No change	No change	20	3,302	3,302	3,302	0
Durations changed All still >3hrs & <=6hrs	No change	4	636	636	636	0
Durations changed Some >0hrs & <=3hrs Some >3hrs & <=6hrs Some >6hrs & <=12hrs	Reduction	25	5,890	5,890	2,573	128
Durations changed All now >0hrs & <=3hrs	Reduction	25	3,428	3,428	0	0
Total		**74**	**13,256**	**13,256**	**6,511**	**128**

Reduction in total property count for 74 events = ((13,256 - 6,511) / 13,256) x 100 = 51%

Note: The analysis was based on only those unplanned interruption events meeting the review criteria, both before and after review, or where there was detectible evidence of a detailed review in the form of multiple start and end time assignations. There are likely to have been other events where all properties experienced the same duration of interruption and where the events no longer meet the review criteria because of changes in the property count and/or duration.

The analysis shows that based on a knowledge of the 74 events, the reduction was approximately 51% and consistent with the 50% reduction in the Line 5 outturn.

Reduction in Line 5 Outturn = ((49,181 - 24,443) / 49,181) x 100 = 50%

On that basis, the Company is confident that the reduction in the Line 5 outturn was mainly attributed to a detailed review of unplanned interruption events involving between 100 and 500 properties and the fact that some events that would, in the past, have lasted more than 3 hours are now lasting 3 hours or less and their impact has been eliminated from Table 2.

During 2020/21, there were no significant unplanned interruption events that caused the Company to fail any of its three in-month targets but such events remain a threat to performance and their infrequency means that in the years to come, the outturns may still deviate from the current improving trend, albeit in keeping with performance targets.

Throughout 2020/21, NI Water has continued to use network modelling to assess the impact of complex unplanned interruptions and serves as evidence of the Company's commitment to ensuring data accuracy.

Planned and Warned Interruptions: Number of Events (All inc. WMRP)

DG3 Interruption Events	2018/19	2019/20	2020/21
More than 3 hours	269	279	**112**
More than 6 hours	33	59	**11**
More than 12 hours	0	0	**0**
More than 24 hours	0	0	**0**

The table above relates to annual numbers of planned and warned interruption events.

In 2020/21, 112 planned and warned interruptions lasted more than 3 hours of which 36 *(32%)* were related to the Water Mains Rehabilitation Programme *(WMRP)*. During the same period, 11 planned and warned interruptions lasted more than 6 hours of which 7 *(64%)* were associated with mains rehabilitation.

Planned and Warned Interruptions: Properties Affected (All inc. WMRP)

AIR	DG3 Properties Affected	2018/19	2019/20	2020/21
Table 2: Line 9	More than 3 hours	38,289	28,245	**5,306**
Table 2: Line 10	More than 6 hours	7,313	11,463	**743**
Table 2: Line 11	More than 12 hours	0	0	**0**
Table 2: Line 12	More than 24 hours	0	0	**0**

The table above relates to annual numbers of properties affected by planned and warned interruption events.

In 2020/21, 5,306 properties were affected by planned and warned interruptions that lasted **more than 3 hours** of which 1,701 *(32%)* were related to the Water Mains Rehabilitation Programme (WMRP). The Line 9 outturn was the lowest since regulatory reporting commenced in 2007/08. During the same period, 743 properties were affected by planned and warned interruptions that lasted **more than 6 hours** of which 589 *(79%)* were associated with mains rehabilitation. The Line 10 outturn was also the lowest since regulatory reporting commenced.

During the last year, Water Production Line and Asset Delivery staff have been *'working differently'* and tirelessly for the benefit of NI Water's customers with the aim of reducing the number of lost minutes per property due to planned work. New strategies have been implemented including the increased use of tankers during ITS events to maintain storage levels at service reservoirs and to feed directly into the water distribution network, as well as the laying of temporary supplies in order to minimise interruptions during planned and unplanned operations. A process has been developed specifically for planned interruptions during COVID-19. Significant engagement work has also been undertaken by the ITS Project Manager.

Planned and Warned Interruptions: Properties and Events (WMRP only)

Time Band		2018/19	2019/20	2020/21
More than 3 hours	Properties	25,721	15,600	**1,701**
	Events	124	125	**36**
	Properties per Event	207	125	**47**
More than 6 hours	Properties	6,059	8,255	**589**
	Events	24	42	**7**
	Properties per Event	252	197	**84**

The table above relates to planned and warned interruptions associated only with the Water Mains Rehabilitation Programme.

The Company's commitment to minimise disruption to its customers' water supply has resulted in a reduction in the number of properties affected per event and a decrease in the annual number of properties affected for more than 3 and 6 hours from the previous year.

This is consistent in part with a decrease in overall meterage installed under the Water Mains Rehabilitation Programme from the previous year, i.e. water main distribution meterage installed in 2020/21 was 101km, compared to 149km in 2019/20, 167km in 2018/19, 129km in 2017/18, 173km in 2016/17 and 113km in 2015/16.

However the reduction in events and the number of properties affected, is mainly attributed to the necessity to use innovative techniques and stricter controls upon WMRP contractors to minimise disruptions to less than 3 hours during the current pandemic.

For the sixth year in succession, no properties experienced a planned and warned interruption of **more than 12 hours**. Whenever possible, NI Water tries to avoid planned and warned interruptions exceeding 12 hours. No properties have experienced a planned and warned interruption of **more than 24 hours** since regulatory reporting commenced in 2007/08.

Impact of restrictions imposed during the Covid-19 pandemic on Lines 9 to 12

Planned and warned interruption events are predominately associated with non-essential work i.e. work that does not need to be undertaken with any immediate degree of urgency. An example of non-essential work is mains rehabilitation. The restrictions imposed at various times throughout the year on non-essential travel prevented NI Water and its contractors from undertaking any non-essential work during those times and there was an associated reduction in the number of planned and warned interruptions. When restrictions began in April 2020, there were no interruptions relating to mains rehabilitation in the first month. Thereafter, the introduction of PPE and additional risk assessments enabled a limited amount of work to continue.

Interruptions caused by Third Parties

AIR	DG3 Properties Affected	2018/19	2019/20	2020/21
Table 2: Line 13	More than 3 hours	12,089	2,712	**2,183**
Table 2: Line 14	More than 6 hours	2,780	166	**300**
Table 2: Line 15	More than 12 hours	0	0	**0**
Table 2: Line 16	More than 24 hours	0	0	**0**

In 2020/21, 2,183 properties experienced an unplanned interruption caused by a third party that lasted **more than 3 hours**. It was the fifth lowest outturn since regulatory reporting commenced in 2007/08 and the lowest since the AIR13 outturn of 1,778. 24 events lasted more than 3 hours, the most significant of which occurred on 28th September 2020 when a road contractor damaged a main causing a loss of supply to properties in Trench Road DMA. 383 properties were affected by the incident, 18% of the outturn.

In 2020/21, 300 properties experienced an unplanned interruption caused by a third party that lasted **more than 6 hours**. It was the fifth lowest outturn since regulating reporting commenced in 2007/08. 5 events lasted more than 6 hours, the most significant of which occurred on 18th April 2020 when a main burst as a result of fire hydrants being turned off and on during firefighting operations in the Budore area of Belfast. 137 properties were affected by the incident, 46% of the outturn.

For the third year in succession, no properties experienced an unplanned interruption caused by a third party than lasted **more than 12 hours**. And for the tenth year in succession, no properties experienced an unplanned interruption caused by a third party that lasted **more than 24 hours**.

Impact of restrictions imposed during the Covid-19 pandemic on Lines 13 to 16
The restrictions imposed at various times throughout the year on non-essential travel prevented third party companies from undertaking any non-essential work during those times and there was an associated reduction in the risk of accidental damage to the network.

Unplanned Interruptions (Overruns of Planned Interruptions)

AIR	DG3 Properties Affected	2018/19	2019/20	2020/21
Table 2: Line 17	More than 6 hours	159	222	**0**
Table 2: Line 18	More than 12 hours	0	0	**0**
Table 2: Line 19	More than 24 hours	0	0	**0**

In 2020/21, no properties experienced an overrun of a planned and warned interruption that lasted **more than 6 hours.** It was the first time that the outturn was zero since regulating reporting commenced in 2007/08. This reflects the amount of planning that goes on in advance of warned events to ensure that enough time is allocated to their completion and that they do not overrun thus causing an inconvenience to customers.

For the third year in succession, no properties experienced an overrun of a planned and warned interruption that lasted **more than 12 hours**. And for the fifth year in succession, no properties experienced an overrun of a planned and warned interruption that lasted **more than 24 hours**.

Additional information on performance against alternative standards

Number of properties experiencing unplanned, unwarned interruptions (expressed as a percentage of households) in excess of:
1a) 6 hours, 1b) 12 hours, 1c) 24 hours. KPIs 1a and 1c were first introduced in April 2007.

The following table provides details of the outturns for the last three years together with the corresponding yearend targets.

Interrupt Category	18/19 Outturn		18/19 KPI Target		19/20 Outturn		19/20 KPI Target		**20/21 Outturn**		**20/21 KPI Target**	
	(Props)	(%)	(Props)	(%)	(Props)	(%)	(Props)	(%)	**(Props)**	**(%)**	**(Props)**	**(%)**
>6 hrs	3,509	0.401	6,973	0.798	6,157	0.697	6,873	0.778	**1,834**	**0.205**	**6,773**	**0.759**
>12 hrs	308	0.035	1,350	0.154	751	0.085	1,300	0.147	**0**	**0.000**	**1,250**	**0.140**
>24 hrs	0	0.000	80	0.009	23	0.003	80	0.009	**0**	**0.000**	**80**	**0.009**

Note: Percentage outturns in above table are based on total connected properties as follows: 874,307 (AIR19); 883,423 (AIR20); 892,910 (AIR21)

The 2020/21 outturns for properties affected by unplanned, unwarned interruptions confirm that for the fifth year in succession, NI Water has achieved all three DG3 KPI targets. The >6hrs outturn of 1,834 was the lowest since regulatory reporting commenced in 2007/08. It was also the first year since regulatory reporting commenced that no properties experienced an unplanned interruption of more than 12 hours. And for the first year since 2018/19, no properties experienced an unplanned interruption of more than 24 hours.
In terms of the number of affected properties per event, the most significant event of the year occurred in December 2020 and involved two bursts on a 150 mm PVC main at Stewartstown Road, Dunmurry. It was not possible to rezone the affected properties and the proximity of the bursts to the Glider bus lane restricted the way that work was able to be carried out.

The 2019/20 >6hrs outturn of 6,157 was the fourth lowest since regulatory reporting commenced whilst the >12hrs outturn of 308 was the third lowest. It was the first year since 2015/16 that any properties experienced an unplanned interruption to supply of more than 24 hours. All 23 properties were associated with an event involving multiple bursts on the trunk main between Tullywhisker and Rakelly Service Reservoirs at Ardstraw, Newtownstewart.

2018/19 was an unexceptional year in terms of major incidents involving supply interruptions. Although June and July 2018 saw an increase in demand associated with the summer weather, the impact was limited to the >3hrs time band and the year remained insignificant in terms of atypical performance.

Properties which suffered an interruption to supply where NI Water considers that customers would not have noticed the loss of service, for example because it occurred at night

Assumption: In previous returns, NI Water listed only those interruptions lasting longer than 3 hours and falling between the hours of 12 midnight and 7am. This year, the Company has listed interruptions lasting longer than 3 hours and falling between the hours of 11pm and 8am.

The following table provides a summary of those interruption records in 2020/21 whose Interruption Start Date/Time and Supply Restored Date/Time fell within the hours of 11pm and 8am.

	Interrupt Type	Interrupt No.	Interruption Start		Supply Restored		Duration	Properties Affected		
			Date	Time	Date	Time		>0 hrs	>3 hrs	>6 hrs
1	Third Party	197308	30/06/20	02:31	30/06/20	07:20	4 Hrs 49 Mins	147	147	0
2	Unplanned	198461	10/12/20	23:45	11/12/20	05:30	5 Hrs 45 Mins	86	86	0
3	Unplanned	198546	24/12/20	01:13	24/12/20	06:20	5 Hrs 7 Mins	56	56	0
				01:07	24/12/20	05:20	4 Hrs 13 Mins	78	78	0
4	Unplanned	198675	09/01/20	23:57	10/01/20	04:00	4 Hrs 3 Mins	37	37	0

Both Customer Field Services and the Leakage function are responsible for interruptions to supply that are of a relatively short duration. Interruptions lasting less than 1 hour are not, as a rule, recorded by NI Water. Routine step tests are carried out at night to reduce the impact of loss of supply to customers and normally last no longer than 3 hours.

4 unplanned interruption events, one caused by a third party, have been identified where customers would not have noticed the loss of service because it occurred at night. All 4 interruptions lasted 6 hours or less. The total number of properties affected by the interruptions was 404 representing 1.52% of the total number of properties that experienced an unplanned interruption, including those caused by a third party, lasting more than 3 hours in 2020/21.

Unplanned: (404 / (24,443 + 2,183)) x 100 = **1.52%**

In 2019/20, 8 unplanned interruption events and 5 planned interruption events occurred between the hours of 11pm and 8am. 355 properties were affected by the unplanned events which represented 0.68% of the total number of properties that experienced an unplanned interruption of more than 3 hours. 2,023 properties were affected by the planned events which represented 7.16% of the total number of properties that experienced a planned interruption of more than 3 hours in the year.

Number of overruns of planned and warned interruptions lasting between 3 and 6 hours

The following table provides a summary of the **7** overruns of planned and warned interruptions lasting between 3 and 6 hours in 2020/21.

	Interrupt. No.	Month	Duration	Properties Affected		Duration Of Overrun
				> 0 hrs	> 3 hrs	
1	196917	May-20	5 Hrs 0 Mins	7	7	0 Hrs 15 Mins
2	197201	Jun-20	3 Hrs 58 Mins	9	9	3 Hrs 26 Mins
3	197228	Jun-20	3 Hrs 30 Mins	46	46	2 Hrs 30 Mins
4	197231	Jun-20	4 Hrs 30 Mins	109	109	2 Hrs 30 Mins
5	199032	Feb-21	4 Hrs 45 Mins	67	67	0 Hrs 45 Mins
6	199227	Mar-21	3 Hrs 45 Mins	35	35	0 Hrs 45 Mins
7	199244	Mar-21	3 Hrs 40 Mins	18	18	1 Hr 0 Mins

The number of properties affected by the 7 overruns was:

7 + 9 + 46 + 109 + 67 + 35 + 18 = **291**

This number is small compared to the number of properties that experienced a planned and warned interruption of between 3 and 6 hours *(4,563)*.

T2: L9 = 5,306; T2: L10 = 743; 5,306 - 743 = **4,563**

NI Water reported in its AIR20 commentary that there were 10 overruns of planned and warned interruptions lasting between 3 and 6 hours. The number of properties affected by these overruns was 846.

Number of properties affected by interruptions caused by loss of electrical supply

Interrupt. No.	Date of Incident	Duration	Properties Affected					Interrupt. Type	Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs		
196833	17/04/20	5 Hrs 23 Mins	25	25	0	0	0	Unplanned	Electricity supply failure
197033	22/05/20	3 Hrs 48 Mins	43	43	0	0	0	Unplanned	Electricity supply failure
197284	24/06/20	4 Hrs 24 Mins	21	21	0	0	0	Unplanned	Electricity supply failure
197842	18/09/20	3 Hrs 56 Mins	153	153	0	0	0	Unplanned	Electricity supply failure
198943	14/02/21	9 Hrs 54 Mins	13	13	13	0	0	Unplanned	Electricity supply failure
		8 Hrs 26 Mins	37	37	37	0	0		
		3 Hrs 22 Mins	13	13	0	0	0		
		3 Hrs 6 Mins	14	14	0	0	0		

The table above provides a summary of the **5** records in 2020/21 relating to unplanned, unwarned water supply interruptions caused by electricity supply failures lasting more than 3 hours.

No properties experienced an interruption of more than 12 hours as a result of any of the incidents.

The most significant event in terms of numbers of affected properties occurred on 18th September 2020 when Killeeshil treated water pumping station in Dungannon was affected by an electricity supply failure. 153 properties lost their water supply for 3 hours 56 minutes as a result of the incident.

The most significant event in terms of duration occurred on 14th February 2021 when a planned power outage prevented water from being pumped to Mullaghdrin Service Reservoir, Mullaghdrin Road East, Dromore. 27 properties lost their water supply for

between 3 hours and 6 hours whilst a further 50 properties experienced an interruption of more than 6 hours as a result of the incident.

Percentage impact of interruptions caused by loss of electrical supply on annual outturns

	>3 Hrs	>6 Hrs	>12 Hrs	>24 Hrs
Number of Properties Affected by Unplanned, Unwarned Water Supply Interruptions caused by Electricity Supply Failures	319	50	0	0
Number of Properties Affected by Unplanned, Unwarned Interruptions	24,443	1,834	0	0
Percentage Impact	1.31%	2.73%	0.00%	0.00%

The impact of the electricity supply failures was greatest on the >6hr outturn, accounting for 2.73% of the total number of properties affected by unplanned interruptions. The 2019/20 percentage was 0.00%.

Percentage impact of interruptions caused by loss of electrical supply on target compliance

	>6 Hrs	>12 Hrs	>24 Hrs
Percentage Connected Properties Affected by Electricity Supply Failures	0.006%	0.000%	0.000%
KPI Target	0.759%	0.140%	0.009%
Percentage Annual Target	0.74%	0.00%	0.00%

The impact of the electricity supply failures on KPI target compliance was insignificant, accounting for only 0.74% of the >6 Hrs target. In 2019/20, the impact was negligible.

Major incidents during the report year that NI Water believes adversely affected its DG3 performance

The following table provides a summary of the **34** supply interruption incidents during 2020/21 that lasted more than 3 hours and were mentioned in the Company's Upward Reports. *For full details of these incidents, please refer to the Upward Reports.*

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
001	Event 261819; DG3 196786	07/04/20	Main damaged by third party contractor, Bann Road, Bendooragh, Ballymoney	6 Hrs 58 Mins	12	12	12	0	0	3
				1 Hr 14 Mins	1,277	0	0	0	0	
002	Event 261948; DG3 196871	18/04/20	Burst on Altmore trunk main, Lurgylea Road, Dungannon	5 Hrs 1 Min	154	154	0	0	0	3
003	Event 261900; DG3 196836	24/04/20	Burst main, East Link Road / Dundonald Road junction, Dundonald	5 Hrs 40 Mins	299	299	0	0	0	3
004	Event 262302; DG3 197090	29/05/20	Ballybriest South SR ran to empty following a planned shutdown at Lough Fea WTW, Cookstown	5 Hrs 14 Mins	32	32	0	0	0	3
	Event 262295; DG3 197083			3 Hrs 44 Mins	5	5	0	0	0	
005	Event 262695; DG3 197335	02/07/20	Burst on Movilla trunk main, Mountstewart Road, Carrowdore	5 Hrs 35 Mins	67	67	0	0	0	3
	Event 262832; DG3 197428			4 Hrs 12 Mins	9	9	0	0	0	
	Event 262680; DG3 197332			3 Hrs 30 Mins	67	67	0	0	0	
	Event 262832; DG3 197428			3 Hrs 26 Mins	382	382	0	0	0	
006	Event 262708; DG3 197343	05/07/20	Burst on trunk main from Lough Macrory WTW to Sixmilecross SR, Ramackan Road, Sixmilecross	4 Hrs 15 Mins	7	7	0	0	0	3
007	Event 262706; DG3 197345	05/07/20	Burst on trunk main supplying Croaghmore SR , Ballycastle	5 Hrs 10 Mins	112	112	0	0	0	3
008	Event 262839; DG3 197426	21/07/20	Burst on trunk main supplying Croaghmore SR , Ballycastle	4 Hrs 14 Mins	97	97	0	0	0	3
009	Event 262873;	23/07/20		7 Hrs 21 Mins	22	22	22	0	0	3

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
	DG3 197454		Pump equipment failure, Killaney Lower TWPS, Aughafad Road, Clogher (Ballagh Fogart DMA)	5 Hrs 51 Mins	134	134	0	0	0	
	Event 262865; DG3 197452			5 Hrs 50 Mins	53	53	0	0	0	
010	Event 262971; DG3 197516	03/08/20	Burst on trunk main supplying Croaghmore SR , Ballycastle	4 Hrs 7 Mins	73	73	0	0	0	3
011	Event 263080; DG3 197580	12/08/20	Closed valve following bulk meter replacement, Castor Bay Dungannon trunk main	4 Hrs 3 Mins	977	977	0	0	0	3
012	**Event 263144; DG3 ID 197627**	**18/08/20**	**Burst trunk main, Breda SR outlet, (Dunluce, Fountainvale, Malone DMAs, Belfast)**	**>6hrs <12hrs**	**1,097**	**571**	**110**	**0**	**0**	3
013	Event 263464; DG3 ID 197839	18/09/20	Burst trunk main supplying Croaghmore SR, Bushmills (Ballinlea DMA)	3 Hrs 27 Mins	73	73	0	0	0	3
014	Event 263610; DG3 ID 197934	30/09/20	Burst on Caugh Hill to Corrody trunk main, Tirbracken Road, Drumahoe	5 Hrs 52 Mins	12	12	0	0	0	3
				2 Hrs 0 Mins	3	0	0	0	0	
015	Event 263659; DG3 197967	03/10/20	Burst on Mullaghboy to Moneymore SR trunk main, Desertmartin Road, Moneymore	4 Hrs 18 Mins	38	38	0	0	0	3
016	**Event 263842; DG3 198099**	**19/10/20**	**Burst main, Doagh Road, Kells (Craigstown DMA)**	**>6hrs <12hrs**	**667**	**534**	**157**	**0**	**0**	3
017	Event 264106; DG3 198274	12/11/20	Burst main and subsequent airlocks, Bratwell Road, Coleraine (Sconce Hill DMA)	>6hrs <12hrs	347	89	3	0	0	3
	Event 264114; DG3 198275	12/11/20			61	61	0	0	0	
	Event 264115; DG3 198277	13/11/20			55	55	0	0	0	
018	Event 264131; DG3 198285	15/11/20	Burst main, Lough Road, Lisburn	5 Hrs 59 Mins	68	68	0	0	0	Precautionary
				5 Hrs 54 Mins	31	31	0	0	0	

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
				5 Hrs 45 Mins	19	19	0	0	0	
019	Event 264147; DG3 198296	17/11/20	Burst on Ballinlea to Craigpark SR trunk main, Carnbore Road, Bushmills	4 Hrs 39 Mins	12	12	0	0	0	Precautionary
	Event 264155; DG3 198300			1 Hrs 58 Mins	12	0	0	0	0	
020	Event 264204; DG3 198323	21/11/20	Burst on Tullywhisker SR to Castletown SR trunk main, Cavanalee Road, Strabane	1 Hrs 30 Mins	11	0	0	0	0	3
				1 Hrs 30 Mins	11	0	0	0	0	
	Event 264209; DG3 198328	22/11/20		4 Hrs 25 Mins	8	8	0	0	0	
	Event 264205; DG3 198331	23/11/20		3 Hrs 54 Mins	29	29	0	0	0	
021	Event 264256; DG3 198369	26/11/20	Burst on Castlederg North SR inlet trunk main, Priestsessiagh Road, Castlederg	4 Hrs 30 Mins	10	10	0	0	0	3
022	Event 264294; DG3 198392	02/12/20	Burst on Killyberry outlet, Bellshill Road, Castledawson (Bellaghy & Stantons Brae DMAs)	5 Hrs 48 Mins	21	21	0	0	0	3
	Event 264304; DG3 198393			4 Hrs 12 Mins	13	13	0	0	0	
	Event 264305; DG3 198394			2 Hrs 47 Mins	4	0	0	0	0	
	Event 264302; DG3 198398			2 Hrs 21 Mins	44	0	0	0	0	
023	Event 264387; DG3 198452	09/12/20	Burst on Sandbank to Newtown trunk main, Kilbroney Road, Rostrevor	5 Hrs 15 Mins	127	127	0	0	0	3
024	Event 264565; DG3 198565	29/12/20	Burst trunk main, Millbrooke Drive, Ballymoney (Glenlough SR)	5 Hrs 38 Mins	52	52	0	0	0	3
025	**Event 264576; DG3 198614**	**30/12/20**	**Burst main, Stewartstown Road, Dunmurry**	**6 Hrs 50 Mins**	**430**	**430**	**430**	**0**	**0**	**3**
026	Event 264683; DG3 198644	07/01/21	Burst main, Redwood Dale, Lisburn (The Cutts DMA)	8 Hrs 27 Mins	48	48	48	0	0	3
027	Event 264697; DG3 198647	07/01/21	Main damaged by third party contractor, Moylena Road, Antrim (Fountain St DMA)	5 Hrs 31 Mins	410	316	0	0	0	3
028		**02/02/21**	**Burst main, Edenmore Road,**	**10 Hrs 53 Mins**	**1**	**1**	**1**	**0**	**0**	**3**

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
	Event 265007; DG3 198850		**Limavady (Greystone DMA)**	**8 Hrs 53 Mins**	**8**	**8**	**8**	**0**	**0**	
				7 Hrs 53 Mins	**5**	**5**	**5**	**0**	**0**	
				6 Hrs 23 Mins	**91**	**91**	**91**	**0**	**0**	
029	Event 265157; DG3 198947	15/02/21	Burst trunk main, Creggan SR Gravity Outlet, Glen Road, Londonderry	4 Hrs 10 Mins	4,478	324	0	0	0	3
030	Event 265186; DG3 198967	16/02/21	Burst on inlet to Glassdrummond Dungannon WPS (Rehaghy DMA)	4 Hrs 56 Mins	74	74	0	0	0	3
031	Event 265432; DG3 199122	09/03/21	Burst trunk main, Learmount Road, Claudy (Fincairn DMA)	5 Hrs 28 Mins	25	25	0	0	0	3
				3 Hrs 43 Mins	45	45	0	0	0	
				2 Hrs 53 Mins	382	0	0	0	0	
				2 Hrs 43 Mins	22	0	0	0	0	
032	Event 265441; DG3 199150	09/03/21	Airlocks following mains rehab connections, Barony Road, Mountfield	7 Hrs 20 Mins	25	25	25	0	0	3
033	Event 265486; DG3 199158	13/03/21	Burst on Killeague SR outlet, Coleraine (Killeague DMA)	9 Hrs 34 Mins	690	131	79	0	0	3
034	Event 265558; DG3 199209	22/03/21	Loss of comms caused Glack WPS to fail to pump to Sistrakeel SR, Claudy	6 Hrs 57 Mins	206	182	69	0	0	3

In the years prior to 2017/18, NI Water assumed a monthly target allowance of one seventeenth of the full year target from April to October and a monthly target allowance of two seventeenths of the full year target from November to March. The allowance was doubled from November to March to account for freeze-thaw conditions and an associated rise in the numbers of bursts.

Following a review of historical annual performance profiles, the decision was taken in 2017/18 to opt for a straight-line target profile i.e. the same monthly target allowance every month. The target profile remained straight for 2020/21.

The 2020/21 KPI targets are listed below as percentages and numbers of total connected properties, together with the corresponding monthly target allowances.

KPI	2020/21 Target		Monthly Target Allowance Apr to Mar	
	%	Properties	%	Properties
>6hrs	0.759	6,773	0.063	564
>12hrs	0.140	1,250	0.012	104
>24hrs	0.009	80	0.001	7

In previous years, the unplanned interruption events that had the greatest negative impact on performance were determined by comparing the monthly actuals with the three KPI target profiles and identifying instances where a target was missed. In 2020/21, there were no such instances so instead, the Company will discuss the five most significant events of the year.

Major Incidents

Burst Main, Craigstown Road, Ballymena

(Ref: IMS Event ID 263118; DG3 ID 197612)

	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs
Properties Affected	**778**	**759**	**379**	**0**	**0**

On 14th August 2020, a burst occurred at Craigstown Road, Ballymena. It was the first of two major incidents in the year affecting properties in Craigstown DMA and the second most significant unplanned interruption event of the year in terms of the number of properties involved. A network modelling exercise was carried out to determine accurate figures for the event.

This event was note-worthy because of the large number of properties affected for more than 6 hours *(379 nr)*. The impact of this incident in terms of percentages of connected properties affected was 0.042% >6hrs.

Burst Trunk Main, Breda SR Outlet

(*Ref: IMS Event ID 263144; DG3 ID 197627)*

	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs
Properties Affected	**1,097**	**571**	**110**	**0**	**0**

On 18th August 2020, a burst occurred on the 12 inch ductile iron trunk main outlet from Breda SR, Belfast. The main supplies properties in Dunluce, Fountainvale and Malone Road DMAs. The burst was difficult to locate as there was no visible sign of leakage.
A sluice valve was installed to aid rezoning and a CCTV survey of the main was carried out to help locate the defect. The breach was eventually located at the junction of Bradbury Place and Lisburn Road. Excavation was postponed until after the evening rush hour. The

repair proved difficult due to a large void under the road caused by the leaking water. The incident was the subject of **Upward Report 012.**

Unlike Craigstown which had been modelled before, Breda did not have an existing model and it was therefore necessary to base the figures on an interim solution. Spot pressures and logged pressures were used to assist with the analysis, particularly where there were 'no water' complaints but the pressure was above the threshold.

This event was note-worthy because of the large number of properties affected for more than 6 hours *(110 nr)*. The impact of this incident in terms of percentages of connected properties affected was 0.012% >6hrs.

Burst main, Doagh Road, Kells (Craigstown DMA)

(Ref: IMS Event ID 263842; DG3 ID 198099)

	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs
Properties Affected	**667**	**534**	**157**	**0**	**0**

On Monday 19th October 2020, a burst occurred in an 8 inch asbestos cement main at Doagh Road, Kells. It was the second of two major incidents in the year affecting properties in Craigstown DMA. Rezoning and tankering operations were used during the incident to reduce the number of affected properties. Following completion of the repair, the distribution system was recharged slowly to avoid further breaches. A network modelling exercise was again carried out to determine accurate figures for the event. The incident was the subject of **Upward Report 016.**

This event was note-worthy because of the large number of properties affected for more than 6 hours *(157 nr)*. The impact of this incident in terms of percentages of connected properties affected was 0.018% >6hrs.

Burst main, Stewartstown Road, Dunmurry

(Ref: IMS Event ID 264576; DG3 ID 198614)

	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs
Properties Affected	**430**	**430**	**430**	**0**	**0**

On Wednesday 30th December 2020 in the early hours of the morning, a burst occurred on a 150 mm PVC main at Stewartstown Road, Dunmurry. A second burst also occurred and their proximity to the Glider bus lane restricted the way that work was able to be carried out. It was not possible to rezone the affected properties. The incident was the subject of **Upward Report 025.**

This event was note-worthy because of the large number of properties affected for more than 6 hours *(430 nr)*. In fact it was the most significant unplanned interruption event of the year in terms of the number of properties involved. The impact of this incident in terms of percentages of connected properties affected was 0.048% >6hrs.

Burst main, Edenmore Road / Edenvale Estate, Limavady (Greystone DMA)

(Ref: IMS Event ID 265007; DG3 ID 198850)

	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs
Properties Affected	**105**	**105**	**105**	**0**	**0**

On Tuesday 2nd February 2021, a contractor who was carrying out repairs to a sewer manhole, hit a 6 inch PVC water main on Edenmore Road, Limavady at the junction with Edenvale Estate, causing a 40 litre/sec burst. The main supplies Greystone DMA. No re-

zoning options were available so overland hoses were used to supply the estate. The incident was the subject of **Upward Report 028.**

This event was note-worthy because of the duration of interruption *(10 Hrs 53 Mins)* and the number of affected properties *(105 nr)*. The impact of this incident in terms of percentages of connected properties affected was 0.012% >6hrs.

Note: As always, NI Water has fully assessed the issues that led to each of the five events as well as the ways in which the events were managed from an operational perspective and has developed a series of actions aimed at mitigating the impact of similar events. The Company continues to invest in its water mains infrastructure, including work associated with the replacement of a 10 inch trunk main on the Lisburn Road, Belfast, the replacement of asbestos cement pipes and connections within Craigstown DMA, Kells and the installation of a new main and water pumping station at Caragn Village (Dungonnell to Parkmore Trunk Main). Water Production Line (WPL) has identified mains rehabilitation schemes for urgent prioritisation due to ITS issues.

Justification of the assigned confidence grades including an explanation for any changes in confidence grades from previous years

The AIR09 Reporter recommended the use of consistent confidence grades across all lines relating to DG3. On 4th July 2014, NI Water first introduced the Incident Management System *(IMS)* as a replacement for the Operations Management Information System *(OMIS)* to capture data relating to supply interruptions. In 2015/16, the Company increased its DG3 confidence grade from 'B3' to 'A3' because it was the first full year in which IMS had been used instead of OMIS.

IMS has now been used to capture six complete years' worth of data and again, the decision has been taken to assign a confidence grade of 'A3' across all lines relating to DG3. The Company continues to develop the system on an annual basis by seeking suggestions from its key users and making the necessary modifications to improve the usability and functionality of the system as well as ensuring that growing requirements are met across all areas of the business.

Justification of Reliability Band 'A'

IMS is regarded as a better system than OMIS and has the following benefits:

- Improved customer response times
- Improved consistency of methodology across all work streams
- Improved accuracy of information through:
    - the recording of start times by Work Controllers/Telemetry Operators
    - the recording of individual start and restoration times for each property as opposed to each event
    - the recording of times to the nearest minute
- Improved utilisation of other key systems e.g. the GIS as a source of address information
- Improved auditability of information through query, change and approval status tracking
- Better management of approval chains through the automatic generation of e-mailed reminders
- Improved report generation
- Improved accessibility and sharing of information across the business
- Enhanced effectiveness of the DG3 Register through the capture of additional information such as pipe material and diameter and the GIS co-ordinates of bursts

IMS is working exactly as it should by ensuring the capture of a greater number of interruption events and a greater number of affected properties associated with those events. All interruption events are fully documented to a consistent standard. Every interruption record includes the category, cause, key dates and times, address details, and property counts necessary to meet the regulatory reporting requirements of a DG3 Register. The cause of interruptions is identified by experienced field staff or contractors.

Justification of Accuracy Band '3'

	2018/19	2019/20	2020/21
'No Water' Complaints	20,153	17,361	19,566
Unplanned Interruption Events	1,851	1,612	1,721
Complaints per Event	10.9	10.8	11.4

The average number of 'no water' complaints received per unplanned interruption event continues to be a good indication of the completeness of the Company's data and whether or not the details of all such events are being captured by the Company's systems. The statistics show that in the last three years, the outturns were between 10.8 and 11.4. On this basis, the conclusion is that the accuracy of the data remains consistent and inclusive of all interruption events. The slight increase in 2020/21 may have been attributed to an increase in domestic supply-related complaints as people worked from home during the Covid-19 pandemic.

Detailed Review Process

In 2018/19, NI Water introduced a detailed review process for unplanned interruption events lasting between 3 hours and 6 hours and involving more than 500 properties. The aim of the review process was to improve the accuracy of the Minutes of Lost Supply per Property outturn which is based on properties that experience a planned or unplanned interruption of 3 hours or more. In 2020/21, the review process was expanded to include events involving between 100 and 500 properties. To confirm the accuracy of the Line 5 outturn, the Company carried out an analysis based on 74 such events. The findings of the analysis confirmed that following a detailed review, the average reduction in the property counts associated with an event was 51% and this was consistent with a 50% reduction in the Line 5 outturn.

Audit Checks

NI Water carries out a number of audit checks, aimed at ensuring that the data in its Annual Information Return is both reliable and accurate and that the confidence grade is justified. The audit checks ensure that affected properties have been reported under the correct category of interruption and that reporting is in accordance with the regulatory guidance and definitions.

During the year, Networks Water generated a total of 578 records of interruption events lasting more than 3 hours. All records were checked for accuracy and completeness by the Customer Field Managers. Following the extraction of data to spreadsheets, checks were carried out by CSD Services to ensure that the data remained consistent with IMS and that no records had been inadvertently deleted or duplicated during migration between worksheets.

During the year, Capital Asset Delivery generated a total of 41 records of interruption events lasting more than 3 hours. A random sample of 29 records was checked against the corresponding Interruption Record Sheets to ensure that the details had been accurately transcribed. This represents 71% of records.

Throughout 2020/21, the Company has continued to review its records of 'no water' complaints when determining the details of supply interruptions. And the Company has carried out checks to ensure consistency between IMS and the Upward Reporting process relating to unplanned interruption events lasting more than 3 hours.

The Company also continues to monitor the warning notification process followed by its contractors for planned and warned interruptions and has carried out sample checks to confirm that customers were provided with at least 48 hours warning in advance of planned and warned interruptions to supply.

Note: Due to the Covid-19 pandemic and related government guidance to *'work from home wherever possible'*, audit checks on the return of undeliverable warning notifications were temporarily suspended in 2020/21. It is hoped to resume the checks whenever the guidance is lifted.

Line 20 - Population (winter)

Note: All calculations relating to Line 20 were originally performed with the aid of a spreadsheet. For the purposes of the commentary, figures have been rounded and may give rise to rounding errors if used.

Estimation of Non-Resident Visitor Nights in 2020

The AIR21 methodology involves three separate applications of the monthly occupancy figures for hotels and guest houses/B&Bs. The first involves an application of the monthly occupancy figures for the period January 2019 to December 2019 *(see table below)* along with the number of non-resident visitor nights for the same period *(the last available published figure, inclusive of visitors from RoI)* in order to determine the relationship between the two datasets.

Ref: Tables 1.3 and 1.2 of the NISRA publications '*Northern Ireland Tourism Statistics Tables (2011 – 2020)'* dated 18/02/2021.

- *NI Hotel Rooms and Beds Sold by Month*
- *NI Guesthouse, Bed & Breakfast and Guest Accommodation Rooms and Beds Sold by Month*

MONTH	HOTEL BED-SPACES SOLD	GUESTHOUSE & B&B BED-SPACES SOLD	TOTAL BED-SPACES SOLD
Jan-19	232,216	31,508	263,724
Feb-19	274,402	38,899	313,301
Mar-19	308,143	45,317	353,460
Apr-19	291,591	66,338	357,929
May-19	353,957	75,838	429,795
Jun-19	381,005	96,859	477,865
Jul-19	408,819	113,966	522,786
Aug-19	444,286	124,899	569,185
Sep-19	344,568	81,511	426,079
Oct-19	328,592	66,397	394,989
Nov-19	292,004	50,024	342,028
Dec-19	292,224	34,837	327,061
Total			**4,778,202**

Total bed-spaces sold (Jan 19 to Dec 19) = 4,778,202

Ref: Country of Residence worksheet of the NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* dated 22/09/2020.

- *'Estimated Overnight Trips taken in Northern Ireland by Country of Residence, Q1 2011-Q4 2019'*

Non-resident visitor nights (Jan 19 to Dec 19) = 11,814,924

11,814,924 / 4,778,202 = 2.473

Based on data for the period January 19 to December 19, the number of non-resident visitor nights was found to be 2.473 times that of the number of bed spaces sold for hotels and guest houses/B&Bs.

The second application of the monthly occupancy figures for hotels and guest houses/B&Bs involves an application of the data for the period January 2020 to December 2020 *(see table below)* and the relationship determined above in order to estimate the number of non-resident visitor nights for the same period.

Ref: Tables 1.3 and 1.2 of the NISRA publications *'Northern Ireland Tourism Statistics (2011 – 2020)'* dated 18/02/2021.

- *NI Hotel Rooms and Beds Sold by Month*
- *NI Guesthouse, Bed & Breakfast and Guest Accommodation Rooms and Beds Sold by Month*

MONTH	HOTEL BED-SPACES SOLD	GUESTHOUSE & B&B BED-SPACES SOLD	TOTAL BED-SPACES SOLD	PERCENTAGE OF BED-SPACES SOLD IN 2019
Jan-20	248,042	26,262	274,304	19.00%
Feb-20	263,104	52,961	316,066	21.90%
Mar-20	0	0	0	0.00%
Apr-20	0	0	0	0.00%
May-20	0	0	0	0.00%
Jun-20	0	0	0	0.00%
Jul-20	0	0	0	0.00%
Aug-20	347,822	47,772	395,594	27.41%
Sep-20	212,819	54,571	267,391	18.53%
Oct-20	91,493	13,019	104,512	7.24%
Nov-20	0	0	0	0.00%
Dec-20	81,246	4,248	85,494	5.92%
Total	**1,244,527**	**198,834**	**1,443,361**	**100.00%**

Total bed-spaces sold (Jan 20 to Dec 20 = 1,443,361

Estimated non-resident visitor nights (Jan 20 to Dec 20) =

1,443,361 x 2.473 = 3,568,957

Having estimated the number of non-resident visitor nights in 2020, all components of the Winter Population calculation are now available and the remainder of the methodology is similar to previous years.

The third and final application of the monthly occupancy figures for hotels and guest houses/B&Bs involves an application of the data for the period January 2020 to December 2020 *(see table above)* in order to calculate the percentages of bed-spaces sold per month in 2020 and hence, the percentage of bed-spaces sold during the winter months.

Assumption: The regulatory guidance for AIR Table 2 Line 20 does not define the meaning of *'winter'*. In previous submissions using this methodology, the winter months were deemed to be the six months in the year with the lowest percentage bed-spaces sold. The percentage bed-spaces sold during the winter was the summation of the percentages for these six months.

In 2020, restrictions imposed on the hospitality sector in an effort to stop the spread of **Covid-19** meant that hotels and guesthouses/B&Bs remained closed throughout large parts of the year causing an unseasonal shift in the months that saw the lowest numbers of guests. As a result, the company has assumed that the winter months in 2020 were the same months identified as being winter months in 2019 i.e. January, February, March, April, November and December.

Based on this assumption and the above table of percentages of bed-spaces sold per month in 2020, the percentage of bed spaces sold during the winter was:

19.00 + 21.90 + 0.00 + 0.00 + 0.00 + 5.92 = 46.83%

Assumption: There is a direct relationship between bed-spaces sold and non-resident visitor nights.

Estimated non-resident winter visitor nights in 2020 =

(3,568,957 / 100) x 46.83 = 1,671,189

According to AIR21: Table 7: Line 17, the baseline resident population was 1,895.87 x 10^3.

Using the baseline resident population and the estimated non-resident winter visitor nights above, the winter population was estimated as follows:

Estimated average non-resident winter visitors per night =

1,671,189 / (31 + 29 + 31 + 30 + 30 + 31) = 9,182

Population (winter) = 1,895,870 + 9,182 = **1,905,052**.

Changes in Methodology

Background

The Winter Population is the resident population (water) plus the average non-resident population on any given day during the six winter months of the year. The methodology for calculating the average non-resident population relies heavily on the ability to source a figure from available tourism statistics for the number of **non-resident visitor nights**. In the past, this figure has been available for either the most recent calendar year *(as in the case of AIR17)* or only part of the most recent calendar year *(as in the cases of AIR18, AIR19 and AIR20)* but not the financial year in question.

These limitations have caused NI Water to base its reporting of the Winter Population on a calendar year and to estimate the number of non-resident visitor nights in the calendar year

when the figure has not been readily available. Estimates are based on the assumption that there is a direct relationship between the number of non-resident visitor nights and the occupancy figures for hotels and guest houses/B&Bs.

AIR21 Methodology

The Household Travel Survey (HTS) data from the Central Statistics Office (CSO) provides information on residents from the Republic of Ireland taking overnight trips in Northern Ireland. This information is an important part of the overall statistical picture of tourism in Northern Ireland and is used to determine amongst other things, the number of non-resident visitor nights.

In its AIR20 commentary, NI Water explained that NISRA had identified delays in both the provision of HTS data from CSO and in the assessment of that data to determine its quality. Those issues have since been resolved. However, in 2020 there was a new complication resulting from the Covid-19 pandemic and the impact it has had on the availability of tourism statistics. On the 23rd March 2020, the Government imposed a lockdown across the UK. This lockdown included all accommodation providers such as hotels, B&B, Guesthouses and Guest Accommodation. Relaxation of the lockdown allowed hotels, B&Bs, Guesthouses and Guest Accommodation to reopen again from the 3rd July. During the first lockdown, NISRA did not issue the NI Occupancy Survey and only restarted the collection of data in July.

In view of the circumstances highlighted above, NI Water has used the last available published figure for non-resident visitor nights i.e. the figure for the 12-month period from January to December 2019 and has estimated the annual number of non-resident visitor nights in 2020.

Impact of Change in AIR21 Methodology on Reported Outturn

The change in methodology described above is not believed to have had a significant impact on the reported outturn. This can be illustrated as follows:

Ref: Tables 1.3 and 1.2 of the NISRA publications '*Northern Ireland Tourism Statistics Tables (2011 – 2020)'* dated 18/02/2021.

Total bed-spaces sold (Jul 18 to Jun 19) = 4,645,321

Estimated non-resident visitor nights (Jul 18 to Jun 19) =
4,645,321 x 2.473 = 11,486,354

Ref: Country of Residence worksheet of the NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* dated 22/09/2020.

- *'Estimated Overnight Trips taken in Northern Ireland by Country of Residence, Q1 2011-Q4 2019'*

Actual non-resident visitor nights (Jul 18 to Jun 19) = 12,098,471

Difference between actual and estimate =
12,098,471 - 11,486,354 = 612,116

Percentage difference = 612,116 / 12,098,471 x 100 = 5%

As the difference between the actual and estimate is within the tolerance of any previously assigned confidence grading for this measure i.e. between 1% and 5%, this is deemed to be a suitable method for estimating the number of non-resident visitor nights.

Significant year on year changes in reported figures including an explanation of any factors that may have influenced the figures

AIR19	Confidence Grade	AIR20	Confidence Grade	AIR21	Confidence Grade
1,900.66 x 10^3	C2	1,914.49 x 10^3	C2	**1,905.05 x 10^3**	**C2**

Update on AIR19 Reporter Recommendation
At the time of reporting on AIR20, a non-resident visitor nights figure was available for only the first three months of 2019 and a figure for the entire twelve months had to be estimated. In accordance with the AIR19 Reporter Recommendation, NI Water has recalculated the AIR20 outturn using a figure now published for the entire twelve months. The recalculation is as follows:

Ref: Country of Residence worksheet of the NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* dated 22/09/2020.

- *'Estimated Overnight Trips taken in Northern Ireland by Country of Residence, Q1 2011-Q4 2019'*

Non-resident visitor nights (Jan 19 to Dec 19) = 11,814,924

Estimated non-resident winter visitor nights =

11,814,924 x 40.97* = 4,840,262 *(*also recalculated)*

Winter nights = 181

Estimated average non-resident winter visitors per night =

4,840,262 / 181 = 26,742

AIR19: Table 7: Line 17: Baseline resident population = 1,886,300

AIR19: Table 2: Line 20: Population (winter) =

26,742 + 1,886,300 = **1,913,042**

The recalculated AIR20 outturn of 1,913,042 is only 1,446 properties *(0.08%)* lower than the original AIR20 outturn of 1,914,488. This is well within the tolerance of the assigned confidence grading.

Last year, the Company reported a Table 2 Line 20 outturn of 1,914.49 x 10^3. Based on the AIR21 outturn of 1,905.05 x 10^3, the estimated winter population has decreased by 9.44 x 10^3 *(0.49%)*. This slight decrease can be attributed to changes in the component figures that make up this figure.

The estimated number of hotel bed-spaces sold in 2020 *(1,244,527)* was lower than the revised estimate for 2019 *(3,951,808)*. The estimated number of guesthouse and B&B

bedspaces sold in 2020 *(198,834)* was lower than the revised estimate for 2019 *(826,394)*. And the estimated number of non-resident visitor nights in 2020 *(3,568,957)* was lower than the revised estimate for 2019 *(11,814,924)*.

Covid-19 – Impact on tourism and winter population

Although there is a distinct lack of published data available for 2020 because of the impact that Covid-19 has had on the data capturing process, it is quite apparent, even from the estimates in the commentary, that tourism was severely and unprecedentedly affected by the restrictions imposed during the pandemic. With the requirement for catering establishments to remain closed for large parts of the year, the cancellation of entertainment and sporting events due to social distancing guidelines and the suspension of foreign travel throughout Europe and the rest of the world, many people were either prevented from visiting Northern Ireland or just simply opted not to visit, due to the continued uncertainty.

What happens in 2021 will depend very much on the easing of restrictions on business operations and travel and people regaining confidence to book vacations. The number of new strains of the virus continues to be a concern and it may be that some quarantine requirements will have to remain in place. Although tourism is unlikely to suffer as much as in 2020, there can be no doubt that Covid-19 has had an extremely detrimental impact on the hospitality industry as a whole and it will take time for it to fully recover from the setback.

Confidence Grade

Population (winter) is an estimate based on several sources of information:

1. The NISRA publications *'Northern Ireland Tourism Statistics (2011 – 2020)'* provide only an estimate of the monthly numbers of bed-spaces sold, based on the extrapolation of data for a representative sample group of establishments.
2. The NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* provides only an estimate of the quarterly numbers of non-resident visitor nights, based on sample surveys. The estimate therefore has an associated degree of sampling error, determined both by the sample design and by the sample size. Sample surveys include the Northern Ireland Passenger Survey (NIPS) conducted by the Northern Ireland Statistics and Research Agency (NISRA), the Survey of Overseas Travellers (SOT) conducted on behalf of Fáilte Ireland and the Household Travel Survey (HTS) conducted by Central Statistics Office (CSO).

NI Water has assigned a confidence grade of **C2** to account for known deficiencies in the reliability and accuracy of the reported figure. Although there have been changes in the methodology, data confidence is still believed to be comparable to previous years.

The "2" has been assigned because even if all visits occurred in the winter, the difference in the calculated winter population would be 29,180 *(+1.54%)*. *(see calculation below)*

3,568,957 / (31 + 29 + 31 + 30 + 30 + 31) = 19,610 non-resident visitors
1,905,052 + 19,610 = 1,924,662 residents + non-resident visitors
1,924,662 - 1,895,482 = 29,180
(29,180 / 1,895,482) x 100 = 1.54%

At the time of reporting on AIR21, the most recent non-resident visitor nights figure available was for 2019 and a figure for 2020 had to be estimated. When reporting on AIR22, NI Water will recalculate the AIR21 outturn using the published figure for 2020.

Lines 21-23 DG4 Restrictions on use of water

Hosepipe restrictions are defined as applying to those area(s) where legal notification has been published restricting the use of hand held hosepipes. This will normally be via notifications in the press that the use of hosepipes is banned.

Drought Orders: The population affected by Drought Orders shall include all areas where Drought Orders under Part V Chapter 1 and Schedule 5 of the Water and Sewerage Services (NI) Order 2006 have been approved by the Minister and implemented by the company.

Sprinkler/unattended hosepipe restrictions are defined as applying to those area(s) where legal notification has been published restricting the use of sprinklers/unattended hosepipes. This will normally be via notifications in the press that the use of sprinklers/unattended hosepipes is banned.

Outturns and Confidence Grades

There were no hosepipe restrictions, drought Orders or sprinkler/unattended hosepipe restrictions during the 2020/21 reporting year and therefore, the percentage population experiencing DG4 Restrictions on Use of Water is 0.0% for Lines 21, 22 and 23.

Also therefore, no detailed timetables for hosepipe restrictions have been necessary and the recording template has a Nil return.

Other calculations would have been based on information provided by Asset Information Development and on connected population figures supplied in Table 7, Lines 13-16 but excluding Lines 14 & 16 for the Billed and Measured population. The total population would be taken from Table 2 Line 20 (winter population).

Line	Description	Calculation
21	% population - hosepipe restrictions	population hosepipe restrictions x 100 / total population (winter)
22	% population - drought orders	population drought orders x 100 / total population (winter)
23	% population- sprinkler/unattended hosepipe restrictions	population sprinkler/unattended hosepipe restrictions x 100 / total population (winter)

Line	Value	Calculation
21	0.0%	0 x 100 / Table 2 Line 20
22	0.0%	0 x 100 / Table 2 Line 20
23	0.0%	0 x 100 / Table 2 Line 20

The reliability assessments of “A” are based on the established procedures for the making of any order to prohibit or restrict the use of water. The accuracy assessments of “1” are a reflection that none of the population was affected by restrictions during the report period.

Hose pipe restrictions

Area affected	None
Population affected (000s)	000.0
Date imposed	N/A
Date lifted	N/A
Total duration (weeks)	N/A

Sprinkler/unattended hosepipe restrictions

Area affected	None
Population affected (000s)	000.0
Date imposed	N/A
Date lifted	N/A
Total duration (weeks)	N/A
Licensed users	n/a*

*n/a – company does not operate a sprinkler license system

Future Reporting

Northern Ireland Water will continue to develop a series of revised DG4 procedures which clarifies the reporting requirements and definitions and the responsibilities of those involved in the reporting process. An Information Management Systems project Board and team is continuing to consider further development of existing reporting systems to capture DG4 events on a standalone basis. This will provide a more detailed breakdown and audit trail of areas affected if any restrictions are not applied Province wide.

The following documents outline in more detail the monitoring and recording processes that are currently in place:

1. NIW – DG4 Procedures May 2021
2. Water Shortage Management Process Guidelines 2019
3. DG4 – Recording of Affected Populations and Durations for AIR21

Annex A – Line Methodology for Table 2

Line 1 – Total Connected Properties at Year End

The total number of properties (domestic and non-domestic) connected to the distribution system at the end of the 2020/2021 reporting year. This includes properties, which are connected but not billed (for example, temporarily unoccupied), but excludes properties which have been permanently disconnected (for example logical demolitions).

This figure is calculated from the Rapid Property Summary for AIR21 (dated 31st March 2021) as attached.

RPS March YE 2021.xlsx

Total Connected properties at Year End	AIR21
Non-Household Unmeasured	14565
Non-Household Measured	77434
Household Unmeasured	748060
Household Measured – Not Charged (test meters)	39
Household Measured	49068
Household Measured – No meter	0
Household Site Meters	3727
Household Unmeasured – Not Charged	17
Total Connected Properties at Year End	**892910**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 3 KEY OUTPUTS
SEWERAGE SERVICE - INTERNAL FLOODING (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**DG5 ANNUAL FLOODING SUMMARY**																				
1	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.03	A2	638.1	A2	648.6	A2	657.9	A2	668.3	A2	677.1	A2	685.0	A2
	(I) OVERLOADED SEWERS																				
2	Properties flooded in the year (overloaded sewers)	nr	0	189	B3	6	B2	28	B2	3	B2	3	B2	0	B2	7	B2	0	B2	0	B2
3	Flooding incidents in the year (overloaded sewers)	nr	0	189	B3	6	B2	29	B3	4	B2	3	B2	0	B2	0	B2	0	B2	0	B2
4	Flooding incidents (overloaded sewers attributed to severe weather)	nr	0	181	B3	5	B2	3	B4	1	B2	2	B2	0	B2	7	B2	0	B2	3	B2
4a	Properties flooded in the year attributed to severe weather	nr	0	181	B3	5	B2	3	B5	1	B2	2	B2	0	B2	7	B2	0	B2	3	B2
5	Props. where flooding limited to uninhabited cellars only (o/loaded sewers)	nr	0	0	B3	0	B2	0	B6	0	B2	0	B2	0	B2	0	B2	0	B2	0	B2
	(ii) OTHER CAUSES																				
6	Properties flooded in the year (other causes)	nr	0	41	B3	55	B2	52	B2	38	B2	47	B2	33	B2	23	B2	24	B2	16	B2
7	Properties which have flooded more than once in the last ten years (other causes)	nr	0	15	B3	26	B2	8	B2	11	B2	21	B2	20	B2	21	B2	24	B2	26	B2
8	Flooding incidents (other causes - equipment failures)	nr	0	15	B3	14	B2	2	B2	1	B2	1	B2	0	B2	2	B2	4	B2	0	B2
9	Flooding incidents (other causes - blockages)	nr	0	22	B3	36	B2	38	B2	34	B2	38	B2	26	B2	17	B2	6	B2	11	B2
10	Flooding incidents (other causes - collapses)	nr	0	4	B3	5	B2	12	B2	3	B2	8	B2	7	B2	4	B2	14	B2	5	B2
11	Props. where flooding limited to uninhabited cellars only (other causes)	nr	0	0	B3	0	B2	0	B2	0	B2	0	B2	0	B2	0	B2	0	B2	0	B2
B	**DG5 PROPERTIES ON THE AT RISK REGISTER**																				
	(i) SUMMARY																				
12	2 in 10 register at end of year	nr	0	30	B3	62	B2	60	B2	59	B2	61	B2	57	B2	57	B2	55	B2	50	B2
13	1 in 10 register at end of year	nr	0	10	B3	8	B2	8	B2	7	B2	6	B2	4	B2	2	B2	2	B2	0	B2
14	Total 1 in 10 and 2 in 10 properties on the register at end of year	nr	0	40	B3	70	B2	56	B2	66	B2	67	B2	61	B2	59	B2	57	B2	50	B2
15	1 in 20 register at end of year	nr	0	153	B3	120	B3	108	B2	94	B2	89	B2	73	B2	65	B2	62	B2	58	B2
15a	Potential risk of property flooding identified requiring further investigation to assess at risk category	nr	0	0	B2	0	B2	0	B2	1	B2	2	B2	0	B2	1	B2	2	B2	0	B2
16	Props. on the register which have not flooded in the past 10 yrs (excl. severe weather)	nr	0	32	B3	33	B3	23	B2	22	B2	27	B2	26	B2	11	B2	19	B2	22	B2
17	Properties which have not flooded internally but suffer restricted toilet use (RTU)	nr	0	0	B2	0	B2	0	B2	0	B2	0	B2	0	B2	1	B2	1	B2	1	B2
	(iii) ANNUAL CHANGES TO 2 IN 10 & 1 IN 10 REGISTERS																				
22	Removed by company action	nr	0	1	B3	3	B2	18	B2	3	B2	3	B2	6	B2	4	B2	1	B2	10	B2
23	Removed because of better information	nr	0	2	B3	0	B2	0	B2	2	B2	1	B2	0	B2	2	B2	0	B2	2	B2
24	Added because of better information (actually flooded)	nr	0	16	B3	33	B2	0	B2	3	B2	3	B2	0	B2	1	B2	0	B2	0	B2
25	Added because of better information (modelled)	nr	0	0	A1	0	B2	4	B2	0	B2	2	B2	0	B2	3	B2	0	B2	6	B2
26	Average capex cost of permanent solutions to 1 in 10 & 2 in 10 DG5 problems	£000/prop	1	168.8	B3	233.7	B2	68.5	B2	230.0	B2	32.8	B2	184.5	B2	577.4	B2	56.0	B2	301.0	B2
	(v) ANNUAL CHANGES TO THE 1 IN 20 REGISTER																				
30	Removed by company action (1 in 20)	nr	0	65	B3	8	B2	10	B2	4	B2	4	B2	11	B2	5	B2	0	B2	1	B2
31	Removed because of better information (1 in 20)	nr	0	24	B3	45	B2	16	B2	11	B2	1	B2	5	B2	5	B2	4	B2	3	B2
32	Added because of better information (actually flooded - 1 in 20)	nr	0	53	B3	3	B2	25	B2	1	B2	0	B2	0	B2	0	B2	0	B2	0	B2
33	Added because of better information (modelled - 1 in 20)	nr	0	0	A1	17	B3	4	B2	0	B2	0	B2	0	B2	2	B2	0	B2	0	B2
34	Average capex cost of permanent solutions to 1 in 20 DG5 problems	£000/prop	1	45.1	B3	143.6	B2	80.9	B2	272.9	B2	38.8	B2	216.6	B2	482.1	B2	0.0	B2	593.8	B2

Table 3 - Key Outputs – Sewerage Service – Internal Flooding

Line 1 – Number of Domestic Properties Connected to the Sewerage System

NI Water's data on property counts and classifications is reported monthly from RapidXtra within the Rapid Property Summary (RPS). The data is extracted from the Diamond Warehouse via Microsoft SQL Server to produce the RPS report.

Our AIR21 methodology has remained consistent with previous years – using the automated Property Model tool to populate Table 3 figures (this was first introduced in AIR12 – the RPS as the input).

The RPS provides us with a snapshot at the end of each month in terms of net movement; however it alone does not support in the explanation of gross movements within the data. With this is mind, during the 19/20 reporting year the CSD Services MI & Data Team explored the use of Power BI to re-create the RPS with a drill down function to display the gross movement. The Power BI property models developed take their direct feed from the Diamond Warehouse in order to refresh. These models provide us with information on gross movements and allow us to 'slice and dice' the data from various angles, providing invaluable insights. The plan is to further enhance and incorporate these models across the business during 2021/22.

Customer/Property information is updated through:

- BAU ('business as usual') customer contacts, such as new connection requests, customer move in/move outs, or
- through Data Quality initiatives/Projects, and/or
- Metering work streams e.g. UNHH (Selectives), Optants, and Proactive Meter Exchange etc.

Under the Water & Sewerage Services (2006) Order, NI Water were required to install meters on all new household connections from April 2007. This practice has stopped as directed by a change in legislation, which took effect in July 2016. The legislation was amended by Regulations, which in effect relieved NI Water of the obligation to install meters at newly connected domestic properties. As domestic customers are not charged on a measured basis, the property is reported as unmeasured. Some domestic properties were initially reported as measured in AIR10 but this was rectified as per the erratum to AIR10. Depending on the basis for charging when domestic billing is introduced, these customers can be activated as measured household if required.

Data on population continues to be obtained from Northern Ireland Statistics and Research Agency (NISRA), adjusted for the winter months based on information published by the Department for Economy (DFE) and the Central Statistics Office (CSO), Ireland.

The difference between the AIR20 and the AIR21 figure is 7,899. The breakdown can be explained as follows;

1. New Connections during the 2020/21 reporting year. The figures are based on data supplied by our Customer Connections Team and represent completed connections during the reporting year. The projections for New Connections remain in line with the agreed PC15 forecasts, however we have noted a downturn and will review mid-year (during the draft Principle Statement) to ascertain if projections should be changed.

2. As a result of a customer contact, e.g. septic tank empty request, no water complaint, blocked sewer, updating of standing data e.g. removal of services etc. Within this category there are 2 scenarios:
    (a) The adding of properties NI Water allegedly did not know about
    (b) The adding of duplicates as the customer's address could not be found on Rapid. Rapid may hold the site number but when the customer contacts NI Water, they quote the verified postal address, which is different, therefore creating a duplicate. The street name may also have changed from the time of New Connection to that of customer contact (street names can change in the early stages of site development).
3. Removal/reclassification of properties as a result of data quality initiatives/projects
    a. Duplicate properties
    b. Reclassification of properties that were recorded in error
4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

For NI Water, accurate property data is fundamental for many systems and processes, including customer service, metering, billing, consumption, leakage and Major Incident Planning & Response. The Rapid Customer Contact System contains the master property data for NI Water.

As Data Owner for Property Standing Data, The Head of CSD Services is responsible for the property standing data held by NI Water; this is monitored and managed through the Property Information Group (PIG). The CSD Services MI & Data Team chair this group.

The role of PIG is to ensure that there is appropriate governance, controls and reporting for changes made to core data on the system. As Property Data Owners, we need to ensure the processes around creation, maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. Control is key for us; as such we have identified the systems, processes and people using property information across the business, alongside confirming data accuracy and endeavouring to reduce the opportunities for erroneous data entry and creation (such as the inability to recreate demolished properties or duplicate properties).

The issues under consideration were identified as of corporate relevance, therefore to ensure appropriate direction and governance the PIG was formalised. Key objectives include:

1. To agree a single consistent source of property data.
2. To ensure the source property data represents accurate, up-to-date information appropriate for use by the business.
    a. To understand and agree data primacy in respect of data updates from NI Water and external (Land & Property Services - LPS) sources
    b. To ensure the processes around creation (i.e. New Connections), maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. i.e. through CBC Data Validation (Phase 1, Phase 2, Phase 3, 105 Days DV)
    c. To co-ordinate property reconciliations between NI Water & external sources i.e. Data Sharing Agreements between NI Water & LPS, NI Water & Belfast City Council (BCC) etc. and understand the reasons and validity of any differences

    d. To understand and ensure the adequacy of long term procedures for database maintenance, including the updating of data standards and associated CDE M&M Plans
3. To ensure the reporting requirements for the business are met relating to data held on Rapid, particularly, but not exclusively, in respect of tariffs, leakage, Annual Information Returns (AIR) & Principle Statement (PS) returns.
4. Challenge the data in the areas of
    a. Data categorisation & structure
    b. Data robustness – i.e. where is our data good and where is there opportunity for improvement? Identify projects that could aid improvement
    c. Data alignment – both internally and externally. Internally between systems such as Rapid, Ellipse, GIS, Diamond, Netbase, IMS etc. Externally through data reconciliations, such as LPS above.
5. To agree measures to improve the quality and integrity of the data, particularly the key CDEs as monitored by IMU
6. To agree the content and frequency of reports required by NI Water.
7. To agree the quality checking criteria for the above data and reporting and develop a Quality Plan including the determination of responsibilities and audit trails.
8. To produce & circulate an 'operate and maintain' programme for property data to the business.

The COVID 19 pandemic has caused delays to our 20/21 plans, however our aim for 2021/22 remains the same with continued focus for PIG including analysis and action on:

- Volume of properties coming onto the Rapid billing system on a monthly basis
    - new connections
    - customer contact
    - project work
- Volume of properties coming off the Rapid billing system (demolished)
    - sample check to ensure reason for demolition has been noted and on system audit trail recorded
- Volume of properties amended on the Rapid billing system
    - In particular, address fields -> building number, street name, town and postcode
    - sampling to identify if the data changes are data improvement or data regression
    - if data regression, further analysis into the process is undertaken
- Review of access privileges
    - Rapid audit
    - Through monthly audit samples
    - Internal CRs require sign off from PIG as BAU
    - Working with Echo to review access privileges on an ongoing basis
- Interruptions to supply notices – returned mail
    - This returned mail was brought to the attention of LPS and include properties that LPS have classified as live properties despite being returned as 'no such address' etc.
    - The 2 way communication with LPS will help underpin our governance work and provide direction to the business on practices

The PIG Strategy for 2021/22 will include the following:

- New Connections - A push to move to on-system reporting following the Business Improvement New Connections Review

- Further use of Powerbase – We currently use Power BI to create and issue the monthly Rapid Property Summary (RPS) and will continue to explore the use of Power BI in other aspects of our property work throughout 2021/22
- Rapid-POINTER Reconciliation - follow on actions to be worked through and benefits realised. i.e. Uploading of UPRNs from POINTER where a property can move from an A match to an A* match
- Continued monitoring of data alignment between systems – Rapid and Ellipse, GIS, Netbase, Diamond, IMS etc.
- Smart Cities (Belfast City Council Rates Maximisation Project) – Ongoing data sharing project that commenced in August 19
- Continuation of the 2 way communication with LPS - This will help underpin our governance work and provide direction to the business on practices that will work alongside LPS
- Student Accommodation – further case studies on student accommodation re-development sites. Liaise with Belfast City Council to understand at what stage they can inform NI Water of properties that are to be re-developed as student accommodation.
- Test Meters – monitor numbers of 'retain for review' meters
- Properties with 'no water supply' (no water/well water) – review and validate on a monthly basis

Annex A details the Line Methodology followed by the figure calculated for Table 3 Line 1.

Internal sewer flooding

Objective/Aim

To maintain a verifiable DG5 register with the aim to provide an auditable method for identifying the specific properties which are affected by flooding or are at risk of flooding and the cause of flooding.

Internal Flooding Process

In line with the regulators instructions, an end-to-end review of the internal flooding process has been carried out. Wastewater Business Unit (WWBU) carries out extensive robust investigations to determine the cause of every individual internal flooding incident. Any internal flooding that does not fall into these Flooding Other Causes (FOC) categories is passed to Asset Performance for them to carry out full Hydraulic Capacity evaluations and record them under the appropriate sections of the register. The evidence gathered is brought to an expert panel (the DG5 Panel) who examine the evidence presented for each incident and govern the addition of properties to and removal of properties from the register. All properties where actual internal flooding has occurred are recorded in the appropriate sections of the DG5 register i.e. In the Excluded section: FOC due to Blockages, Collapses, Equipment Failure or Severe Weather, or on the register in the 1:20, 1:10 or 2:10 Sections.

The register is held on an Oracle database represented on the Corporate Asset Register as GIS layer on CARtomap. Although the Internal Flooding process is now in place, the process itself continues to be refined.

Problems as yet Undiscovered

A process has been established to allow problems as yet unreported to be included in the register through field managers flooding incident reports (FIR). In addition flooding incident

field investigations now include concentric circle surveys to pick up unreported flooding and modeling provided by Drainage Area Plan consultant.

Assumptions

For the purpose of AIR21, NIW has assumed that a single incident includes recorded complaints from the same property on the same day or within three days. '3 days' was chosen on the basis that a noticeable volume of repeat calls tend to be received within three days of an incident occurring. There is then a much longer passing of time before calls are again received from the same locality, suggesting that the original incident has passed and that the calls relate to a different incident.

An incident of internal flooding is assumed to be where a property has been flooded internally. If two adjacent properties are flooded at the same time they are classed as two properties and two incidents.

Where a single property floods internally on two separate occasions then this is recorded as one property and two incidents.

Calculation Process - Lines 2 to 11,15a

Data gathering and calculation is as described below.

Sources/Primary Process

Lines 2 – 11, 15a Properties and flooding incidents

A download of internal flooding records was obtained from the Ellipse system for the period April 2020 to March 2021 on a month by month basis. Investigations were carried out for each reported incident and those properties found not to be flooded after investigation, using information from the Sewer Maintenance Contractor, Flood Incident Report (FIR) Forms, Field Manager reports, Customer Field Manager reports, modelling provided by Drainage Area Plan consultant and contacting the Customers directly, were removed. The remaining properties were recorded as Flooding Incidents.

Sources/Secondary Process

1. Wastewater Business Unit (WWBU) carries out further investigations to determine the cause of every internal flooding incident.
2. WWBU assess the information held on customer report, Flood Incident Report (FIR), along with photographic evidence, closure details provided by the contractor and modelling provided by Drainage Area Plan consultant.
3. WWBU determines if the cause of the flooding incident was hydraulic incapacity or flooding other cause, i.e. Blocked Sewer, Equipment Failure, Collapsed Sewer or Severe Weather. This is done by a number of methods including site visits, concentric circle surveys, Customer Field Manager reports, customer interviews, field manager interviews and review of existing incident information. WWBU have also set up a formal InterDirectorate route to get copies of recorded Customer calls made available for record purposes.
4. If hydraulic incapacity is confirmed NIW now run a Hyrad Weather radar system report which is used to determine if the incident is as a result of severe weather (Line 4).
5. These properties were then recorded on a spreadsheet under the appropriate categories for lines 2, 3, 4, 4a, 5, 6, 8, 9, 10 and 11 using the information gathered from, the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports, Drainage Area Plan consultant and contacting the Customers directly. All incidents of internal flooding attributed to severe weather are included in the total in Table 3 Line 3. A folder of evidence was created for all confirmed cases and this was brought to the monthly DG5 Panel for approval and addition to the appropriate section

of the register. At the end of the reporting year this was the data used for AIR 21 returns.

6. The figure for line 7 was obtained by getting a report ran in the DG5 Oracle Database which holds the information as a DG5 layer in the GIS system.
7. Line 15a relates to properties that have not been fully investigated and categorized

Changes in Methodology over the Previous Year

NIW now have direct access to the MUL Dashboard where all flooding jobs that have been sent to the contractor and their current status is visible. If the job has been completed NIW can view the data being provided and if there are any discrepancies they can be addressed immediately. The Business Unit proactively ensures that the FIR is fully completed by continual liaison between the MUL Contracts Manager and the Customer and Regulation manager (NIW) where queries/ problems are discussed and then resolved/ rectified by MUL. NIW has set up formal quarterly meetings with the Head of Function, the Business unit Manager, the Customer and Regulation manager and OCMC (Operations Contract Management Centre) (all NIW) and the MUL Contracts Manager to ensure all parties are fully aware of what is happening. On any alleged internal flooding incident where there is ambiguity, the Customer Field Manager attends to resolve the issue. WwBU also complete a monthly quality report to OCMC (Operations Contract Management Centre) which is used to assess if the contractor is penalised for not providing accurate data.

Confidence Grading for Table 3 lines 2 - 11, 15a

Every reported incident of internal flooding is thoroughly investigated and cross-checked with the returned Flooding Incident Report Forms, Operations Staff, Customer Field Managers and the Customer where appropriate. Due to the extensive checking by the Business unit the data is then recorded in the appropriate lines therefore the confidence grade on the figures reported for lines 2, 3, 4,4a, 5, 6, 7, 8, 9, 10, 11, 15a is deemed to be B2.

Lines 12 - 34 DG5 Properties on the at Risk Register and Annual Changes

PC15 Outputs Year 6

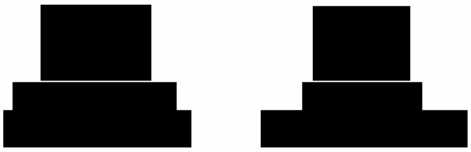
The PC15 Business Plan included a target for removal of properties from the DG5 Internal Flooding Register by company action, which was 62:

The number of removals achieved in 20/21 was 11.

KR[redacted] Belfast DG5 Appraisal

- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)

Upgrade 85 metres of sewer to 600mm diameter adjacent railway using open trench and micro-tunnelling techniques.
94 metres of 375mm diameter cure in place sewer liner.
Scheme cost £1,115,000. ESL was 57% = £635,550.



The original Business Case was for repairs on main sewer, with further work being carried out to enable the 7 properties to be removed from the DG5 Register. This is the reason for the original Business Case estimated price to increase to £1,115,000.

KB Flood Alleviation

- , Ballymena, BT42 (2 in 10)
- , Ballymena, BT42 (2 in 10)
- , Ballymena, BT42 (2 in 10)

The requirement is to provide 850 cubic metres of storm storage in a tank located at the edge of existing playing fields at , Ballymena. The combined sewer system would have overflows which would spill to the tank in significant storm events with a pumped return to the sewer system when levels subside. The scheme also requires some associated sewer upgrading and rerouting.

Scheme Cost £2,473,000. ESL was 96% = £2,374,000

KL Upgrade of Vacuum Sewerage Network and Foul Vacuum Station.

- , Limavady, BT49 (1 in 20)

This solution would utilise conventional gravity sewerage and pumping stations with transfer pumping mains to replace the entire vacuum system. This would require extensive sections of new gravity sewerage and a series of pumping stations to rationalise flows to the current WwPS location where a new submersible WwPS would transfer all flow to via the existing pumping main. A schematic of this arrangement is included as an Appendix.

Scheme Cost £3,493,000. ESL was 17% = £593,810.

It should be noted 5 properties were also removed due to better information, giving a total of 16 properties being removed from the DG5 Register.

- , Portadown, BT62 (1 in 10)
- , Belfast BT12 (1 in 10)
- , Portadown, BT62 (1 in 20)
- , Portadown,BT62 (1 in 20)
- , Belfast BT12 (1 in 20)

[redacted]

Additions to the Register

In year 20/21, there was six properties added to the flooding register

- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)
- [redacted], Belfast, BT9 [redacted] (2 in 10)

[redacted]

Properties on the 2 in 10 and 1 in 10 register which have not flooded in the last 10 years.

There are 22 properties on the Register which have not flood in the last 10 years see uploaded file below.

[redacted]

Line 17 Restricted Toilet use.

There is one property on the DG5 Register at present.

- [redacted], Londonderry BT48 [redacted] (2 in 10)

The tables below is how the DG5 properties additions and removals are tracked, throughout the financial year.

[redacted]

Lines 26 and 34 – Average capex cost of permanent solutions

Calculation summary for Lines 26 and 34 regarding average price for properties removed by company action from the DG5 Register. This calculation is the ESL expenditure calculation for each of the capital schemes divided by the number of DG5s removed from each of the categories.

[redacted]

Mitigation Measures

NI Water normally do not carry out mitigation measures as this programme of work is carried out by Rivers Agency as instructed by Local Government. In certain case's NI Water would fit non-return valves.

Approval of Projects

Approval of all projects for expenditure is approved by the Internal DG5 Panel.

There were no cases of 'Unknown cause' of flooding of internal flooding being added to the DG5 Register in 20/21.

Confidence grades

Confidence grades for lines 12–16, 22–26 and 30–34 remain at B2.

Annex A – Line Methodology for Table 3

Line 1 – Number of Domestic Properties Connected to the Sewerage System

The total number of domestic properties (including voids) connected to the sewerage system at the end of the reporting year (31st March 2021).

This figure is based on the 31st March 2021 Rapid Property Summary for AIR21, as attached.

RPS March YE 2021.xlsx

The figure is the total domestic properties (gross) connected for sewerage (including site meters as these are not being billed)

Domestic Properties Connected to the Sewerage System	End March 2021
Total Gross Household Sewerage Properties	**684,964**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 3A KEY OUTPUTS
SEWERAGE SERVICE - EXTERNAL FLOODING (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**ANNUAL FLOODING SUMMARY**																				
	(I) OVERLOADED SEWERS																				
1	Areas flooded externally in the year (overloaded sewers)	nr	0	225	D6	92	D6	117	D6	23	D6	20	D6	15	D6	57	D6	17	D6	12	D6
2	Curtilege flooding incidents in the year (overloaded sewers)	nr	0	97	D6	70	D6	86	D6	17	D6	16	D6	11	D6	46	D6	17	D6	10	D6
3	Highway flooding incidents (overloaded sewers)	nr	0	32	D6	23	D6	26	D6	6	D6	4	D6	4	D6	9	D6	0	D6	2	D6
4	Other flooding incidents (overloaded sewers)	nr	0	96	D6	22	D6	20	D6	0	D6	0	D6	0	D6	2	D6	0	D6	0	D6
5	Total flooding incidents (overloaded sewers)	nr	0	225	D6	115	D6	132	D6	23	D6	20	D6	15	D6	57	D6	17	D6	12	D6
6	External flooding incidents (overloaded sewers attributed to severe weather)	nr	0	29	D6	1	D6	14	D6	6	D6	3	D6	3	D6	41	D6	5	D6	12	D6
6a	Areas flooded externally attributed to severe weather	nr	0	29	D6	1	D6	14	D6	6	D6	3	D6		D6	41	D6	5	D6	12	D6
	(ii) OTHER CAUSES																				
7	Areas flooded externally in the year (other causes)	nr	0	3,212	D6	3,348	D6	4,379	D6	3,889	D6	3,819	D6	3,466	D6	4,273	D6	4,515	D6	3,479	D6
8	Areas which have flooded more than once in the last 10 years (other causes)	nr	0	N/C		N/C		N/C		N/C		N/A		N/C		0	D6	0	D6	N/C	0
9	Flooding incidents (other causes - equipment failure)	nr	0	19	D6	23	D6	25	D6	19	D6	8	D6	3	D6	4	D6	15	D6	11	D6
10	Flooding incidents (other causes - blockages)	nr	0	3,526	D6	3,293	D6	4,269	D6	3,773	D6	3,543	D6	3,155	D6	3,962	D6	4,044	D6	3,457	D6
11	Flooding incidents (other causes - collapses)	nr	0	31	D6	73	D6	85	D6	97	D6	268	D6	308	D6	307	D6	456	D6	11	D6
B	**AREAS ON THE 1:10, 2:10, 1:20 AT RISK REGISTER**																				
	(I) SUMMARY																				
12	2 in 10 register at end of year	nr	0	0	D6	190	D6	212	D6	226	D6	232	D6	237	D6	251	D6	252	D6	239	D6
13	1 in 10 register at end of year	nr	0	213	D6	7	D6	20	D6	20	D6	20	D6	20	D6	20	D6	28	D6	17	D6
14	1 in 20 register at end of year	nr	0	0	D6	16	D6	84	D6	86	D6	87	D6	87	D6	87	D6	88	D6	83	D6
15	Total on the 1:10, 2:10, 1:20 register at end of year	nr	0	213	D6	213	D6	316	D6	332	D6	339	D6	344	D6	358	D6	368	D6	339	D6
15a	Potential risk of property flooding identified requiring further investigation to assess at risk category	nr	0	N/C		0	D6	N/C		N/C		N/A		N/C		N/A		0	D6	N/C	0
	(iii) ANNUAL CHANGES TO 1:10, 2:10, 1:20 REGISTER																				
20	Removed by company action (external only)	nr	0	0	A1	0	A1	0	A1	0	A1	1	A1	0	B2	0	B2	0	D6	0	A1
21	Removed by company action (external linked)	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	2	B2	0	B2	0	D6	0	A1
22	Removed because of better information	nr	0	0	A1	113	A1	0	A1	0	A1	0	A1	2	B2	0	B2	0	D6	0	A1
23	Added because of better information (actually flooded)	nr	0	213	A1	113	A1	103	A1	16	A1	7	A1	9	B2	14	B2	10	D6	6	A1
24	Added because of better information (modelled)	nr	0	0	A1	0	A1	0	A1	0	A1	1	A1	0	B2	0	B2	0	D6	0	A1
25	Transferred from external to internal register	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	B2	0	B2	0	D6	0	A1

Table 3a - Key Outputs – Sewerage Service – External Flooding

Introduction

The processing of external flooding incidents has continued as it did in year 2019-20. The in-house resource devoted to this processing and analysis continues to be extremely limited. As a consequence, the process continues to be heavily dependent upon the accuracy of the information provided by the external maintenance contractor. Throughout the year, analysis of external flooding incidents is based upon monthly spreadsheets and Flooding Incident Report sheets, submitted by the external maintenance contractor. Each incident which is classified by the contractor as potentially 'hydraulic' – i.e. which does not have an 'other cause' identified - is subject to an investigation by the Asset Performance section. The investigation will either recommend that the incident is confirmed as hydraulic, or recommend that the incident is excluded.

Each incident is classified by the contractor as affecting one of curtilage, highways or 'other'. An analysis is carried out to define the total number of areas affected. Those incidents classified by the contractor as 'other causes' are defined, (by the contractor), as due to one of 'equipment failure', blockage or collapse.

Lines 1-11 - Annual Flooding Summary

The analysis of external flooding incidents is summarised in the spreadsheet 'Reported External Flooding for 2020-21; the figures within Table 3a have been transferred from that spreadsheet.

The total number of 'overloaded sewers' incidents for the year 2020-21 was 12.

The total number of 'other causes' incidents has decreased from 4515 in 2019/20 to 3479, in 2020/2021.

As there is reliance upon the information supplied by the external contractor, a low confidence grade, of D6, continues to be attached.

Line 8 – Areas which have flooded more than once in the last 10 years (other causes)

This line cannot be populated as the processing of external incidents has only been properly executed for eight years.

Lines 12-25 - At Risk Register

The total number of areas, on the Register at the start of year 2020/21 was 368.
However, a deep cleanse of the Register, in 2020, reduced this to 333. (By removal of duplicated incidents)

The processing of external flooding incidents has continued as it did in year 2019/20, resulting in 6 areas being added to the Register, in the assigned categories (2 in 10, 1 in 10, 1 in 20).

This brings the total number of areas on the Register to 339.

Capital schemes which address external flooding only, are in general, not funded – hence no properties were removed by company action.

As the primary input to the register is the processing of annual flooding incidents, the same confidence grade (D6) is assigned.

Copy of External Master 20-21.xls

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 4 KEY OUTPUTS
CUSTOMER SERVICE - 1 (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**DG6 RESPONSE TO BILLING CONTACTS - GENERAL**																				
1	Total billing contacts	nr	0	77,051	B2	78,463	B2	75,545	B2	75,490	B2	77,698	B2	71,409	B2	77,016	B2	53,942	B2	42,975	B2
2	Number dealt with within 5 working days	nr	0	77,118	B2	78,398	B2	75,520	B2	75,462	B2	77,679	B2	71,386	B2	77,010	B2	53,928	B2	42,968	B2
3	Number dealt with in more than 10 working days	nr	0	26	B2	30	B2	9	B2	11	B2	4	B2	5	B2	3	B2	4	B2	4	B2
4	DG6 Percentage dealt with within 5 working days	%	2	100.09	B2	99.92	B2	99.97	B2	99.96	B2	99.98	B2	99.97	B2	99.99	B2	99.97	B2	99.98	B2
5	Percentage dealt with in more than 10 working days	%	2	0.03	B2	0.04	B2	0.01	B2	0.01	B2	0.01	B2	0.01	B2	0.00	B2	0.01	B2	0.01	B2
B	**CONNECTED PROPERTIES**																				
6	Number of properties connected for water supply only	nr	0	152,771	A2	155,064	B2	157,260	A2	160,991	A2	163,246	A2		A2	165,152	A2	165,133	A2	165,435	A2
7	Number of properties connected for water and sewerage services	nr	0	665,189	A2	669,910	B2	670,800	A2	678,719	A2	689,153	A2	698,293	A2	709,155	A2	718,290	A2	727,475	A2
8	Number of properties connected for sewerage services only	nr	0	25	A2	24	B2	25	A2	24	A2	25	A2	25	A2	25	A2	29	A2	29	A2

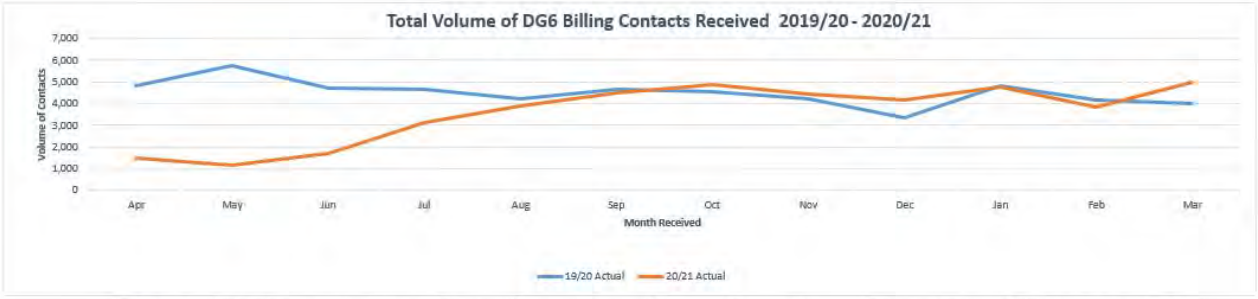
Table 4 – Customer Service 1

Lines 1-5 - DG6 – Response to Billing Contacts

This was the twelfth year of non-domestic billing by Northern Ireland Water (NIW). Following the decision of Northern Ireland Executive, domestic charges continued to be deferred for 2020/21 charging year.

Due to the unprecedented socio-economic impact of the global Covid-19 pandemic, NIW suspended all billing and metering operations throughout Q1 20/21 and also deferred planned tariff increases. Billing and metering activity resumed 1 July 2021, with 19/20 tariffs applied. The planned Utility Regulator-approved 20/21 tariffs took effect from 1 October 2021.

The chart below shows the DG6 received volumes during 19/20 – 20/21.



Total billing contacts receivec	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
19/20 Actual	4,844	5,735	4,707	4,663	4,208	4,685	4,572	4,201	3,323	4,841	4,156	4,002	53,937
20/21 Actual	1,517	1,171	1,716	3,156	3,876	4,497	4,882	4,425	4,167	4,780	3,822	4,966	42975

Chart 1 – DG6 Billing Contacts Received 20/21

The impact of the pandemic, mandatory lockdown and strict trading restrictions is reflected in the significantly decreased volume received during Q1. All non-domestic bills issued from 1 July at 19/20 rates and 20/21 rates (held at the rate of inflation, 0.9%, as approved by the Utility Regulator) took effect from 1 October.

The revised Covid-19 Debt Management and Customer Engagement Strategy was devised, approved and implemented at the end of Q1. The strategy was designed to ensure collections and recovery were fit for purpose in both seeking to engage and support customers while maximising the potential for recovery. The collections and recovery strategy incorporated revised wording on notices, outbound courtesy calls and an elongated recovery timeframe to reduce the risk of NIW indirectly exacerbating customers' financial difficulties.

New CMS types were created to capture the volume of customer contacts in relation to *Covid-19 Disputed Liability* and *Covid-19 Payment Difficulties*. Recovery notices for all business sectors subject to mandatory closure (hospitality, non-essential retail and close-contact services) throughout the year were reduced until trading restrictions gradually eased.

Due to the suspension of billing during Q1, 12 month metered bills issued from October 2020 for customers normally billed between April and June, and this is reflected in the increase in contacts received. A rise in customer billing queries has emerged at year end and businesses and organisations either partially re-opening, following lengthy periods of mandatory closure, or engaging with NIW to discuss payment plans has contributed to this increase.

Top Reasons for Customer Contact

Table 1 lists the top 5 reasons for billing contacts in 2020/21

Top 5 DG6 CMS	% of Total	Total Number	Rank
Debit/Credit Card Payment	17%	7,478	1
BI Explanation of Calculation	7%	2,966	2
P Promise of Payment	7%	2,868	3
BI Request Copy Bill	6%	2,742	4
R Refund Request	6%	2,432	5

Table 1 – Top 5 DG6 contact types 2020/21

Analysis of DG6 Received CMS Types in 19/20 against 20/21 highlights that Debit/Credit Card Payment and P Promise Of Payment CMS Types continue to relate to payments. The Debit / Credit Card Payment CMS Type volume was 19% lower than last year pointing to the on-going success of online payment facilities (QuickPay and the Self Service Portal), as customers increasingly opt to pay bills online.

The appearance of CMS Type BI Explanation Of Calculation relates to customer queries on the back of the suspension of billing and metering operations in Q1. For customers billed on a six-monthly metered charge, they received their next bill when their meter was read after billing resumed in July. If the meter serving a customer's property was due to be read between April and June 2020, their next bill due between October and December was for 12 months. For customers billed on a monthly metered basis, the next bill they received in July 2020 was for 4 months. Despite several NIW communications to customers regarding the billing changes/updates during the year and a detailed Billing-related Q&A facility on NIW website, the volume of bill calculation queries did increase marginally on last year.

A customer-centric and strategic account management approach to billing query resolution, collections activity and debt management has been maintained throughout the year.

Measures to continue to reduce the volume of customer billing contacts relating to payments include:

- on-going proactive promotion (via social media, text alerts, call scripts, customer correspondence, etc.) of the online Quick Pay facility as well as the NI Water Self Service portal

Reporting Method

The source data for DG6 Table 4 (Lines 1 to 5) is reported using the submitted methodology stated for DG6.

Monthly reports for DG6 (received and closed) are run by Echo and independently validated by the CSD Services MI & Data Team. On the first working day of each month, the DG6 reports are run for both the current and previous months to accurately update received and closed figures on a retrospective basis to support the annual reconciliation. Variances are queried with NI Water Billing & Revenue, Contacts Team and Echo and resolved as they arise.

Responses

For DG6 reporting purposes, the date of resolution of the item or date of the substantive response/holding response is used as the closure date. If a customer has a billing-related query, which leads to a recalculated bill, the date of the response (verbal or written)

explaining the reason for the bill is used as date and timestamp of the response. The recalculated bill is generated overnight and issued under separate cover.

Under normal circumstances, the follow up dates provided to customers for DG6 contacts is 20 working days (equating to one calendar month) from the date of the first holding response being issued. This period allows time for a site visit to be completed by a Meter Query Technician (MQT), the resolution confirmed and the final response issued to the customer. Some meter surveys may take longer, so this category of holding response is extended out to 30 days.

Due to the suspension of metering operations throughout Q1 20/21, there was a considerable increase in both holding responses and the DG6 age profile in the first part of the year. When metering activities resumed, the backlog requiring metering input was cleared by beginning of Q3.

NB. The majority of DG6 contacts which cannot be resolved within 5 days require a site visit by a MQT. It is not unusual that the requirement for remedial meter maintenance work is identified during these site visits. The 20 day period should allow time for an initial site visit to be performed by a MQT, any routine meter maintenance work requested and completed, the resolution confirmed and the final response drafted and issued to the customer.

However, in certain circumstances, especially where a site visit is not required, a 20-day hold may not be required and a shorter period is given in the holding response.

Re-categorisation between Regulatory Categories

NIW has procedures in place for instances where written contacts are changed from one DG category to another e.g. DG6 to DG7. The process document, **"Re-categorisation of written contacts"**, is embedded as Document 1 for reference purposes.

NIW_Re-categorisat
ion of written conta

Document 1 - Re-categorisation of written contacts

Open contacts can be re-categorised using Rapid screen wccm11 (Contact Amendments), and closed contacts can be re-categorised using Rapid screen wccm91 (Close Date Maintenance).

There are a number of stages at which the categorisation of a billing contact can be reviewed after it has been scanned, logged and indexed.
Whilst not exhaustive, the main activities during which the categorisation of contacts is regularly checked are:

- Agent Review - it is the responsibility of the Agent to ensure that each contact they are handling is closed in line with reporting guidelines. On initial review, they should ensure that the contact has been correctly categorised in line with the DG/Contact definitions. If incorrect, it is their responsibility to ensure that the contact is updated on Rapid accordingly. If unsure, they should seek guidance from their line manager.
- The CSD Services MI & Data Team perform monthly sampling on 50 randomly selected closed DG6 Telephone and Written contacts. Any discrepancies found when carrying out the Telephone sampling are reported and escalated to Echo as part of NI Water's response to the Monthly Business Review Pack.

- Written sampling results are sent to the Contacts & Complaints & Executive Mail (C & C&EM) Team Managers (TMs) for review. It is the responsibility of the C & C&EM TMs to ensure that any agreed exceptions which require re-categorisation are retrospectively updated on Rapid.
- C & C&EM Coaching – TMs perform coaching using sampling of closed contacts. It is the responsibility of the TMs to ensure that any contacts identified through this process which require re-categorisation are updated on Rapid.

Email and Faxes

Despite limited access to Capital House due to lockdown restrictions and social-distancing requirements, systems remain in place to ensure that the receipt date of email/fax contacts is recorded as the date it is delivered to the company with the following working day being recorded as Day 1.

Payment Cards

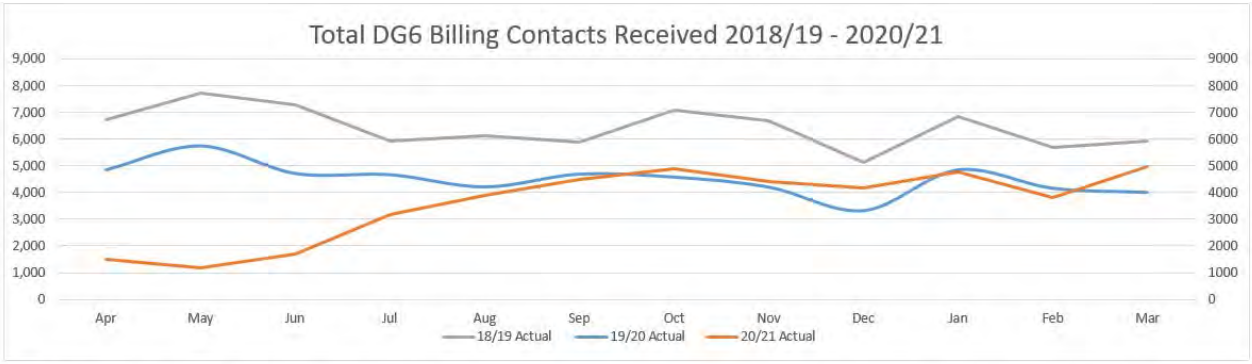
NI Water does not issue payment cards to non-domestic customers.

DG6 Volumes Year-on-year

DG6 received volumes from 2016/17 to 2020/21 is displayed in Chart 2.

Chart 2 - DG6 received 2018/19 to 2020/21

The total received volume for 2020/21 is 42,975. This is a decrease of 10,967 or 20% on 2019/20 total.



Total billing contacts received	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
18/19 Actual	6,714	7,703	7,300	5,932	6,115	5,882	7,074	6,689	5,127	6,862	5,697	5,921	77,016
19/20 Actual	4,844	5,735	4,707	4,663	4,208	4,685	4,572	4,201	3,323	4,841	4,156	4,002	53,937
20/21 Actual	1,517	1,171	1,716	3,156	3,876	4,497	4,882	4,425	4,167	4,780	3,822	4,966	42,975

End of Year (Contacts not dealt with at end of year)

Based on data extracted on 07.04.21

- 355 DG6 contacts received during 20/21 were open;
- The oldest open DG6 contact received during 20/21 was 57 working days;
- 185 DG6 contacts received during 20/21 were open for more than 5 working days, each pending completion of agreed actions outlined in substantive holding responses as verified by a sample check of contacts still open at year end;
- The average age of an open DG6 contact received during 20/21 was 15 working days (19/20 average was 30 working days).

Self Service Portal

NIW has further enhanced its web-based services for customers. The services are aimed predominantly at non-domestic customers who have an account with NIW and make it easier

for them to pay bills online and check their accounts. The service also allows domestic customers with septic tanks to order their tank to be 'de-sludged'.
Once registered, non-domestic customers are able to:

- view their account balance;
- view bills and payment history;
- pay a bill;
- manage their account details;
- manage multiple NIW accounts (Inc. consolidated) on their Portal profile;
- invite other registered / approved users to access / view accounts;
- view / download historical consumption data;
- view desludging request history;
- process a new desludging request.

Line 6 - Number of Properties Connected for Water Supply Only

AIR20 figure – 165133
AIR21 figure – 165435

There has been a net increase of circa 302 properties during the 20/21 year, which were connected for water only.

Line 7 - Number of Properties Connected for Water and Sewerage Services

AIR20 figure – 718290
AIR21 figure – 727475

There has been a net increase of circa 9185 properties connected for water and sewerage services during the 20/21 year – commentary detailed below.

Line 8 - Number of Properties Connected for Sewerage Services Only

AIR20 figure – 29
AIR21 figure – 29

The number of properties connected for sewerage only has remained the same during the 20/21 reporting year.

As with Table 2, Table 3, Table 7 & Table 13 we have identified that properties can be added to/removed from the billing system via the methods below:-

1. New Connections during the 2020/21 reporting year. The figures are based on a report received from the Customer Connections Team. The figures are based on data supplied by our Customer Connections Team and represent completed connections during the reporting year. The projections for New Connections remain in line with the agreed PC15 forecasts, however we have noted a downturn and will review mid-year (during the draft Principle Statement) to ascertain if projections should be changed.
2. As a result of a customer contact. i.e. septic tank empty request, no water complaint, blocked sewer, updating of standing data e.g. removal of services etc. Within this category there are 2 scenarios:
    (a) The adding of properties NI Water allegedly did not know about
    (b) The adding of duplicates as the customer's address could not be found on Rapid. Rapid may hold the site number but when the customer contacts NI Water, they quote the verified postal address, which is different, therefore creating a duplicate. The street name may also have changed from the time

of New Connection to that of customer contact (street names can change in the early stages of site development).

3. Removal/reclassification of properties as a result of data quality initiatives/projects
    a. Duplicate properties
    b. Reclassification of properties that were recorded in error
4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

For NI Water, accurate property data is fundamental for many systems and processes, including customer service, metering, billing, consumption, leakage and Major Incident Planning & Response. The Rapid Customer Contact System contains the master property data for NI Water.

As Data Owner for Property Standing Data, The Head of CSD Services is responsible for the property standing data held by NI Water; this is monitored and managed through the Property Information Group (PIG). The CSD Services MI & Data Team chair this group.

The role of PIG is to ensure that there is appropriate governance, controls and reporting for changes made to core data on the system. As Property Data Owners, we need to ensure the processes around creation, maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. Control is key for us; as such we have identified the systems, processes and people using property information across the business, alongside confirming data accuracy and endeavouring to reduce the opportunities for erroneous data entry and creation (such as the inability to recreate demolished properties or duplicate properties).

The issues under consideration were identified as of corporate relevance, therefore to ensure appropriate direction and governance the PIG was formalised. Key objectives include:

1. To agree a single consistent source of property data.
2. To ensure the source property data represents accurate, up-to-date information appropriate for use by the business.
    a. To understand and agree data primacy in respect of data updates from NI Water and external (Land & Property Services - LPS) sources
    b. To ensure the processes around creation (i.e. New Connections), maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. i.e. through CBC Data Validation (Phase 1, Phase 2, Phase 3, 105 Days DV)
    c. To co-ordinate property reconciliations between NI Water & external sources i.e. Data Sharing Agreements between NI Water & LPS, NI Water & Belfast City Council (BCC) etc. and understand the reasons and validity of any differences
    d. To understand and ensure the adequacy of long term procedures for database maintenance, including the updating of data standards and associated CDE M&M Plans
3. To ensure the reporting requirements for the business are met relating to data held on Rapid, particularly, but not exclusively, in respect of tariffs, leakage, Annual Information Returns (AIR) & Principle Statement (PS) returns.
4. Challenge the data in the areas of
    a. Data categorisation & structure
    b. Data robustness – i.e. where is our data good and where is there opportunity for improvement? Identify projects that could aid improvement

   c. Data alignment – both internally and externally. Internally between systems such as Rapid, Ellipse, GIS, Diamond, Netbase, IMS etc. Externally through data reconciliations, such as LPS above.
5. To agree measures to improve the quality and integrity of the data, particularly the key CDEs as monitored by IMU
6. To agree the content and frequency of reports required by NI Water.
7. To agree the quality checking criteria for the above data and reporting and develop a Quality Plan including the determination of responsibilities and audit trails.
8. To produce & circulate an 'operate and maintain' programme for property data to the business.

The COVID 19 pandemic has caused delays to our 20/21 plans, however our aim for 2021/22 remains the same with continued focus for PIG including analysis and action on:

- Volume of properties coming onto the Rapid billing system on a monthly basis
    - new connections
    - customer contact
    - project work
- Volume of properties coming off the Rapid billing system (demolished)
    - sample check to ensure reason for demolition has been noted and on system audit trail recorded
- Volume of properties amended on the Rapid billing system
    - In particular, address fields -> building number, street name, town and postcode
    - sampling to identify if the data changes are data improvement or data regression
    - if data regression, further analysis into the process is undertaken
- Review of access privileges
    - Rapid audit
    - Through monthly audit samples
    - Internal CRs require sign off from PIG as BAU
    - Working with Echo to review access privileges on an ongoing basis
- Interruptions to supply notices – returned mail
    - This returned mail was brought to the attention of LPS and include properties that LPS have classified as live properties despite being returned as 'no such address' etc.
    - The 2 way communication with LPS will help underpin our governance work and provide direction to the business on practices

The PIG Strategy for 2021/22 will include the following:

- New Connections - A push to move to on-system reporting following the Business Improvement New Connections Review
- Further use of PowerBI – We currently use Power BI to create and issue the monthly Rapid Property Summary (RPS) and will continue to explore the use of Power BI in other aspects of our property work throughout 2021/22
- Rapid-POINTER Reconciliation - follow on actions to be worked through and benefits realised. i.e. Uploading of UPRNs from POINTER where a property can move from an A match to an A* match
- Continued monitoring of data alignment between systems – Rapid and Ellipse, GIS, Netbase, Diamond, IMS etc.
- Smart Cities (Belfast City Council Rates Maximisation Project) – Ongoing data sharing project that commenced in August 19

- Continuation of the 2 way communication with LPS - This will help underpin our governance work and provide direction to the business on practices that will work alongside LPS
- Student Accommodation – further case studies on student accommodation re-development sites. Liaise with Belfast City Council to understand at what stage they can inform NI Water of properties that are to be re-developed as student accommodation.
- Test Meters – monitor numbers of ‘retain for review’ meters

- Properties with ‘no water supply’ (no water/well water) – review and validate on a monthly basis

Annex A details the Line Methodology for the figures calculated in Table 4 Lines 6-8.

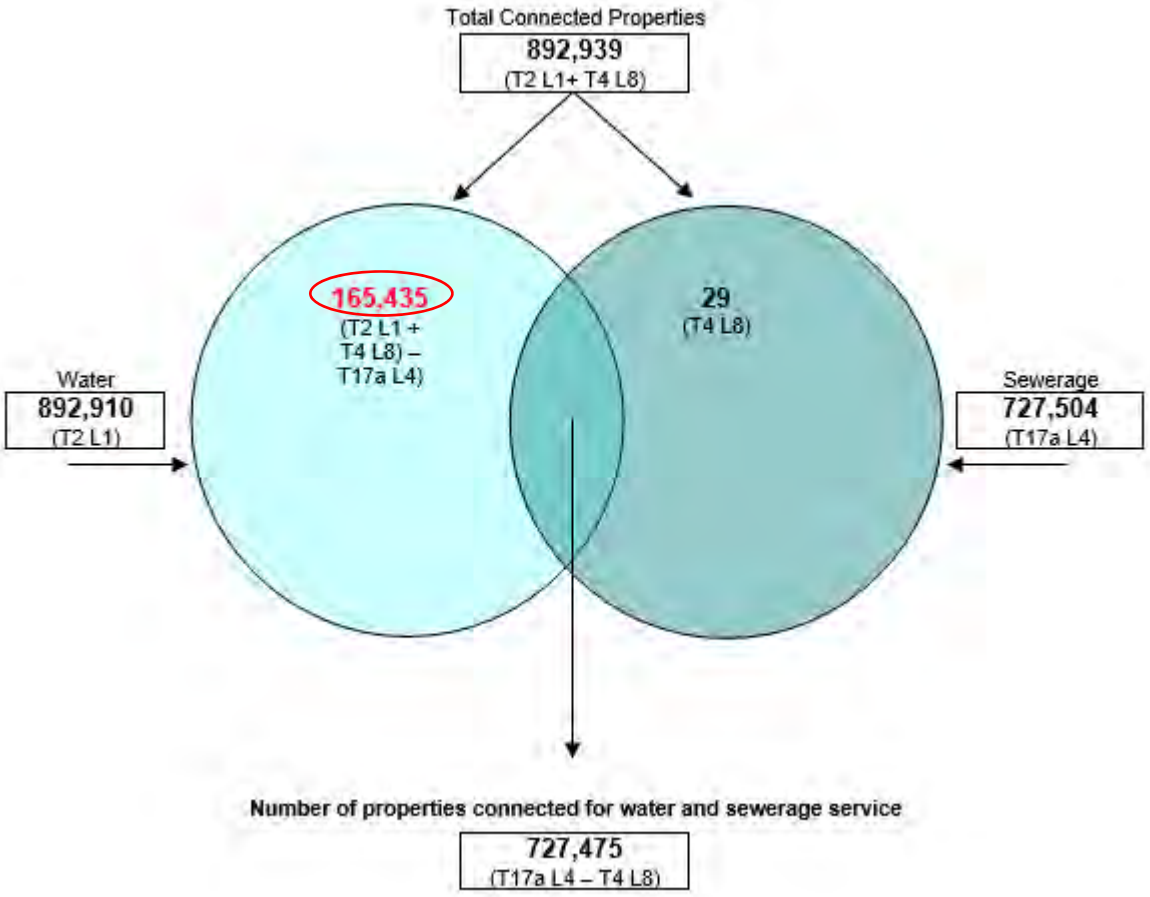
Annex A – Line Methodology for Table 4 Lines 6-8

B Connected Properties

Line 6 - Number of Properties Connected for Water Supply Only

The total number of household and non-household properties connected to the water distribution system for water supply only, at the end of the AIR21 reporting year. This includes properties which are connected but not billed (e.g. temporarily unoccupied), but excludes properties which have been permanently disconnected.

This figure is taken from the Rapid Property Summary for AIR21 and is displayed in the diagram below:



Therefore:-

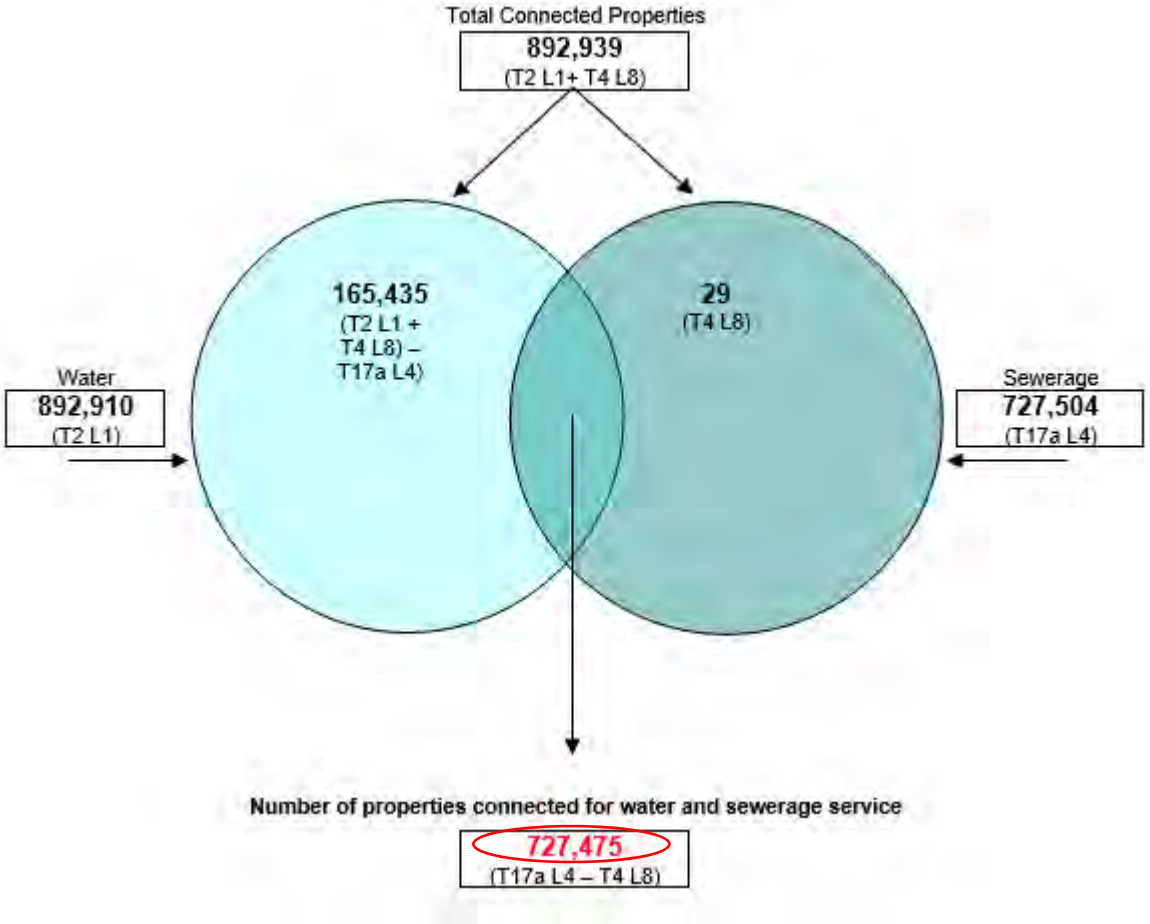
	End March 2021
Total Connected Properties (T2 L1 + T4 L8)	892939
less	
Total Connected Properties for Sewerage (T17a L4)	727504
Total Connected for Water Only	**165,435**

Line 7: Number of Properties Connected for Water and Sewerage Services

The total number of household and non-household properties connected for both water and sewerage services at the end of the reporting year.

This includes properties which are connected but not billed (e.g. temporarily unoccupied) but excludes properties which have been permanently disconnected.

This figure is taken from the Rapid Property Summary for AIR21 and is displayed in the diagram below:



	End March 2021
Number of Properties Connected for Water & Sewerage Services (T17a L4 - T4 L8)	**727475**

Line 8: Number of Properties Connected for Sewerage Services Only

The total number of household and non-household properties connected for sewerage services only at the end of the reporting year.

This includes properties, which are connected but not billed (e.g. temporarily unoccupied), but excludes properties which have been permanently disconnected.

This figure is taken from the Rapid Property Summary for AIR21.

	End March 2021
Domestic sewerage only	10
plus	
Non-domestic sewerage only	19
Total Properties Connected for Sewerage Only	**29**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

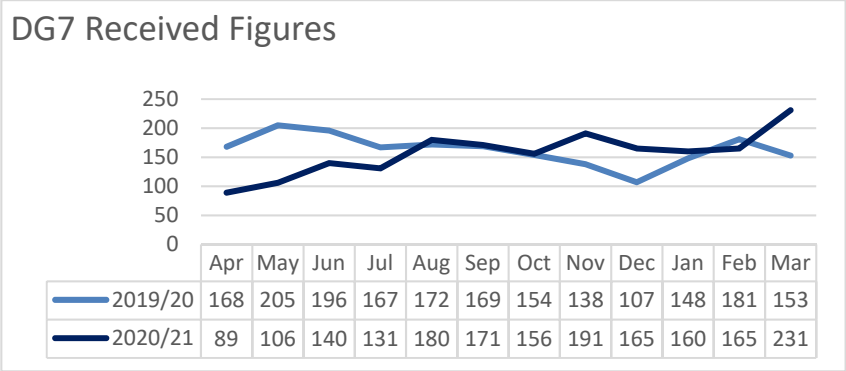
ANNUAL INFORMATION RETURN - TABLE 5 KEY OUTPUTS
CUSTOMER SERVICE - 2 (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**DG7 RESPONSE TO WRITTEN COMPLAINTS**																				
1	Total written complaints	nr	0	3,173	B2	2,505	B2	2,364	B2	2,269	B2	2,375	B2	2,274	B2	2,133	B2	1,958	B2	1,885	B2
2	Number dealt with within 10 working days	nr	0	3,166	B2	2,498	B2	2,363	B2	2,266	B2	2,375	B2	2,271	B2	2,133	B2	1,957	B2	1,883	B2
3	Percentage dealt with within 10 working days	%	2	99.78	A1	99.72	A1	99.96	A1	99.87	A1	100.00	A1	99.87	B2	100.00	B2	99.95	B2	99.89	B2
4	Number dealt with in more than 20 working days	nr	0	1	B2	2	B2	0	B2	2	B2	0	B2	3	B2	0	B2	0	B2	1	B2
5	Percentage dealt with in more than 20 working days	%	2	0.03	A1	0.08	A1	0.00	A1	0.09	A1	0.00	A1	0.13	B2	0.00	B2	0.00	B2	0.05	B2
B	**DG8 BILLS FOR METERED CUSTOMERS**																				
6	Total metered accounts	nr	0	110,164	A1	115,227	A1	118,732	A1	123,763	A1	127,807	A1	128,705	A1	129,387	A1	130,375	A1	130,887	A1
7	Metered accounts excluded from indicator	nr	0	42,688	A1	47,784	A1	51,214	A1	55,875	A1	59,428	A1	60,060	A1	60,542	A1	61,091	A1	61,137	A1
	(I) NO. OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING AT LEAST ONE BILL DURING YEAR BASED ON METER READING:																				
8	Company readings	nr	0	66,557	A1	66,775	A1	66,855	A1	67,319	A1	68,025	A1	68,400	A1	68,603	A1	68,938	A1	69,147	A1
9	Company or customer readings (or both)	nr	0	66,622	A1	66,840	A1	66,916	A1	67,366	A1	68,051	A1	68,420	A1	68,621	A1	68,958	A1	69,206	A1
	(ii) NUMBER OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING:																				
10	Estimated bills only	nr	0	550	A1	433	A1	548	A1	426	A1	270	A1	184	A1	203	A1	295	A1	371	A1
11	No bills received during the report year	nr	0	304	A1	170	A1	54	A1	96	A1	58	A1	41	A1	72	A1	31	A1	173	A1
12	Unread by company for 2 years	nr	0	310	A1	186	A1	164	A1	207	A1	173	A1	90	A1	21	A1	58	A1	65	A1
C	**DG9 TELEPHONE CONTACT**																				
13	Total calls received on customer contact lines	nr	0	219,399	A2	226,881	A2	230,847	A2	210,487	A2	217,023	A2	212,095	A2	215,011	A2	197,184	A2	188,658	A2
14	All lines busy	nr	0	0	A2	0	A2	32	A2	159	A2	63	A2	18	A2	29	A2	44	A2	76	A2
15	Total of calls not abandoned	nr	0	216,006	A2	223,256	A2	226,204	A2	209,284	A2	216,015	A2	211,061	A2	213,835	A2	196,289	A2	184,198	A2
16	Call Handling Satisfaction	nr	2	4.54	A1	4.63	A1	4.65	A1	4.59	A1										
17	Total telephone complaints	nr	0	73,158	A2	74,316	A2	76,536	A2	61,316	A2	62,866	A2	57,940	A2	59,686	A2	2,246	A2	2,476	A2
D	**SPECIAL ASSISTANCE REGISTER**																				
18	Customers on the special assistance register	nr	0	2,675	A2	2,903	A2	3,084	A2	3,163	A2	2,017	A1	2,096	A1	2,201	A2	2,246	A2	2,476	A2
E	**CUSTOMER SATISFACTION MEASURES**																				
19	Total contacts	nr	0									257,866	A2	250,753	A2	252,844	A2	190,729	A2	182,029	A2
20	Unwanted contacts	nr	0									110,197	A2	105,964	A2	75,569	A2	67,013	A2	70,204	A2
22	First Point of Contact Resolved (FPOCR)	%	1									66.5	A2	65.8	A2	90.0	A2	90.4	A2	90.4	A2
23	Customer advocacy measure	nr	0									27	A1	31	A1	32	A1	42	A1	42	A1
24	Omnibus survey question 1	nr	1									80.3	A1	92.4	A1	81.6	A1	71.7	A1	80.7	A1
25	Omnibus survey question 2	nr	1									11.2	A1	8.2	A1	8.3	A1	7.6	A1	7.4	A1

Table 5 – Customer Service

Lines 1-5 - DG7 Received Volumes

The chart below shows the DG7 received volumes during 19/20 and 20/21.



The chart shows a decrease in the overall volume of written complaints received in 20/21 compared to the previous year; 1,885 in total received in 20/21 compared with a total of 1,958 received in the previous reporting period.

When comparing with average monthly received figures based on the data for the past 3 years, received volumes in 20/21 were above average monthly received figures in 4 of the 12 months.

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
18/19	103	133	183	145	202	157	214	233	150	194	229	190
19/20	168	205	196	167	172	169	154	138	107	148	181	153
20/21	89	106	140	131	180	171	156	191	165	160	165	231
Average	120	148	173	148	185	166	175	187	141	167	192	191

The most notable of the above-average monthly volumes was received in March 2021. Analysis of written complaints received in March 2021 found no obvious drivers for this above-average figure.

As in previous years, the number of written complaints in the Charges & Billing category was highest, representing 35% of the total received across the reporting period. This represents a 5% decrease compared with 19/20.

For 20/21, no written complaints were linked to accounts which had been reviewed by the Metering & Billing project.

As is typical, the complaints in the Charges & Billing category this reporting period stem from a variety of reasons, some of which are summarised below:

- 196 complaints were recorded as being from customers disputing liability for charges.
- 148 complaints were recorded as being about leakage allowances or high consumption.

End of Year (Contacts not dealt with at end of year)

Based on data extracted on 4 May 2021, no DG7 contacts received during 20/21 remained open.

Petitions

No DG7 contacts were received which could be described as petitions.

CCNI Written Complaints Assessment

The 6th formal CCNI Written Complaints Assessment process commenced in March 2021. This independent review seeks to identify recommendations for improved complaint handling. Results and any recommendations from this assessment will be agreed in Q1 of 21/22.

E-mail and Faxes

Systems remained in place to ensure that the receipt date of email/fax contacts is recorded as the date they are delivered to the company, with the following working day being recorded as Day 1.

1,620, or 85.94%, of the total DG7 received volume were recorded with a document type of "email".

No DG7 contacts were recorded as having a document type of "fax".

Self-Service Portal

The "Contact Us" section of the online Self Service Portal allows customers to submit complaints on completion of an online form.

The resulting complaints are received as emails and reported as such. The link as is below:

https://digitalservices.niwater.com/contact-form#Complaint

Complaints about Contractors

The process which supports the recording of written complaints received directly by PPP concessionaires (or other contractors working on NI Water's behalf) remained in place throughout 20/21.

No complaints of this nature were recorded via this process during the reporting period.

Complaints about HVCH

There was 1 written complaint recorded as being related to the High Volume Call Handling system.

NI Direct

There were no written complaints received through NI Direct in respect to the company's call centre or field staff responses to flooding incidents.

Telephone Complaints

Complaints received via telephone are reported as DG9 telephone complaints, not DG7. Billing telephone complaints are reported as DG6.

Date of Receipt

Written complaints are date-stamped as per the date of receipt.

Date of Dispatch

The date of dispatch refers to the date on which a response is sent to the customer. The date of dispatch is recorded as the date closed.

Response Time

This is the number of working days between receipt of a contact by Northern Ireland Water up to and including the day of dispatch of a response. For the purpose of this calculation, the day of receipt (provided it is a working day) is counted as day zero and the next working day as day one.

When an email or fax is received after 16:00 it would typically have been scanned, logged and indexed on the next working day.

The reported date of receipt for emails/faxes received outside of normal operating hours is the actual date on which the complaint was delivered to the company. For example, if an email is received on a Saturday, this is recorded as day zero. The next working day (normally the Monday) would be counted as day one. If an email is received on a Sunday then this is recorded as date of receipt (day zero) and (normally) Monday as day one.

In light of COVID-19 restrictions, and in line with Government guidelines, attendance in Capital House for the purposes of scanning was reduced to two days per week throughout the reporting period. This did not however result in any changes to the way in which date of receipt was recorded; the date of receipt recorded matches the actual date of receipt irrespective of when the complaints were scanned.

Substantive Holding Reply

This is defined as a response to a written complaint which advises the customer that Northern Ireland Water needs to undertake additional investigations or other actions before being able to provide a full response. A holding response is considered substantive if it advises the customer what further action needs to be taken in order to fully respond, when this will be done and when they will receive a further communication from Northern Ireland Water.

Complaints remain open until all actions have been completed but will be closed back to the date of the holding response for reporting purposes when said actions have been completed.

When a date by which investigations or further actions will be complete cannot be given, we will give the date by which we will contact the customer again. Holding responses can be issued in writing or provided verbally by telephone.

Repeat Contact

Where a complaint has been responded to and results in a period of correspondence each written contact is treated as, and reported as, a separate complaint.

No complaints have been excluded from DG7 where Northern Ireland Water consider the complaint has been dealt with as far as the Company considers possible.

Consumer Council for Northern Ireland (CCNI)

Complaints received in writing via CCNI will be logged as complaints and recorded in DG7 figures. All complaints from CCNI are received in writing by email.

CCNI enquiries and follow-up questions are not recorded as complaints.

Changes to original categorisation

Open contacts can be re-categorised using RapidXtra screen wccm11 (Contact Amendments) and closed contacts can be re-categorised using RapidXtra screen wccm91 (Contact Date Maintenance).

There are a number of stages at which the categorisation of a written contact can be reviewed after it has been scanned, logged & indexed.

Whilst not exhaustive, the main activities during which the categorisation of contacts is regularly checked are:

- Customer Service Officer Review - it is the responsibility of the Customer Service Officer in the Complaints & Executive Mail Team to ensure that each written contact they are handling is closed in line with reporting guidelines. On initial review, they should ensure that the contact has been correctly categorised in line with the DG/Contact definitions. If incorrect, it is their responsibility to ensure that the contact is updated on RapidXtra accordingly. If unsure, they should seek guidance from their line manager.
- Line Management checks – the Complaints & Executive Mail Team Manager & Supervisor perform coaching using sampling of closed contacts. It is the responsibility of the Complaints & Executive Mail Team Manager & Supervisor to ensure that any contacts identified through this process which require re-categorisation are updated on RapidXtra.

Exclusions

A total of 18 written customer complaints have been excluded from DG7 reporting during 20/21 for a variety of exclusion reasons as per the Level of Service Methodology.

Confidence Grades

The confidence grades assigned to lines 1-5, as shown below, remain the same as those assigned to the 19/20 performance figures.

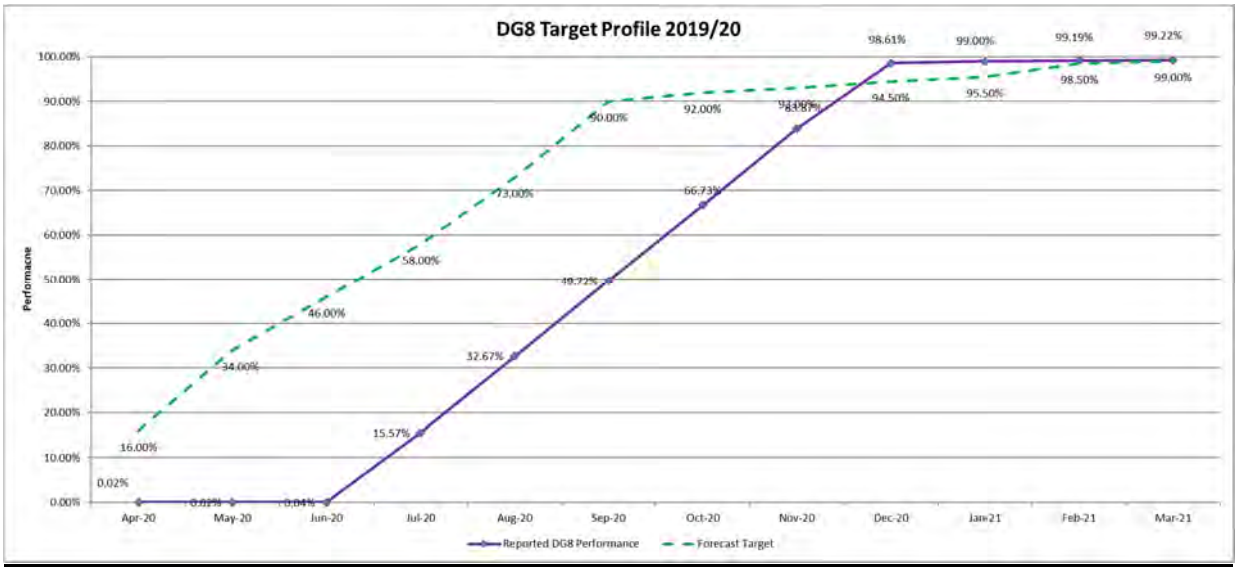
1	Total written complaints	B2
2	Number dealt with within 10 working days	B2
3	Percentage dealt with within 10 working days	B2
4	Number dealt with in more than 20 working days	B2
5	Percentage dealt with in more than 20 working days	B2

Lines 6-12 DG8 – Bills for metered customers

99.22% of meters were read and billed based on an ‘actual’ meter read during 20/21, exceeding the target of 99.00%.

The target for 21/22 remains at 99.00%.

DG8 Meters Read and Billed Performance (%)



The graph detailed above provides a monthly profile of the cumulative increase in DG8 reads throughout the course of 20/21. The monthly performance is based on actual meter reads out of the total meter stock base.

Due to social & economic restrictions of Covid19 pandemic and the subsequent commencement of the 1st national 'lockdown' in Mar20. NI Water suspended all Customer Field Services activity for the period April 20-June 20. Hence no meter readings were taken and no non-domestic bills were issued during this period.

Customers due to receive a '6 Month' bill in the months April-June, instead received a '12 Month' bill in the months October-December. Effectively, for 50% of the non-domestic meter stock (circa 35,000 meters), NI Water only had one opportunity (rather than two), to bill customers based on an actual meter read, as per DG8 requirements.

Many businesses remained closed for the majority of the 20/21 year e.g. hospitality / retail / close-contact services etc… which presented access difficulties to obtain actual meter reads.

More so than ever, DG8 performance has required rigorous and continuous management during the year, with pro-active management of skips as detailed below;

- Proactive engagement with customers to obtain access to properties to enable the meter to be read in a Covid19 safe environment.
- Proactive management of meter maintenance programme to ensure meters are replaced as quickly as possible and at a time convenient to the customer.
- Proactive identification of in month new meter uploads which are required to be read and billed.

NIW will continue to assess the benefits of the various technologies trialed within the on-going pilot study of SMART Metering over the course of the year.
We will continue to investigate what SMART meter and network technologies are merging and available to NIW, and their appropriateness for both NIW's business and our Customer's business.

We will continue engagement with suppliers and the industry to further understand what future technology trends are emerging and how NIW can avail of them within the budgetary constraints.

Billing Policy

Frequency of Bill Issue:

- Household properties – the Company do not bill household meters at present.
- Non-household – the Company aim to read twice a year and bill twice yearly.
- Large non-household users – the Company aim to read and bill monthly.

Customer Reads

The Company encourages our customers to take readings themselves so that they are aware of their usage. The company continues to insert a message on bills and recovery envelopes to remind customers of the importance checking consumption by regular meter reading where possible. Customer reads can be submitted for billing purposes by using the Self-serve on-line facility available on our website, email or by calling our billing line.

Exclusions

Based on data extracted on 31st March 2021 from RapidXtra:

- 61,137 Meters were excluded in 20/21.

The 'exclusions' base report which is run directly from RapidXtra over reports the excluded meters total by 1. The figure shown on the base report is 61,137 but the actual Exclusion total is 61,136.

The variance of 1 record relates an erroneous meter reference contained in the report which does not actually exist (Meter Reference 1150975) - when searched on the RapidXtra system it returns 0 results. This is a known anomaly with the exclusions base report, which was identified prior to the 16/17 audit, and was reported directly to Rapid on 28/06/17. Rapid have built a data fix for the DG8 Exclusion report. The fix is due to be run in Rapid in June 21, which will result in the invalid meter reference being removed from the report during 21/22.

The company can exclude any unusual accounts or unusual circumstances that complicate the measure. The following are excluded from the indicators:

- Charged on another basis (not metered consumption)
- Test meters
- Trade-effluent meters
- DRD or NIW meters
- Fire supplies
- Properties occupied continuously for less than six months
- Complex accounts – Including combination meters i.e. the 'low-flow' element is excluded.
- Void properties

The table below illustrates the numerical breakdown and reason for Meters Excluded in 20/21:

Reason for Exclusion	Count of Exclusions	% of total Exclusions
Charged on another basis	57,801	94.54%
New Property	377	0.62%

Occupied < 181 consecutive days	120	0.20%
Void Property/No Occupier	2,839	4.64%
Grand Total	**61,137**	**100%**

For 20/21 the total meters excluded has risen by 46 compared to the total exclusion reported in 19/20.

Confidence Grades

The confidence grade is assigned based on methodology used to extract and report the DG8 performance. The information is extracted and summarised from RapidXtra via automated system reports. The 'DG8 Summary Report' does not require any manual manipulation. RapidXtra automatically categories each account based on its status using the most current and up to date data.

The confidence grades assigned to lines 6-12, as shown below, remain the same as those assigned to the 2019/20 performance figures:

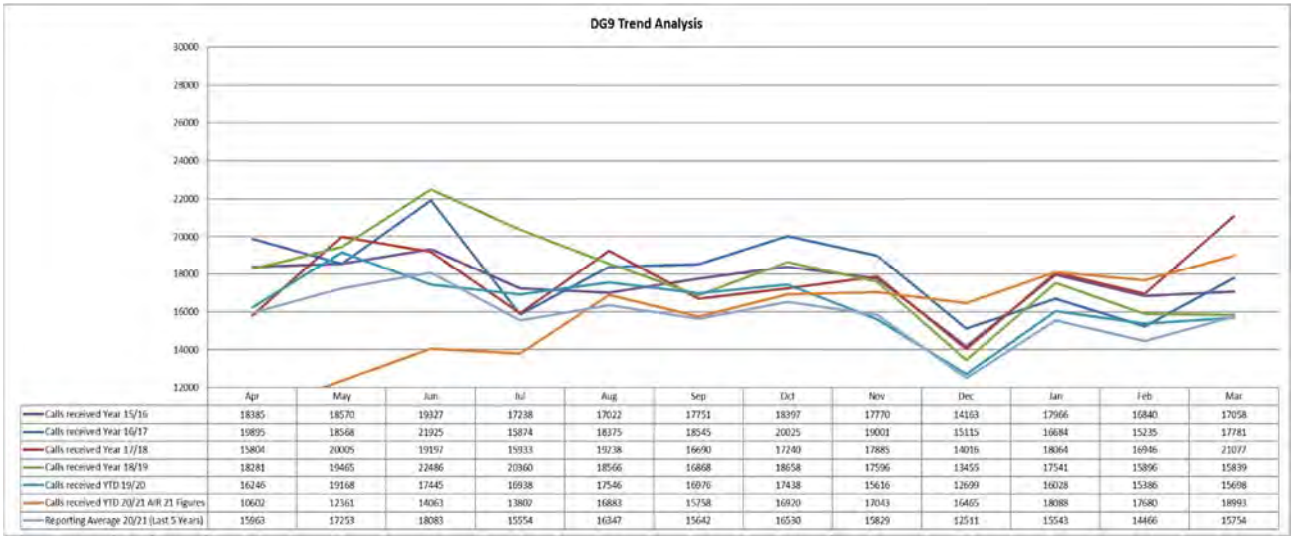
6	Total Meter Accounts	A1
7	Metered accounts excluded from indicator	A1
8	Company readings	A1
9	Company or customer readings (or both)	A1
10	Estimated bills only	A1
11	No bills received during the report year	A1
12	Unread by company for 2 years	A1

Lines 13 – 17- DG9 Telephone Contact

DG9 Introduction

During the reporting year a total of 188,658 calls were made to the Public Advertised Company telephone numbers.

Graph 1 shows a comparison against the previous reporting year (2020/21) and against our target level of calls for the year and the 5 year average.



Graph 1: Telephone Contacts Received

Call volumes for 20/21 were 8,526 lower than the previous reporting year 2019/20 (197,184), with April (10,602) receiving the lowest call volumes YTD.

HVCA has been renamed HVCH (High Volume Call Handling) from September 2019 due to a new company providing the system.

The deployment of a High Volume Call Handling (HVCH) solution in NI Water is unique in the water industry, providing an enhanced customer experience and improved incident management when compared to other water companies in UK and on a par with other utilities in Northern Ireland i.e. NIE Networks. HVCH was available to handle overflow calls for customers reporting faults on the Waterline.

The High Volume Call Handling (HVCH) system was driven from the events in winter 2010-11, where prolonged sub-zero temperatures during December 2010, followed by a sudden thaw on 26th December 2010, caused extensive disruption of supplies (due mainly to bursts on customer supply pipes) and huge increase in customer contacts to the NI Water Customer Relations Centre.

Since the 5th March 2013 the HVCH system has been deployed in Agent First Mode, which means all calls to the Waterline are still diverted to the Cable and Wireless Network IVR system. The caller is presented with the menu selection and depending on the option selected and if a CRC agent available, passed to a CRC call Agent. If no Agents are available then the caller will enter into the HVCH call routing plan to have their issue logged. Since September 2020 “No water” calls have been deployed to HVCH first mode which has resulted in much higher traffic in 20/21 receiving 17,814 calls due to agents working from home from October to March.

HVCA Calls	YTD	April	May	June	July	August	September	October	November	December	January	February	March
Total HVCA Calls (All Classed as Answered)	**17814**	273	609	413	312	808	33	1552	2382	3158	2931	2756	2587
Total HVCA Calls Answered	**13777**	193	443	278	179	513	17	1273	1581	2490	2429	2280	2101
Total HVCA Calls Abandoned	**4037**	80	166	135	133	295	16	279	801	668	502	476	486

New – IVR Platform

A new IVR platform was introduced to provide customers with another channel of choice, the IVR platform is available 24/7 and supports the reduction of calls into the Customer Relation Centre.

IVR is a technology that automates and simplifies interactions with incoming customer calls. In doing this, IVR provides a conversation, which can be either pre-recorded or generated audio that assists, directs, and/or guides customers automatically without the need to talk to an agent. Within these interactions customers are able to communicate by using either the dial pad or speech recognition.

The areas that the IVR will service are:

- Switchboard
- Billing and debt line
- Septic tank desludge request

The new IVR platform is not set to Agent first which means all calls will hit the BT switch first and then be directed to the IVR platform. If completed successfully on the IVR, the call will never hit the Avaya switch and will not be reported in Call Media. However, the Billing & Debt line and Septic Tank IVR are linked to the Billing Enquiry and Waterline PACC lines and will be reported using the CIRRUS Voice platform.

The switchboard IVR went live on the 20th November 2018, this has not impacted call volumes as switchboard contacts can be excluded if proven to be genuine – If the call went directly to the person required these do not need to be counted in line with current guidance. If the call goes to CRC then they will be counted via the Avaya switch (Call Media Console) and any genuine contacts will be excluded as per the agreed process via the switchboard customer references.
The Billing IVR was switched on 'as a test' from 12th February 2019 to 27th February 2019 and then switched on permanently from 7th March 19.
The Septic Tank IVR went live 27th March 2019.

IVR Calls	YTD	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
IVR - Billing Calls	10646	297	95	94	812	1225	1410	1257	1119	1278	1165	1125	769
IVR - Debt Line	565	5	4	3	25	62	42	87	70	87	89	56	35
IVR - Septic Tank Calls	4582	212	273	274	230	253	478	633	641	371	396	423	398
TOTAL IVR Calls	15793	**514**	**372**	**371**	**1067**	**1540**	**1930**	**1977**	**1830**	**1736**	**1650**	**1604**	**1202**

Line 14 - All Lines Busy

There were 76 instances of 'All lines busy' during the reporting year 20/21. An increase of 32 instances compared with the number received during 19/20.

NI Water followed government guidance to work from home where they could during the pandemic. Call centre agents were also working from home, as a result changes were made to call routing and the Cirrus Platform was used to report on telephony as Call Media was not compatible. It was discovered that any network issues could make agents appear unavailable, which inflated the engaged call totals in November (175) and December (97), these were confirmed with Cirrus as not being genuine engaged calls.

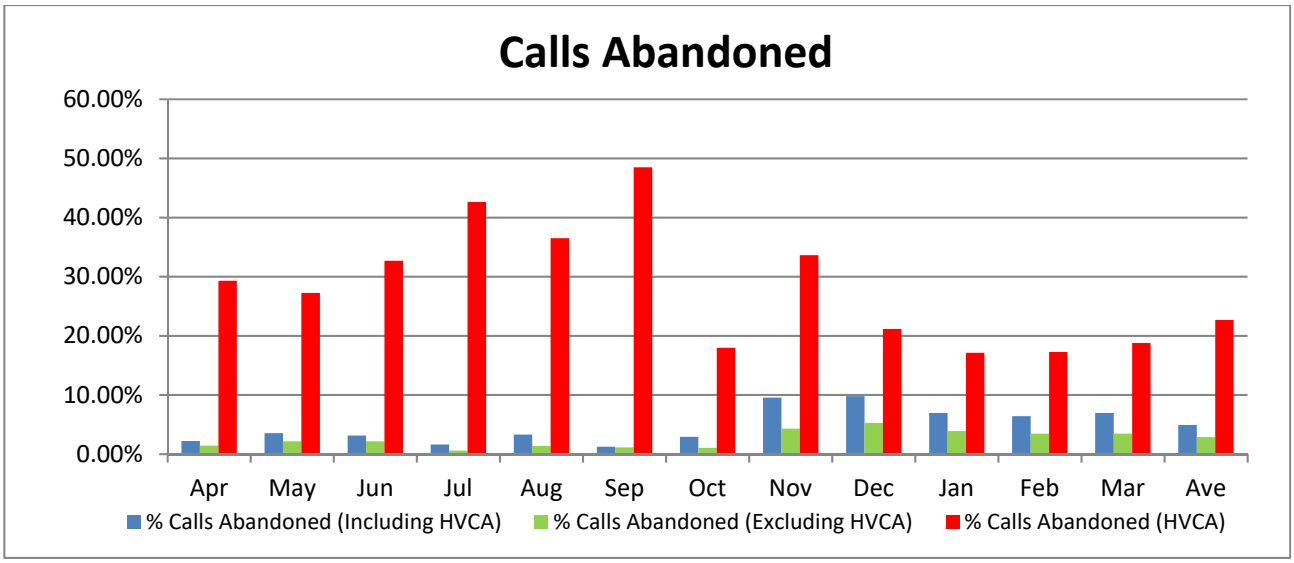
Lines 15 – Calls Abandoned

There were 4460 calls abandoned on the Call Media system during the year leading to a reportable Company performance of 97.64% of 'calls not abandoned', which fell short of the 99% target set for the year. NI Water enhanced their Social Media offerings and introduced Webchat as an alternative channel of choice from 8am to 8pm 7 days a week from Jul-20. To facilitate this additional offerings the 'calls not abandoned' contractual KPI was reduced to 95% during this time.

All calls abandoned on HVCH are now classified as answered due to agreement with the Regulator and CCNI. However, for monthly Business and annual Regulatory reporting purposes all calls handled by HVCH continue to be analysed and reported as answered or abandoned using the agreed hang up location methodology.

NI Water is able to classify each hang up location as either 'answered' if the caller has reached a point in the call flow at which they can hear a salient message or 'abandoned' as HVCH has 226 distinct hang up locations allowing for detailed analysis of where the customer call ended and what messages the customer was presented with. There were an additional 1124 abandoned on the HVCH system and the details on calls abandoned, including and excluding the HVCH system, are set out in Table 1 in Annex A.

As reported previously to the Regulator, 22.66% of all calls transferred to the HVCH system are being abandoned due primarily to customers hanging up on hearing the automated system and redialling in the likelihood that they will be answered by an agent.



Graph 1.1 Call Abandoned 2020 – 2021

Line 17 - Telephone Complaints

Telephone complaints cover any telephone call from a customer or a customer's representative (e.g. Citizens Advice Bureau, solicitor) alleging that an action or inaction of the Company, or a service or lack of service provided by NI Water or agent/contractor has fallen below his/her expectation.

General statements of complaint are also counted. Customers may complain unfairly or unjustifiably; nevertheless, such calls are classed as complaints. Some complaints may be frivolous or vexatious, nevertheless these are reported.

As a general policy, the Company records telephone calls about the following water service issues as complaints: no water, lack of pressure, leaks, taste and odour, discoloration and hard water (except for simple enquires e.g. dishwater settings). Telephone calls about the following wastewater services are also recorded as complaints: sewer flooding other than those received through NI Direct/blockages, collapsed sewers/manholes, smells from sewage treatment works/pumping stations and flies from sewage treatment works.

Telephone complaint volumes increased to 56,852 compared to 53,210 received during 2019/20 reporting period.

		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Telephone Complaints	56852	4291	4937	4509	3711	4942	4186	4099	4164	4875	5795	5921	5422

Line 18 - Customers on the Customer Care Register

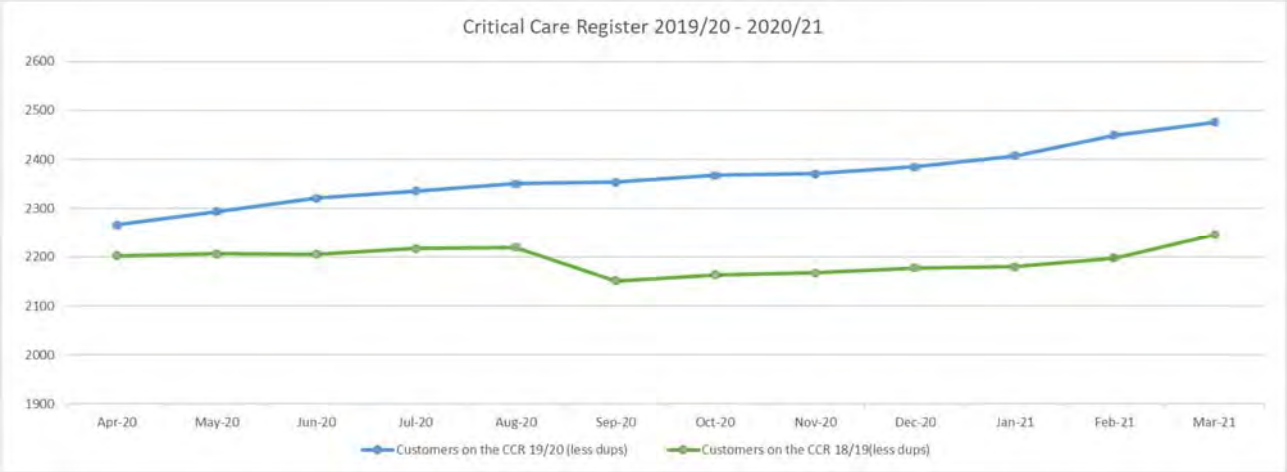
The Customer Care Register offers a range of free additional services to customers who are older, have a disability, a serious medical condition or require extra help when experiencing an interruption to their water supply.

A bespoke CorVu report has been created in conjunction with NI Water code of Practice - “Priority Services for Domestic Services” to report on CCR Customers. The report has been created with predefined filters to only return customers registered against the special needs listed below:

Special Needs Code	Need Description
01	Require Braille - Blind/partially sighted
02	Require Audio - Blind/partially sighted
03	Deaf
04	Vocally Impaired
06	Large Print Bill - Learning/Reading difficulties
07	Dialysis patient
08	Vulnerable
11	Nursing Home

Customers who are registered for multiple medical conditions will only be reported on once, except for when the customer is a Nursing Home or Hospice.

At the end of 20/21 reporting year 2,476 customers were registered on the Customer Care Register, this has increased slightly compared to the reported 2,246 for 19/20.



Graph 4 – Customer Care Register

Echo currently carry out a twice yearly review and contact with CCR customers. The first contact is by telephone which commences over the summer months. This call is a courtesy call and allows Echo to reconfirm contact details.

The second contact is the annual Newsletter (embedded below) which is sent out to all CCR Customers in November. The annual Newsletter reminds customers of the service available and other useful telephone numbers such as NIE Networks, Quick Check 101 etc. It also advises of the expectation of the delivery of bottled water on preparation for Winter. It is worth noting that requests to be added or removed from the register can be received following the distribution of this newsletter.

CCR letter Nov 2020v1.0FINALFACTS

Customers will only be removed from the CCR register on the request of the customer or family member.

As a result of COVID-19 restrictions a number of community events were cancelled at which NI Water would have attended. During COVID-19 NI Water worked with the local Councils and the Health Trusts to continue to promote the CCR. NI Water also had targeted Social Media campaigns to raise awareness and encourage registration on the CCR.

Customer Satisfaction Measures

Month Received	Total Count
April	10812
May	13020
June	15049
July	14134
August	16371
September	16538
October	16000
November	14811
December	14024
January	16774
February	16382
March	18114
Grand Total	182029

Line 20 - Unwanted Contacts

During the reporting year 20/21 a total of 70,204 unwanted contacts were received.

An unwanted contact is a contact received from a customer that is 'unwanted' from the customer's point of view. This includes a contact about an event or action that has caused the customer unnecessary aggravation (however mild). This is determined by the subject matter of the contact.

The table below illustrates the breakdown of unwanted contacts across the financial year:

Month	Unwanted Contacts
Apr	4,833
May	5,647
Jun	5,457
Jul	4,681
Aug	6,046
Sep	5,342
Oct	5,358
Nov	5,437
Dec	5,999
Jan	7,090
Feb	7,237
Mar	7,077
Grand Total	**70,204**

Based on the total unwanted telephone contacts received by the company, 24,773 are relating to Sewerage Services and 38,505 are relating to Water Services.

The top Sewerage Service unwanted contact for 20/21 is *'Blocked Sewer Inc Cleanup & Disinfect',* with a total of 13,505 (19.2%) of unwanted customer contacts.

The top Water Service unwanted contact for 20/21 is '*No Water Complaint',* with a total of 20,086 (28.6%) of unwanted customer contacts.

Unwanted + FPOCR algorithms.d

Following AIR17 there was a recommendation for a sample to be taken of Wanted & Unwanted Contacts to confirm that these were being logged correctly. A sample of 50 Wanted & 50 Unwanted closed contacts continues to be taken at month end, with any anomalies in the categorisation being fed back to the relevant team for training purposes. As per table below, only 15 potential anomalies were found throughout the entire year (a mere 1.25% of the sample taken). 7 were related to Unwanted, with the remaining 8 relating to Wanted exceptions, so the potential untaggings almost balanced each other out.

	Month Received	Unwanted Exceptions	Wanted Exceptions
	Apr-20	0	1
	May-20	1	0
Q1	Jun-20	1	2
	Jul-20	1	0
	Aug-20	0	0
Q2	Sep-20	1	1
	Oct-20	2	1
	Nov-20	0	1
Q3	Dec-20	0	0
	Jan-21	0	1
	Feb-21	0	1
Q4	Mar-21	1	0

Line 22 - First Point of Contact

During the reporting year the First Point of Contact resolution (FPOCR) was 90%

Month	First Point of Contact Resolution (FPOCR)
Apr	91%
May	92%
Jun	92%
Jul	92%
Aug	91%
Sep	91%
Oct	90%
Nov	89%
Dec	89%
Jan	89%
Feb	89%
Mar	90%
Average	**90%**

When a contact requires an action and this action is completed and there has been no prior contact from the same property on the same issue within a 90 day period then it shall be counted as 'First Point of Contact Resolution'.

First point of contact resolution is reported as a percentage of contacts resolved at FPOC against the number of issues.

Unwanted + FPOCR algorithms.d

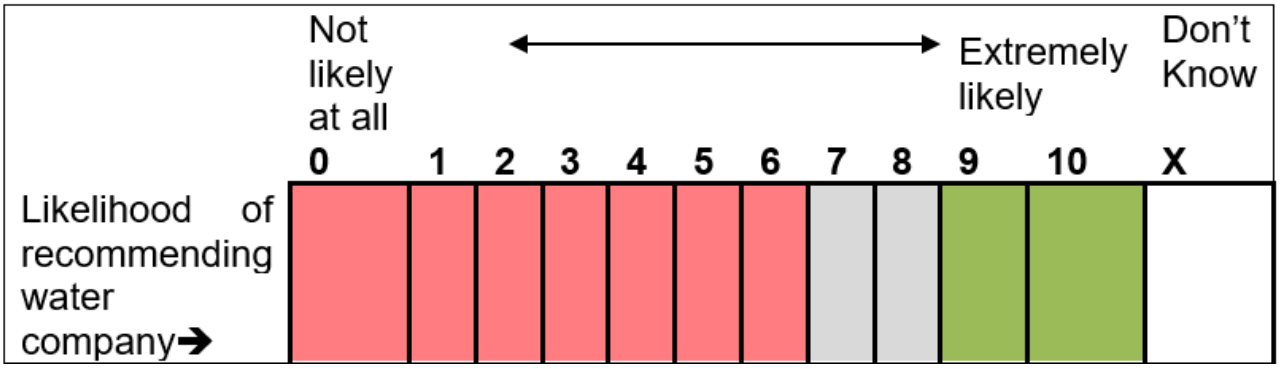
Line 23 - Customer Advocacy measure

Customer advocacy is an annual satisfaction score which is assessed by Northern Ireland Water's Voice of the Customer service in which surveys are conducted by Watermelon, an independent Customer Experience and Insights specialist. Previously this score was gauged by Allto, an external market research company who carried out quarterly surveys of customers. The switch to Voice of the Customer came about as it is a continually operating service, day-by-day, with each customer being asked to complete a survey after interacting with Northern Ireland Water. This provides a much greater sample size over the course of an entire year, giving a more true reflection of Northern Ireland Water's satisfaction score as opposed to the Allto method which only focused on a single week within a 3 month time-span.

The objective of the surveys is to capture the views of those customers who have had dealings with the company, not only through the main contact centre but to any part of the business.

Customers are asked "*Based on your recent experience with us, how likely are you to recommend NI Water? Please respond 0 for very unlikely up to 10 for very likely".*

The score is calculated using Net Promoter Score methodology based on results from the previous question.



Customer Advocacy is calculated: Promoter % - Detractor %

NPS Calculation document embedded below:

NPS Calculation - AIR 21.docx

The survey is based on resolved contacts (identified by either completed Work Orders, or issues which could be resolved at the time of contact and logged accordingly). It encompasses customers contacting us from all available channels (telephone, written, online) in relation to all functional areas of the business (Water services, Wastewater services, Call Centre and Metering/Billing). Every morning Watermelon provides the latest completed surveys via SFTP into NI Water's data warehouse where the master set of surveys are stored.

Line 24 - Omnibus survey question 1

Ipsos MORI is an independent market research company, who carry out customer surveys on behalf of many other clients, including Regulators, Councils and Utilities.

The objective of the research is to survey a sample of domestic and non-domestic customers who may or may not have contacted NI Water, to confirm their level of customer satisfaction and ascertain if there is any correlation in the level of satisfaction between customers who contact NI Water and those who don't.

The survey has to be sufficiently robust and statistically significant to enable benchmarking within multiple markets. The score is calculated from an average of overall satisfaction with the following statement:
"I am happy with the service I receive from NI Water."

The Omnibus survey is based on a sample of 1000+ domestic consumers and 500 non-domestic consumers that may have had direct or no contact with NI Water to request a service or make a complaint. The survey is carried out once a year, the data for the survey was collected between 29th April and 6th May 2021.

Each domestic survey consists of a freshly drawn sample of 1000+ people, aged 16 and over (with each interview representing one household). Due to Covid the Domestic interviews were completed differently through the platform of Knowledge Base. Panellists to the Knowledge Panel are recruited via a random probability unclustered address-based sampling method, meaning that every household in the UK has a known chance of being selected to join the panel. Letters are sent to selected addresses in the UK (using the Postcode Address File) inviting them to become members of the panel. Members of the public who are digitally excluded are able to register to the Knowledge Panel either by post or by telephone, and are given a tablet, an email address, and basic internet access which allows them to complete surveys online.

The above detail is an indication of how IPSOS MORI use this Knowledge Panel nationwide, however for the purpose of our survey only panellists from Northern Ireland and in effect NI Water Customers were used. In Northern Ireland 1,200 panellists were available to us for this research and we achieved 784 responses.

Each non-domestic survey is conducted via telephone. The survey is derived from a random sample of businesses in Northern Ireland, with quotas applied to ensure that the survey mirrors the profile of the Northern Ireland business community insofar as this is possible, building quota requirements by region with a view to ensuring maximum geographical representativeness. Given that the data may be subject to media and public scrutiny the sample is controlled by industry sector and number of employees to ensure broad representativeness, although it is possible to add further area quota controls to the overall sample stratification. Throughout the course of the fieldwork, geographic analysis would be monitored, to ensure representation is being achieved.

Consumers are asked to what extent do you agree or disagree with the following statement?
"I am happy with the service I receive from NI Water."

Strongly agree.....1
Tend to agree.....2
Neither agree nor disagree.....3
Tend to disagree 4
Strongly disagree 5
Don't know 6

The survey data suggests strong levels of endorsement of water services in Northern Ireland with 83% of domestic customers agreeing that they were satisfied.

The level of satisfaction reported for 20/21 cannot be compared to the level of satisfaction reported in 19/20 due to various contributing factors:

- Domestic customers surveyed had decreased to 784 compared to the 1,009 surveyed the previous year.
- The survey was carried out later in the year (April). Previously the survey had been carried out in January and there is potential for a seasonal impact on the customers' response.
- It should also be noted that this smaller sample size was obtained during a unique year in which all of Northern Ireland was affected and therefore this may have impacted on the response rate and the answers obtained.
- The Non Domestic sample remained the same amount as previous years, however the data is not comparable to previous financial years due to a number of lockdowns seeing many business' shut and a freeze to billing at the beginning of the year.
- NI Water does not have control over the order in which the survey questions are asked, there is potential for the previous question asked to impact the response given to the statement above.
- It should also be noted that the above reasoning will also apply to Line 25.

As per table below, the overall score achieved was 80.7

	Nr	Score	Total/Ave
Domestic	784	83	65072
Non-domestic	500	77	38500
Total/Average	1284		**80.7**

Line 25 - Omnibus survey question 2

Ipsos MORI is an independent market research company, who carry out customer surveys on behalf of many other clients, including Regulators, Councils and Utilities.

The objective of the research is to survey a sample of domestic and non-domestic customers who may or may not have contacted NI Water, to confirm their level of customer satisfaction and ascertain if there is any correlation in the level of satisfaction between customers who contact NI Water and those who don't.

The survey has to be sufficiently robust and statistically significant to enable benchmarking within multiple markets.

The score is calculated using Net Promoter Score methodology based on results from the following statement; if people could choose their water company how likely would you be to recommend your water company to a friend or colleague where 1 is 'not at all likely to recommend' and 10 is 'extremely likely to recommend'

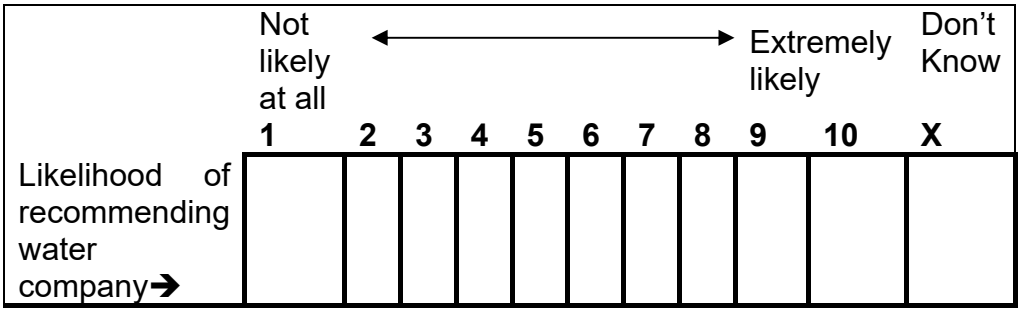
The Omnibus survey is based on a sample of 1000+ domestic consumers and 500 non-domestic consumers that may have had direct or no contact with NI Water to request a service or make a complaint. The survey is carried out once a year, the data for the survey was collected between 29th April and 6th May 2021.

Each domestic survey consists of a freshly drawn sample of 1000+ people, aged 16 and over (with each interview representing one household). Due to Covid the Domestic interviews were completed differently through the platform of Knowledge Base. Panellists to the Knowledge Panel are recruited via a random probability unclustered address-based sampling method, meaning that every household in the UK has a known chance of being selected to join the panel. Letters are sent to selected addresses in the UK (using the Postcode Address File) inviting them to become members of the panel. Members of the public who are digitally excluded are able to register to the Knowledge Panel either by post or by telephone, and are given a tablet, an email address, and basic internet access which allows them to complete surveys online.

The above detail is an indication of how IPSOS MORI use this Knowledge Panel nationwide, however for the purpose of our survey only panellists from Northern Ireland and in effect NI Water Customers were used

Each non-domestic survey is conducted via telephone. The survey is derived from a random sample of businesses in Northern Ireland, with quotas applied to ensure that the survey mirrors the profile of the Northern Ireland business community insofar as this is possible, building quota requirements by region with a view to ensuring maximum geographical representativeness. Given that the data may be subject to media and public scrutiny the sample is controlled by industry sector and number of employees to ensure broad representativeness, although it is possible to add further area quota controls to the overall sample stratification. Throughout the course of the fieldwork, geographic analysis would be monitored, to ensure representation is being achieved.

The score is calculated using Net Promoter Score methodology based on results from the following statement; if people could choose their water company how likely would you be to recommend your water company to a friend or colleague where 1 is ‘not at all likely to recommend‘ and 10 is ‘extremely likely to recommend’



Advocacy across both domestic and non-domestic customers is largely aligned; 68% of non-domestic customers and 58% of domestic customers would recommend NI Water to a friend or colleague.

Among domestic customers, advocacy is higher among those aged 55+. There are no significant differences in terms of advocacy for non-domestic customers along the lines of sector or business size.

Among non-domestic customers who would recommend NI Water, 7 in ten are motivated by NI Water's good quality service. For those who would not recommend NI Water the most common reasons provided were a lack of competition and perceived poor quality service.

It is also worth noting that whilst there was a considerable reduction in the number of domestic responses received for AIR 21 (784 compared to 1009 for AIR 20), the non-domestic customers sample size remained the same. Scores were slightly higher from non-domestic customers this year however it has been a unique year for business, with many of them shut due the pandemic. There was also a billing freeze at the beginning of the year which could factor into the higher score achieved from non-domestic customers.

As per table below, the overall score achieved was 7.4.

	Nr	Score	Total/Ave
Domestic	784	7.23	5668
Non-domestic	500	7.62	3810
Total/Average	1284		**7.4**

NI Direct Flood Line

NI Direct Floodline (FIL) was launched on 30 January 2009, as a single contact telephone number for customers in the event of a flooding incident. This telephone number is not one of NIW's advertised PACC numbers and is provided through a separate Call Centre managed by NI Direct.

NI Direct operate as a 'triage' service, taking the details of the incident from the customer and directing their issue to the relevant agency for appropriate action. Following a change in supplier within NI Direct during 2012/13, the integrated interface between FIL and NI Water systems was severed creating a gap in the process which NI Water were forced to bridge. This resulted in FIL contacts being received by e-mail and manually logged onto the NI Water CRC system by agents.

The new FIL contract went live on 1st December 2012, and following some initial manual logging the automated connection went live on 9th July 2013 between the FIL CRM and Rapid, in order to ensure that customer contacts relevant to NIW are logged on Rapid and work orders processed via Ellipse where necessary.

During the reporting period circa 331 work orders were received by the Company from FIL.

	Total	April	May	June	July	August	September	October	November	December	January	February	March
Floodline Calls	**331**	20	32	46	24	43	19	13	32	19	28	36	19

Confidence Grades

Call volume data is derived using a combination of telephony systems, the HVCH system for automated calls, Call Media that draws information from the Avaya system for agent handled calls and the IVR platform for calls linked to the Billing Enquiry and Waterline PACC lines.

In March 2014, the Telephony supplier changed from Cable & Wireless to BT. This switch was relatively seamless, with only a minor impact on lines busy due to the technical handover and these calls were excluded for reporting purposes.

As per methodology, the process of reconciliation between the telephony systems is largely manual, as calls transferring from CallMedia are deemed to be received in HVCH; however the confidence grade assigned to the data remains at ‘A2’, as per the AIR guidance.

Customer Satisfaction retains the confidence grade of ‘A1’ as it is conducted independently and the results are provided to NI Water by Ipsos MORI. In relation to the change in methodology for the Omnibus survey (changing from face to face interviews to knowledge panel) we had assurances from IPSOS MORI that whilst the method in which the responses were received from Domestic customers, there were no fundamental changes to how the data was reviewed and scored and therefore the confidence grades have remained the same.

Table 1: HVCA (2020/21)

Annex A

Calls received/answered to HVCA

Details	YTD	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Total calls received (HVCA)	**17814**	273	609	413	312	808	33	1552	2382	3158	2931	2756	2587
Total calls answered (HVCA)	**13777**	193	443	278	179	513	17	1273	1581	2490	2429	2280	2101
% Calls transferring to HVCA based on total calls received	**4037**	80	166	135	133	295	16	279	801	668	502	476	486

Abandoned on HVCA

Details	YTD	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Total of Abandoned Calls (Call Media)	**4460**	145	259	295	75	212	156	159	653	776	640	555	535
Total of Abandoned Calls (HVCA)	**4037**	80	166	135	133	295	16	279	801	668	502	476	486
Total of Abandoned Calls	**8497**	225	425	430	208	507	172	438	1454	1444	1142	1031	1021
% Calls Abandoned (Including HVCA)	**4.92%**	2.23%	3.54%	3.14%	1.63%	3.30%	1.24%	2.93%	9.56%	9.80%	6.95%	6.41%	6.95%
% Calls Abandoned (Excluding HVCA)	**2.88%**	1.44%	2.16%	2.15%	0.59%	1.38%	1.13%	1.06%	4.29%	5.27%	3.89%	3.45%	3.45%
% Calls Abandoned (HVCA)	**22.66%**	29.30%	27.26%	32.69%	42.63%	36.51%	48.48%	17.98%	33.63%	21.15%	17.13%	17.27%	18.79%

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 5A KEY OUTPUTS

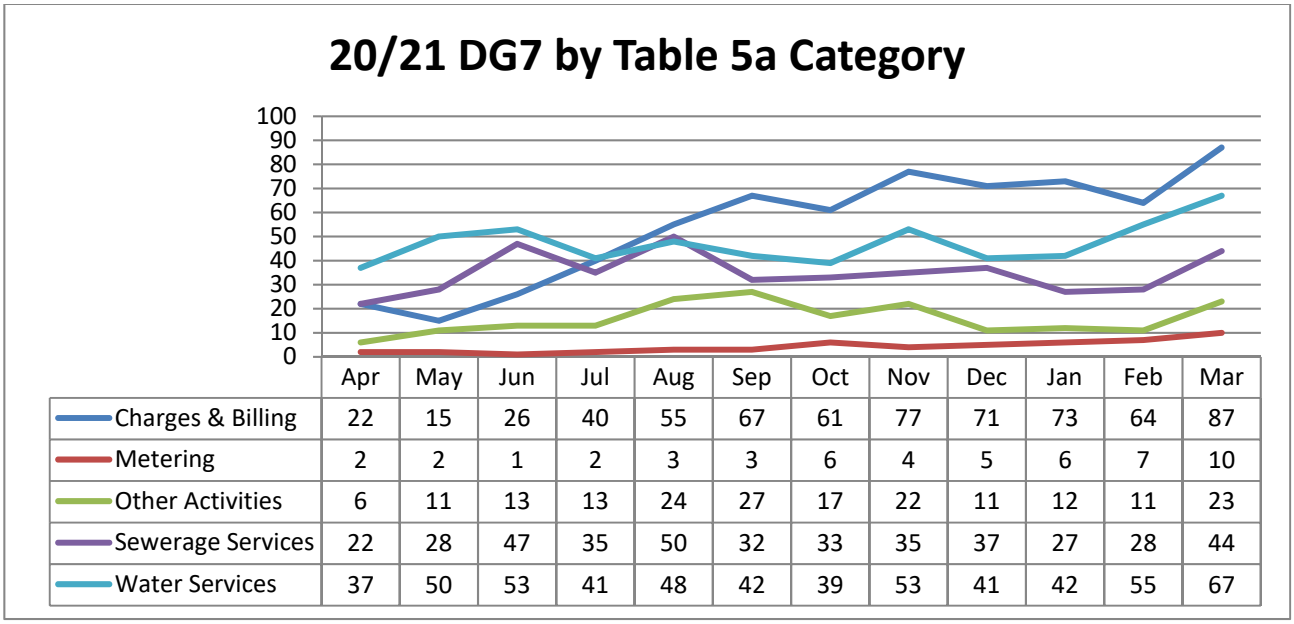
CUSTOMER COMPLAINTS DATA FOR CONSUMER COUNCIL FOR NORTHERN IRELAND (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**TOTAL WRITTEN COMPLAINTS**																				
1	Total written complaints	nr	0	3,173	B2	2,505	B2	2,364	B2	2,269	B2	2,375	B2	2,274	B2	2,133	B2	1,958	B2	1,885	B2
2	Number dealt with within 10 working days	nr	0	3,166	B2	2,498	B2	2,363	B2	2,266	B2	2,375	B2	2,271	B2	2,133	B2	1,957	B2	1,883	B2
3	Number dealt with in more than 20 working days	nr	0	1	B2	2	B2	0	A1	2	B2	0	B2	3	B2	0	B2	0	B2	1	B2
B	**CATEGORY OF WRITTEN COMPLAINTS**																				
	(i) Charges and Bills																				
4	Total written complaints about charging and billing issues	nr	0	1,567	B2	839	B2	906	B2	890	B2	935	B2	699	B2	815	B2	779	B2	658	B2
5	Total written complaints about charging and billing issues escalated to second stage review	nr	0	381	B2	149	B2	124	B2	92	B2	87	B2	72	B2	38	B2	60	B2	53	B2
	(ii) Water Service																				
6	Total written complaints about water service issues	nr	0	448	B2	552	B2	555	B2	505	B2	600	B2	616	B2	433	B2	436	B2	568	B2
7	Total written complaints about water service issues escalated to second stage review	nr	0	71	B2	52	B2	52	B2	33	B2	29	B2	51	B2	36	B2	23	B2	22	B2
	(iii) Sewerage Service																				
8	Total written complaints about sewerage service issues	nr	0	689	B2	493	B2	434	B2	487	B2	533	B2	579	B2	550	B2	454	B2	418	B2
9	Total written complaints about sewerage service issues escalated to second stage review	nr	0	82	B2	42	B2	31	B2	29	B2	43	B2	73	B2	128	B2	24	B2	13	B2
	(iv) Metering																				
10	Total written complaints about metering issues	nr	0	123	B2	133	B2	107	B2	104	B2	75	B2	91	B2	73	B2	73	B2	51	B2
11	Total written complaints about metering issues escalated to second stage review	nr	0	25	B2	28	B2	11	B2	4	B2	5	B2	9	B2	4	B2	8	B2	8	B2
	(v) Other activities																				
12	Total written complaints about other service issues or activities	nr	0	346	B2	488	B2	362	B2	283	B2	232	B2	289	B2	262	B2	216	B2	190	B2
13	Total written complaints about other service issues or activities escalated to second stage review	nr	0	82	B2	124	B2	51	B2	18	B2	14	B2	22	B2	19	B2	27	B2	5	B2
C	**OTHER CUSTOMER RESPONSE MEASURES**																				
14	Number of holding responses issued	nr	0	695	B4	351	B4	294	B4	413	B2	326	B4	286	B4	290	B4	211	B4	243	B4
15	Consumer Council investigations	nr	0	27	B2	40	B2	28	B2	34	B2	30	B2	23	B2	5	B2	10	B2	4	B2

Table 5a – DG7 Response to Written Complaints

DG7 Received Annual Profile & Explanation

The volume of DG7 complaints received each month during 20/21 by type is shown in the chart below.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Charges & Billing	22	15	26	40	55	67	61	77	71	73	64	87
Metering	2	2	1	2	3	3	6	4	5	6	7	10
Other Activities	6	11	13	13	24	27	17	22	11	12	11	23
Sewerage Services	22	28	47	35	50	32	33	35	37	27	28	44
Water Services	37	50	53	41	48	42	39	53	41	42	55	67

In line with previous years, those falling into the Charges & Billing Category remain the principal written complaint type. In 20/21, 35% of the total written complaints received fall into this category. This represents a 5% decrease in comparison to the previous reporting period.

The suspension of billing (April-June 2020) implemented by NI Water due to the COVID-19 global pandemic and mandatory lockdown was lifted at the start of July 2020. This atypical billing cycle during the reporting period resulted in the volumes of complaints being highest in Q3 and Q4. It is more common for the highest volume of Charges & Billing written complaints to be received in Q1 and Q2 following an annual unmeasured bill run in April and measured bills being issued throughout the year.

There were no key drivers or themes linked to billing or operational complaints identified during the reporting period.

Second Stage Complaints

Systems remained in place to enable the reporting of complaints escalated to second stage review throughout 20/21.

It should be noted that the associated data does not highlight instances of the same customers sending further complaints on the same issue following a second stage complaint. Second stage complaints have not been analysed to determine whether they would be deemed upheld or unjustified by the Company.

Sampling audits were performed throughout the year to ensure accuracy of categorisation.

Other Customer Measures

Monitoring systems remain in place to allow reporting of:

- the number and frequency of repeat complaints; and
- the number and frequency of holding responses.

Whilst there is no data line to report on repeat complaints, those complaints reported as having been escalated to second stage review could be interpreted as representing the number of repeat written complaints.

Monitoring systems have been in place throughout the reporting period to support reporting on the number holding responses issued throughout 20/21.

System-based report data was used to derive the number of holding responses issued between 01/04/20 and 31/03/21.

The figure reported in Line 14 is the total recorded number of holding responses issued to customers during 20/21 owing to pending investigations linked to open DG7 contacts which were received in 20/21. It does not include holding responses issued within 20/21 in relation to DG7 contacts received in the previous reporting year.

The reported figure does not represent the number of unique DG7 contacts for which one or more holding response was issued.

In cases where the investigations were ongoing by the expiry date of the initial holding response, a further holding response will have been issued.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 6A BAD DEBT

OUTSTANDING REVENUE AND BREAKDOWN OF CUSTOMER SERVICES OPERATING EXPENDITURE (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	REVENUE OUTSTANDING - MEASURED HOUSEHOLDS																				
	Lines 1 to 14 not used																				
B	REVENUE OUTSTANDING - UNMEASURED HOUSEHOLDS																				
	Lines 15 to 28 not used																				
C	REVENUE OUTSTANDING - MEASURED NON HOUSEHOLDS																				
29	Total revenue outstanding < 48 months (measured non households)	£m	3	7.972	A2	8.260	A2	8.739	A2	7.220	A2	7.305	A2	7.009	A2	6.112	A2	5.496	A2	6.175	A2
30	Number of measured non households with outstanding revenue < 48 months	nr	0	15,348	A2	14,570	A2	14,645	A2	17,091	A2	11,715	A2	11,517	A2	9,781	A2	11,102	A2	12,402	A2
31	Revenue outstanding < 3 months (measured non households)	£m	3	6.891	A2	7.189	A2	7.525	A2	5.530	A2	5.376	A2	5.611	A2	5.136	A2	4.862	A2	4.553	A2
32	Number of measured non households with outstanding revenue < 3 months	nr	0	10,588	A2	10,053	A2	10,415	A2	10,405	A2	7,992	A2	8,576	A2	7,310	A2	8,379	A2	8,645	A2
33	Revenue outstanding 3 - 12 months (measured non households)	£m	3	0.952	A2	0.928	A2	0.960	A2	0.758	A2	1.100	A2	0.629	A2	0.454	A2	0.359	A2	0.931	A2
34	Number of measured non households with outstanding revenue 3 - 12 months	nr	0	2,925	A2	3,108	A2	2,815	A2	4,889	A2	2,368	A2	1,906	A2	1,607	A2	1,762	A2	2,721	A2
35	Revenue outstanding 12 - 24 months (measured non households)	£m	3	0.012	A2	0.039	A2	0.088	A2	0.435	A2	0.446	A2	0.362	A2	0.163	A2	0.227	A2	0.493	A2
36	Number of measured non households with outstanding revenue 12 - 24 months	nr	0	1,049	A2	911	A2	992	A2	1,142	A2	922	A2	737	A2	573	A2	642	A2	815	A2
37	Revenue outstanding 24 - 36 months (measured non households)	£m	3	0.117	A2	0.104	A2	0.166	A2	0.497	A2	0.383	A2	0.407	A2	0.359	A2	0.048	A2	0.198	A2
38	Number of measured non households with outstanding revenue 24 - 36 months	nr	0	786	A2	498	A2	423	A2	656	A2	433	A2	298	A2	291	A2	319	A2	221	A2
39	Revenue outstanding 36 - 48 months (measured non households)	£m	3			0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	
40	Number of measured non households with outstanding revenue 36 - 48 months	nr	0			0		0		0		0		0		0		0		0	
41	Revenue outstanding > 48 months (measured non households)	£m	3			0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	
42	Number of measured non households with outstanding revenue > 48 months	nr	0			0		0		0		0		0		0		0		0	
D	REVENUE OUTSTANDING - UNMEASURED NON HOUSEHOLDS																				
43	Total revenue outstanding < 48 months (unmeasured non households)	£m	3	0.402	A2	2.627	A2	2.566	A2	2.604	A2	2.647	A2	2.600	A2	2.650	A2	2.870	A2	3.016	A2
44	Number of unmeasured non households with outstanding revenue < 48 months	nr	0	1,542	A2	10,114	A2	9,302	A2	9,664	A2	8,881	A2	8,679	A2	8,262	A2	8,974	A2	8,512	A2
45	Revenue outstanding <3 months (unmeasured non households)	£m	3	0.111	A2	2.349	A2	2.350	A2	2.282	A2	2.351	A2	2.211	A2	2.237	A2	2.552	A2	2.550	A2
46	Number of unmeasured non households with outstanding revenue < 3 months	nr	0	155	A2	8,826	A2	8,591	A2	8,224	A2	8,102	A2	8,056	A2	7,650	A2	8,160	A2	7,236	A2
47	Revenue outstanding 3 -12 months (unmeasured non households)	£m	3	0.025	A2	0.165	A2	0.070	A2	0.154	A2	0.132	A2	0.203	A2	0.142	A2	0.085	A2	0.157	A2
48	Number of unmeasured non households with outstanding revenue 3 - 12 months	nr	0	256	A2	697	A2	195	A2	190	A2	256	A2	160	A2	177	A2	217	A2	443	A2
49	Revenue outstanding 12-24 months (unmeasured non households)	£m	3	0.241	A2	0.005	A2	0.116	A2	0.113	A2	0.116	A2	0.126	A2	0.165	A2	0.170	A2	0.193	A2
50	Number unmeasured non households with outstanding revenue 12 - 24 months	nr	0	894	A2	184	A2	448	A2	662	A2	366	A2	326	A2	316	A2	435	A2	646	A2
51	Revenue outstanding 24-36 months (unmeasured non households)	£m	3	0.025	A2	0.108	A2	0.030	A2	0.055	A2	0.048	A2	0.060	A2	0.106	A2	0.063	A2	0.116	A2
52	Number of unmeasured non households with outstanding revenue 24 - 36 months	nr	0	237	A2	407	A2	68	A2	588	A2	157	A2	137	A2	119	A2	162	A2	187	A2
53	Revenue outstanding 36 -48 months (unmeasured non households)	£m	3			0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	
54	Number of unmeasured non households with outstanding revenue 36 - 48 months	nr	0			0		0		0		0		0		0		0		0	
55	Revenue outstanding >48 months (unmeasured non households)	£m	3			0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	
56	Number of unmeasured non households with outstanding revenue > 48 months	nr	0			0		0		0		0		0		0		0		0	
E	REVENUE WRITTEN OFF																				
57	Amount of revenue written off from measured households	£m	3																		
57a	Amount of revenue written off from measured non-households	£m	3	1.094	A2	0.844	A2	0.666	A2	1.237	A2	0.341	A2	0.474	A2	0.442	A2	0.290	A2	0.501	A2
58	Amount of revenue written off from unmeasured households	£m	3																		
58a	Amount of revenue written off from unmeasured non-households	£m	3	0.173	A2	0.094	A2	0.110	A2	0.083	A2	0.045	A2	0.056	A2	0.051	A2	0.042	A2	0.065	A2
F	CUSTOMER SERVICES OPERATING EXPENDITURE																				
59	General customer services operating expenditure Total	£m	3	6.418	A2	6.767	A2	6.284	A2	6.337	A2	6.898	A2	6.453	A2	6.806	A2	8.014	A2	8.183	A2
i	Employment costs	£m	3	3.673	A2	3.408	A2	3.188	A2	3.501	A2	3.972	A2	3.933	A2	4.196	A2	4.858	A2	5.154	A2
ii	Hired and contracted costs	£m	3	3.139	A2	3.392	A2	3.188	A2	3.018	A2	2.876	A2	2.593	A2	2.770	A2	3.142	A2	2.892	A2
iii	Other	£m	3	0.611	A2	0.739	A2	0.819	A2	0.738	A2	0.985	A2	0.951	A2	0.906	A2	1.040	A2	1.251	A2
iv	Adjustments	£m	3	-1.005	B3	-0.772	B3	-0.911	B3	-0.920	B3	-0.935	A2	-1.024	A2	-1.066	A2	-1.026	A2	-1.114	A2
60	Outstanding revenue collection operating expenditure (households)	£m	3																		
60a	Outstanding revenue collection operating expenditure (non households)	£m	3	2.118	DX	2.269	DX	2.242	DX	1.934	DX	1.950	A2	2.098	A2	2.215	A2	2.234	A2	2.169	A2
61	Donations to charitable trusts assisting customers in debt (households)	£m	3																		
62	Operating expenditure due to vulnerable household customers	£m	3																		
63	Total customer services operating expenditure	£m	3	8.536	A2	9.036	A2	8.526	A2	8.271	A2	8.848	A2	8.551	A2	9.021	A2	10.248	A2	10.352	A2

Table 6a – Bad Debt

Overview

The company operates a partnership with an external service provider (Echo) for customer contact and billing. Customer Services Delivery Directorate works closely with the supplier on all billing matters including debt recovery, designations of customers for write off of debt and estimation of the level of bad debt provisioning to be put in place for potential future write-offs.

The service provider furnishes monthly information for non-domestic measured water and trade effluent income, cash, write-offs, VAT and closing debtor balances to the company from the billing system (RapidXtra). This information is used to produce the monthly management accounts. The figures in Table 6a are derived from this information.

The figures contained within the table are clarified below:

Box A – Revenue Outstanding – Measured Households

For the year ended 31 March 2021 NI Water had no actual revenue from households as this is received by way of a subsidy from Department for Infrastructure ("DfI"). There was £1.40m due to NIW from DfI for subsidy at 31 March 2021. This figure varies to the Statutory Accounts as Septic Tank subsidy is not reported in AIR as it is classified as non-appointed income in the Regulatory accounts.

Box B – Revenue Outstanding – Unmeasured Households

As above, income is received by way of a subsidy from DfI.

Box C – Revenue Outstanding – Measured Non-Households

Revenue outstanding from non-households is the amount of revenue relating to measured water, measured sewerage and trade effluent charges that had been billed in the year but not collected at 31 March 2021.

At 31 March 2021 the closing trade debtor balance was £6.175m. Trade Debtors decreased this year largely due to the settlement of outstanding billing queries.

The debtor balance reported figure is made up of various GL codes and is calculated as measured water and sewerage debtors (including Trade Effluent debtors) less unreconciled receipts, bad debt provision and provision for discount. The bad debt provision is £3.246m and is made up of the following:

- £0.160m for debt over 4 years
- £0.118m for debt 3 - 4 years
- £0.272m for debt 2 – 3 years
- £0.617m for debt 1 – 2 years
- £1.163m for debt 90 – 365 days
- £0.916m for debt less than 90 days

There is one GL code for measured water and sewerage debtors. At year end the GL debtor balance (gross of credit balances) was approx. £2.0m less than the detailed debtors listing provided by Echo. This was due to the following:

- Future system adjustments (£1.6m)
- Other adjustments (£0.4m)

Summary of all relevant rows for Section C

Row 29 – Total Revenue Outstanding < 48 months - Measured Non Households

The total amount of revenue at the end of 2020/21 outstanding from measured non households for less than 48 months. Balance as at 31 March 2021 was £6.175m.

Row 30 – Number of Measured Non-Households with Outstanding Revenue < 48 months

The number of measured non households with revenue outstanding for less than 48 months at 31 March 2021 was 12,402. The number of households has been adjusted in line with the decrease in debtors taking account of anticipated future system adjustments and other adjustments of £2.0m. The £2.0m is approximately 14% of total outstanding debtors at 31 March 2021 of £14.6m. An assumption was made to apply a 14% reduction across all measured revenue age groups up to 36 months.

Row 31 – Revenue Outstanding < 3 months - Measured Non Households

The total amount of revenue at the end of 2020/21 that has been outstanding from measured non households for less than 3 months. Balance as at 31 March 2021 was £4.553m.

Row 32 – Number of Measured Non-Households with Outstanding Revenue < 3 months

The number of measured non households at end of 2020/21, with revenue outstanding for less than 3 months. As at 31 March 2021 this totalled 8,645.

Row 33 – Revenue Outstanding 3-12 months - Measured Non Households

The total amount of revenue at the end of 2020/21 that has been outstanding from measured non households for at least 3 months but less than 12 months. Balance as at 31 March 2021 was £0.931m.

Row 34 – Number of Measured Non-Households with Outstanding Revenue 3-12 months

The number of measured non households at end of 2020/21 with revenue that has been outstanding for at least 3 months but less than 12 months. At 31 March 2021 this totalled 2,721.

Row 35 – Total Revenue Outstanding 12-24 months - Measured Non Households

The total amount of revenue at the end of 2020/21 outstanding from measured non households for at least 12 months but less than 24 months. At 31 March 2021 this totalled £0.493m.

Row 36 – Number of Measured Non-Households with Outstanding Revenue 12-24 months

The number of measured non households at end of 2020/21 with revenue that has been outstanding for at least 12 months but less than 24 months. At 31 March 2021 this totalled 815.

Row 37 – Total Revenue Outstanding 24-36 months - Measured Non Households

The total amount of revenue at the end of 2020/21 outstanding from measured non households for at least 24 months but less than 36 months. At 31 March 2021 this totalled £0.198m.

Row 38 – Number of Measured Non-Households with Outstanding Revenue 24-36 months

The number of measured non households at end of 2020/21 with revenue that has been outstanding for at least 24 months but less than 36 months. At 31 March 2021 this totalled 221.

Row 39 – Number of Measured Non-Households with Outstanding Revenue 36-48 months

The number of measured non households at end of 2020/21 with revenue that has been outstanding for at least 36 months but less than 48 months.

Once the bad debt provision is applied there are no debtors greater than 36 months. Therefore at 31 March 2021 this row and all remaining rows in box C are zero.

Box D – Revenue Outstanding – Unmeasured Non-Households

Revenue outstanding from non-households is the amount of revenue relating to unmeasured water and sewerage charges that had been billed in the year but not collected at 31 March 2021.

- At 31 March 2021 the closing trade debtor balance was £3.016m (31 March 2020, £2.870m).

The debtor balance reported figure is made up of unmeasured water and sewerage debtors less bad debt provision. The bad debt provision is £0.205m and is made up of the following:

- £0.010m for debt over 4 years
- £0.007m for debt 3 - 4 years
- £0.017m for debt 2 – 3 years
- £0.039m for debt 1 – 2 years
- £0.074m for debt 90 – 365 days
- £0.058m for debt less than 90 days

Summary of all relevant rows for Section D

Row 43 – Total Revenue Outstanding < 48 months - Unmeasured Non Households

The total amount of revenue at the end of 2020/21 outstanding from unmeasured non households for less than 48 months. Balance at 31 March 2021 was £3.016m.

Row 44 – Numbers of Unmeasured Non-Households with Outstanding Revenue < 48 months

The number of unmeasured non households at the end of 2020/21 with revenue that has been outstanding for less than 48 months. Total at 31 March 2021 was 8,512.

Row 45 – Revenue Outstanding < 3 months - Unmeasured Non Households

The total amount of revenue at the end of 2020/21 outstanding from unmeasured non households for less than 3 months. Balance at 31 March 2021 was £2.550m.

Row 46 – Numbers of Unmeasured Non-Households with Outstanding Revenue < 3 months

The number of unmeasured non households at the end of 2020/21 with revenue outstanding for less than 3 months. Total at 31 March 2021 was 7,236.

Row 47 – Revenue Outstanding 3-12 months - Unmeasured Non Households

The total amount of revenue at the end of 2020/21 outstanding from unmeasured non households for at least 3 months but less than 12 months. Balance at 31 March 2021 was £0.157m.

Row 48 – Numbers of Unmeasured Non-Households with Outstanding Revenue 3-12 months

The number of unmeasured non households at end of 2020/21 with revenue outstanding for at least 3 months but less than 12 months. Total at 31 March 2021 was 443.

Row 49 – Revenue Outstanding 12-24 months - Unmeasured Non Households

The total amount of revenue at the end of 2020/21 outstanding from unmeasured non households for at least 12 months but less than 24 months. Balance at 31 March 2021 was £0.193m.

Row 50 – Numbers of Unmeasured Non-Households with Outstanding Revenue 12-24 months

The number of unmeasured non households at end of 2020/21 with revenue outstanding for at least 12 months but less than 24 months. Total at 31 March 2021 was 646.

Row 51 – Revenue Outstanding 24-36 months - Unmeasured Non Households

The total amount of revenue at the end of 2020/21 outstanding from unmeasured non households for at least 24 months but less than 36 months. Balance at 31 March 2021 was £0.116m.

Row 52 – Numbers of Unmeasured Non-Households with Outstanding Revenue 24-36 months

The number of unmeasured non households at end of 2020/21 with revenue outstanding for at least 24 months but less than 36 months. Total at 31 March 2021 was 187.

Row 53 – Revenue Outstanding 36-48 months - Unmeasured Non Households

The total amount of revenue at the end of 2020/21 outstanding from unmeasured non households for at least 36 months but less than 48 months.

Once the bad debt provision is applied there are no debtors greater than 36 months. Therefore at 31 March 2021 this row and all remaining rows in box D are zero.

Box E – Revenue Written Off

Bad debt write-offs

The bad debt write off policy is detailed below. As with all other customer data the company receives monthly figures for bad debt write-offs. The figure for the year is £0.566m (2019/20, £0.332m).

Authorisation of bad debt write-off

With regard to writing off bad debts the service provider has authorisation to write off in accordance with the financial delegations.

Authorisation approval levels are as follows:

Delegation Limits [By Item]	Recommendation from (External service provider)	Approval required Grade (Internal)	DoF/DfI * (External)
Value			N/A
Up to £100	Agent	Billing, Revenue & Collection Manager L4.	
>£100 to £1,000	Team Manager		
>£1,000 to £5,000	Service Delivery Manager		
>£5,000 to £10,000	Head of Service Delivery	Billing, Revenue & Collections Senior Manager L3	
>£10,000 to £50,000		Director of Customer Service Delivery L2	
>£50,000		Chief Executive	
> £250,000	N/A	Board	>£500k

* All submissions for external approval must be submitted through F&R to the DfI SU.

Revenue written off is revenue relating to non-household water and sewerage charges along with any trade effluent charges that have been written off in the year.

Revenue written off only includes water, sewerage and trade effluent charges and does not include court costs or other items included.

NI Water uses a third party contractor to manage their debtors and a Debt Management Strategy was drawn up for Echo use to guide their actions and decisions.

Summary of all relevant rows for Section E

Row 57 – Measured Households

As NI Water receives no revenue from households, there was no revenue written off from measured households.

Row 57a – Measured Non-Households

Bad debts written off are calculated on a monthly basis and include trade effluent. The total for 2020/21 was £0.501m (2019/20, £0.290).

Row 58 – Unmeasured Households

As NI Water receives no revenue from households, there was no revenue written off from unmeasured households.

Row 58a – Unmeasured Non-Households

Bad debts written off are calculated on a monthly basis. The total for 2020/21 was £0.065m (2019/20, £0.042m).

Bad Debt provisioning

The methodology for calculating the bad debt provision is based on an analysis of industry specific bad debt which banded specific industry types as high, medium or low risk in terms of collectability of debt. Percentages were then applied in terms of bad debt provision. Percentages for ‘high risk’ were set at an increased level and percentages for ‘low risk’ at a reduced level. To recognise the risk arising to certain businesses from the COVID-19 pandemic, the risk model in the current environment required inclusion of a ‘very high’ risk classification. NI Water’s bad debt provision is calculated as follows:

PROVISION	0-30 Days	31-60 Days	61-90 Days	91-120 Days	121-150 Days	151-180 Days	181-365 Days	1-2 years	2-3 years	3-4 years	4 + years
Very High	40%	40%	55%	55%	70%	100%	100%	100%	100%	100%	100%
High	20%	20%	35%	35%	50%	80%	95%	100%	100%	100%	100%
Medium	2%	2%	2%	2%	20%	35%	65%	100%	100%	100%	100%
Low	1%	1%	1%	1%	10%	20%	30%	50%	75%	100%	100%

Allocation of Very High, High, Medium and Low

A review of the total debtors (debit balances) was carried out in January 2021. Account balance and aged debt taken into consideration when applying risk of default. Data was filtered by VAT SIC code.

Assumptions / Considerations were made in the context of the Covid-19 pandemic - 3 lockdowns during this financial year followed by several months of partial restrictions and the resultant unprecedented socio-economic impact. Risk model in the current environment requires continued inclusion of a 'very high' risk classification. Approx. 4.7m UK employees are on the government's furlough scheme with uncertainty on when this measure will end. UK Government borrowing for this financial year has reached £271bn which is £222bn more than a year ago. The impact of the pandemic has been felt most by companies and workers in the hospitality, leisure, arts and entertainment sectors, as well as in travel, retail and close-contact services, where physical distancing and the shift to online sales during the crisis has cost thousands of workers their jobs.

The VAT code in tandem with past payment behaviours, legal recovery status, aged debt profile, NI/RoI cross-border trading and various issues/disputes raised via repeat customer contact were all considered when allocating the risk category.

VAT code:

0 Agriculture/Forestry & Fishing – agri-food crisis due to repeat closures of food service sector and anticipated market disruption with issues linked to food production lines | on-going Brexit uncertainty.

1 Energy & Water Supply – changes to supply chains and restricted workforce mobility | contraction in cash liquidity.

2 Extraction of Minerals & Ores – supply chain uncertainty and restricted workforce mobility | operational disruption | implementation of employees' safe social distancing | on-going Brexit uncertainty.

3 Metal Goods and Engineering – production interruption | adjusted production lines | supply chain disruptions | significant drop in market demand | high govt. job retention scheme uptake and staff furlough measures | on-going Brexit uncertainty.

4 Other manufacturing – production interruption | adjusted production lines | supply chain disruptions | significant drop in market demand | high govt. job retention scheme uptake and staff furlough measures | on-going Brexit uncertainty.

5 Construction – redirection of public investment | shelving of public/private sector infrastructure projects | disruption to complex material supply chains | implementation of employees' safe social distancing | high govt. job retention scheme uptake and staff furlough measures | on-going Brexit uncertainty.

6 Distribution/Hotel/Catering – 3 x periods of total shutdown of retail (with exception of essential items) and hospitality sectors | predicted 0.5m job losses in UK hospitality and tourism sector | mass lay-offs in NI already seen | multiple high street retailers operating in an already vulnerable state (due to online channels) predicted to enter administration | uncertainty re potential easing of travel restrictions and social distancing measures | high govt. job retention scheme uptake and staff furlough measures | on-going Brexit uncertainty.

7 Transport & Communication – non-essential travel prohibited during 3 lockdowns | airline fleets grounded and ports closed to all except freight transport | on-going Brexit uncertainty.
8 Banking/Finance/Insurance – exposure to negative impact of Covid-19 dependent on length of lockdowns, travel restrictions, etc. | time-bound capital and liquidity buffers | risk profiling of customers likely to intensify.

9 Other services – health trusts / councils / local govt. agencies all operating under very high pressure | implementation of employees' safe social distancing | delays expected.

Reduction in Provision
NIW provides against aged debt through the bad debt provision, applying a methodology based on age profile and industry. It is recognised that a proportion of the old debt will not in fact be written off as bad debt but will be eliminated via negative system adjustments and thus be a reduction in income rather than a bad debt expense.

Using the monthly analysis of system adjustments carried out, an estimate of the future system adjustments was made for measured water and measured sewerage only. This was done on the basis of the adjustments in previous months, resulting in an estimate of £1m of future system adjustments.

Bad Debt Provision Summary
The following is a summary of the bad debt provision at 31 March 2021 and 31 March 2020:

	2021	**2020**
	£m	**£m**
Measured water & sewerage	2.803	1.777
Unmeasured water & sewerage	0.205	0.139
Trade effluent	0.443	0.346
Total	**3.451**	**2.262**

Subsidy
NI Water received £291.5m subsidy in relation to household customers in 2020/21 with nothing outstanding from DfI at 31 March 2021.

NI Water received £17.895m subsidy in relation to non-household customers and at 31 March 2021 an amount of £1.400m was outstanding from DfI. The total subsidy for non-households for the year ended 31 March 2021 was £19.295m. This figure varies to the Statutory Accounts as Septic Tank subsidy is not reported in AIR as it is classified as non-appointed income in the Regulatory accounts.

Lines 59 to 63 – Customer Services Operating Expenditure

Line 59 – General customer services operating expenditure

The line 59 total of £8.183m in AIR21 is a £0.17m increase (2.11%) against the costs of £8.014m in AIR20. This arises for the following reasons:

- Employment costs (increase of £0.29m (6%)).
- Hired and contracted costs (decrease of £0.25m (8%)).
- Other costs (increase of £0.21m (20%)).

Line 60 – Outstanding revenue collection operating expenditure (households)

As NI Water has no actual revenue from households, there is no revenue outstanding from households and therefore no operating expenditure for outstanding revenue collection.

Line 60a – Outstanding revenue collection operating expenditure (non-households)

The calculation of this figure was based on the split of the Gross Service Charge from Echo (Northern Ireland) Ltd. In addition, an estimate of some internal NIW collection costs was included.

Line 61 – Donations to charitable trusts assisting customers in debt (households):

There were no donations to charitable trusts assisting customers in debt in the year.

Line 62 – Operating expenditure due to vulnerable household customers

Household customers in Northern Ireland currently do not pay for water and sewerage services; therefore, NI Water issues no bills to ‘vulnerable household customers’.

Line 63 – Total customer services operating expenditure

This agrees to the total of table 21, line 13 and table 22, line 12.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 7 NON FINANCIAL MEASURES
WATER PROPERTIES & POPULATION (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	PROPERTIES																				
1	Household properties connected during the year	000	3	4.154	B2	3.611	B2	4.224	B2	5.461	B2	6.327	B2	7.267	B2	6.859	B2	5.776	B2	6.609	B2
2	Non-household properties connected during the year	000	3	0.195	B2	0.204	B2	0.26	B2	0.366	B2	0.319	B2	0.349	B2	0.397	B2	0.308	B2	0.389	B2
B	BILLING																				
3	Households billed unmeasured water	000	3	681.095	A2	688.832	B2	694.934	A2	703.772	A2	717.015	A2	729.388	A2	740.316	A2	750.207	A2	758.367	A2
4	Households billed measured water (external meter)	000	3	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1
5	Households billed measured water (not external meter)	000	3	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1
6	Households billed water	000	3	681.095	A2	688.832	B2	694.934	A2	703.772	A2	717.015	A2	729.388	A2	740.316	A2	750.207	A2	758.367	A2
7	Household properties (water supply area)	000	3	721.698	A2	729.182	B2	734.976	A2	743.090	A2	755.769	A2	767.888	A2	778.923	A2	788.789	A2	797.015	A2
8	Non-households billed unmeasured water	000	3	10.896	A2	10.271	A2	9.589	A2	8.861	A2	8.602	A2	8.623	A2	8.613	A2	8.731	A2	8.719	A2
9	Non-households billed measured water	000	3	69.158	A2	69.567	A2	69.645	A2	69.813	A2	70.150	A2	70.417	A2	70.771	A2	71.145	A2	71.741	A2
10	Non-households billed water	000	3	80.054	A2	79.838	A2	79.234	A2	78.674	A2	78.751	A2	79.040	A2	79.384	A2	79.876	A2	80.460	A2
11	Non-household properties (water supply area)	000	3	92.466	A2	92.286	A2	91.541	A2	90.796	A2	90.286	A2	89.806	A2	89.725	A2	90.077	A2	91.152	A2
12	Void properties	000	3	53.015	A2	52.798	B2	52.350	A2	51.439	A2	50.288	A2	49.266	A2	48.949	A2	48.783	A2	49.340	A2
C	POPULATION																				
13	Population - households billed unmeasured water	000	2	1,709.66	B2	1,718.73	B2	1,731.65	B2	1,747.72	B2	1,759.07	B2	1,766.56	B2	1,771.85	B2	1,784.60	B2	1,793.59	B2
14	Population - households billed measured water	000	2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
15	Population - non-households billed unmeasured water	000	2	7.11	B3	6.78	B3	6.49	B3	4.47	B3	4.40	B3	4.44	B3	4.19	B3	4.25	B3	4.24	B3
16	Population - non-households billed measured water	000	2	102.7	B3	102.28	B3	102.4	B3	98.08	B3	98.11	B3	98.17	B3	97.10	B3	97.45	B3	98.04	B3
17	Population - total	000	2	1,819.47	B2	1,827.79	B2	1,840.54	B2	1,850.27	B2	1,861.58	B2	1,869.17	B2	1,873.14	B2	1,886.30	B2	1,895.87	B2

Table 7 – Water Properties and Population

Introduction

Table 7 focuses on the number of properties and population connected to the public water supply system. It extends to 17 lines, set out in three blocks:

- Block A Properties (Lines 1 & 2). Reports properties connected during the year.
- Block B Billing (Lines 3-12). Includes a breakdown of all measured and unmeasured household and non-household properties billed by the company. The property numbers should be the average for the reporting year.
- Block C Population (Lines 13-17). This records the population within each of the measured and unmeasured household and non-household categories. The population numbers should be the average for the reporting year.

In keeping with the Utility Regulator guidance, lines 6, 10 and 17 are calculated lines, being the sum of their equivalent lines within the table. The CSD Services - MI & Data Team complete Blocks A & B, whilst Leakage DMU complete Block C.

The information in this table is used in a number of core corporate calculations such as the water balance calculation and in tariff, charging analysis and determination (water delivered unit cost).

Data Sources, Data Validation and Data Quality

NI Water's data on property counts and classifications is reported monthly from RapidXtra within the Rapid Property Summary (RPS). The data is extracted from the Diamond Warehouse via Microsoft SQL Server to produce the RPS report.

Our AIR21 methodology has remained consistent with previous years – using the automated Property Model tool to populate Table 7 figures (this was first introduced in AIR12 – the RPS as the input).

The RPS provides us with a snapshot at the end of each month in terms of net movement; however it alone does not support in the explanation of gross movements within the data. The plan is to further enhance the Power BI property models and incorporate these models across the business during 2021/22.
Customer/Property information is updated through:

- BAU ('business as usual') customer contacts, such as new connection requests, customer move in/move outs, or
- through Data Quality initiatives/Projects, and/or
- Metering work streams e.g. UNHH (Selectives), Optants, and Proactive Meter Exchange etc.

Under the Water & Sewerage Services (2006) Order, NI Water were required to install meters on all new household connections from April 2007. This practice has stopped as directed by a change in legislation, which took effect in July 2016. The legislation was amended by Regulations, which in effect relieved NI Water of the obligation to install meters at newly connected domestic properties. As domestic customers are not charged on a measured basis, the property is reported as unmeasured. Some domestic properties were initially reported as measured in AIR10 but this was rectified as per the erratum to AIR10. Depending on the basis for charging when domestic billing is introduced, these customers can be activated as measured household if required.

As per Utility Regulator guidelines, farms were reclassified as billed non-households for AIR09. This classification remains for AIR21 and farms are included in the billed non-households. In AIR08, farms were classified and reported as 'billed' households; on the principle of their status and allocation of 'domestic allowance'.

Data on population continues to be obtained from Northern Ireland Statistics and Research Agency (NISRA), adjusted for the winter months based on information published by the Department for Economy (DFE) and the Central Statistics Office (CSO), Ireland.

The difference between the AIR20 and the AIR21 properties can be explained as follows:

1. New Connections during the 2020/21 reporting year. The figures are based on data supplied by our Customer Connections Team and represent completed connections during the reporting year. The projections for New Connections remain in line with the agreed PC15 forecasts, however we have noted a downturn and will review mid-year (during the draft Principle Statement) to ascertain if projections should be changed.
2. Added as a result of a customer contact. I.e. septic tank empty request, no water complaint, blocked sewer, updating of standing data e.g. removal of services etc. Within this category there are 2 scenarios:
    (a) The adding of properties NI Water allegedly did not know about
    (b) The adding of duplicates as the customer's address could not be found on Rapid. Rapid may hold the site number but when the customer contacts NI Water, they quote the verified postal address, which is different, therefore creating a duplicate. The street name may also have changed from the time of New Connection to that of customer contact (street names can change in the early stages of site development).
3. Removal/reclassification of properties as a result of data quality initiatives/projects
    a. Duplicate properties
    b. Reclassification of properties that were recorded in error
4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

For NI Water, accurate property data is fundamental for many systems and processes, including customer service, metering, billing, consumption, leakage and Major Incident Planning & Response. The Rapid Customer Contact System contains the master property data for NI Water.

As Data Owner for Property Standing Data, The Head of CSD Services is responsible for the property standing data held by NI Water; this is monitored and managed through the Property Information Group (PIG). The CSD Services MI & Data Team chair this group.

The role of PIG is to ensure that there is appropriate governance, controls and reporting for changes made to core data on the system. As Property Data Owners, we need to ensure the processes around creation, maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. Control is key for us; as such we have identified the systems, processes and people using property information across the business, alongside confirming data accuracy and endeavouring to reduce the opportunities for erroneous data entry and creation (such as the inability to recreate demolished properties or duplicate properties).

The issues under consideration were identified as of corporate relevance, therefore to ensure appropriate direction and governance the PIG was formalised. Key objectives include:

1. To agree a single consistent source of property data.
2. To ensure the source property data represents accurate, up-to-date information appropriate for use by the business.
    a. To understand and agree data primacy in respect of data updates from NI Water and external (Land & Property Services - LPS) sources
    b. To ensure the processes around creation (i.e. New Connections), maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. i.e. through CBC Data Validation (Phase 1, Phase 2, Phase 3, 105 Days DV)
    c. To co-ordinate property reconciliations between NI Water & external sources i.e. Data Sharing Agreements between NI Water & LPS, NI Water & Belfast City Council (BCC) etc. and understand the reasons and validity of any differences
    d. To understand and ensure the adequacy of long term procedures for database maintenance, including the updating of data standards and associated CDE M&M Plans
3. To ensure the reporting requirements for the business are met relating to data held on Rapid, particularly, but not exclusively, in respect of tariffs, leakage, Annual Information Returns (AIR) & Principle Statement (PS) returns.
4. Challenge the data in the areas of
    a. Data categorisation & structure
    b. Data robustness – i.e. where is our data good and where is there opportunity for improvement? Identify projects that could aid improvement
    c. Data alignment – both internally and externally. Internally between systems such as Rapid, Ellipse, GIS, Diamond, Netbase, IMS etc. Externally through data reconciliations, such as LPS above.
5. To agree measures to improve the quality and integrity of the data, particularly the key CDEs as monitored by IMU
6. To agree the content and frequency of reports required by NI Water.
7. To agree the quality checking criteria for the above data and reporting and develop a Quality Plan including the determination of responsibilities and audit trails.
8. To produce & circulate an ‘operate and maintain’ programme for property data to the business.

The COVID 19 pandemic has caused delays to our 20/21 plans, however our aim for 2021/22 remains the same with continued focus for PIG including analysis and action on:

- Volume of properties coming onto the Rapid billing system on a monthly basis
    - new connections
    - customer contact
    - project work
- Volume of properties coming off the Rapid billing system (demolished)
    - sample check to ensure reason for demolition has been noted and on system audit trail recorded
- Volume of properties amended on the Rapid billing system
    - In particular, address fields -> building number, street name, town and postcode
    - sampling to identify if the data changes are data improvement or data regression
    - if data regression, further analysis into the process is undertaken

- Review of access privileges
    - Rapid audit
    - Through monthly audit samples
    - Internal CRs require sign off from PIG as BAU
    - Working with Echo to review access privileges on an ongoing basis
- Interruptions to supply notices – returned mail
    - This returned mail was brought to the attention of LPS and include properties that LPS have classified as live properties despite being returned as 'no such address' etc.
    - The 2 way communication with LPS will help underpin our governance work and provide direction to the business on practices

The PIG Strategy for 2021/22 will include the following:

- New Connections - A push to move to on-system reporting following the Business Improvement New Connections Review
- Further use of PowerBI – We currently use Power BI to create and issue the monthly Rapid Property Summary (RPS) and will continue to explore the use of Power BI in other aspects of our property work throughout 2021/22
- Rapid-POINTER Reconciliation - follow on actions to be worked through and benefits realised. i.e. Uploading of UPRNs from POINTER where a property can move from an A match to an A* match
- Continued monitoring of data alignment between systems – Rapid and Ellipse, GIS, Netbase, Diamond, IMS etc.
- Smart Cities (Belfast City Council Rates Maximisation Project) – Ongoing data sharing project that commenced in August 19
- Continuation of the 2 way communication with LPS - This will help underpin our governance work and provide direction to the business on practices that will work alongside LPS
- Student Accommodation – further case studies on student accommodation re-development sites. Liaise with Belfast City Council to understand at what stage they can inform NI Water of properties that are to be re-developed as student accommodation.
- Test Meters – monitor numbers of 'retain for review' meters
- Properties with 'no water supply' (no water/well water) – review and validate on a monthly basis

Summary

As Table 7 is based on averages, please find summary table below for 'End March 20' and 'End March 21'. The '1st Dec 2020' are actuals used in the Principal Statement and Tariff Setting process.

Property Numbers	March 2020	1st Dec 2020	March 2021	Expected Movement
Unmeasured Water Household	754648	759588	762085	Increase
Unmeasured Water Non-Household	8839	8656	8599	Decrease
Measured Water Non-Household	71296	71858	72186	Increase
Voids	48640	49098	50040	Currently no trend
Total	**883,423**	**889,200**	**892,910**	**Increase**

No Water/Well Water

No Water/Well Water and demolished properties are not included in the Table 7 property count; however their exclusion does not impact on the number of reported 'supplied' properties.

Not all properties are connected to the public water supply system, but some will have a septic tank and will look to NI Water to avail of the free annual septic tank desludging service.

During 20/21 the household no water/well water category increased by 214 and the non-household have increased by 754. Throughout 20/21, the CSD Services MI & Data Team will continue to sample check the No Water/Well Water category to ensure these properties are truly not connected for water.

The Metering & Billing Project are on some occasions adding properties that are not connected for water - this project is due to run until 2020. We are currently reviewing this category to ascertain if it would be worthwhile separating the 'No Water' properties from the 'Well Water' properties.

Site Metered Properties

As part of ongoing data checks, NI Water has been confirming the number of site-metered properties, which are multiple properties being charged through a single meter, such as business parks and industrial estates.

To ensure that these properties are not double counted, they are not included in Table 7 non-domestic property counts (although NI Water retain this information for customer record and charging purposes).

There are 3727 domestic properties (an increase of 708 during 20/21) classified as site meters and there will be further investigation and analysis to be completed during 2021/22 to ensure these are classified correctly. As above, the output of the Metering & Billing project can result in additional site metered properties being added to Rapid.

Overall, the number of non-domestic site meters has decreased by circa 480 during 2020/21. This is as a result of categorisation movements in year such as measured water to site meter and unmeasured water to site meter and also the resulting work of Metering & Billing project as detailed above.

Unmeasured Not Charged Properties

From the RPS, there are deemed to be 671 (gross) non-domestic 'unmeasured – not charged' properties which (based on sample taken) are mostly NI Water properties. The CSD Services MI & Data Team are currently investigating any 'unmeasured – not charged' properties outside of NI Water ownership to ensure they are classified correctly.

Unmeasured Household Property Movement

The table below provides a reconciliation of the reporting year property movements and resulting property numbers. It sets out how the properties have changed over the reporting year, due mainly to new connections, alongside some movement in the occupancy status. Note: these reported figures include domestic properties that are metered but as NI Water does not bill households for water, they are reported as unmeasured.

Property Numbers	March 2020	1st Dec 2020	March 2021
Unmeasured Water Gross Household (L7 year-end sub calc)	793118	798337	800911
Unmeasured Water Occupied Household (L3 year-end sub calc)	754648	759588	762085
Unmeasured Water Voids Household	38470	38749	38826

Household Voids	Voids	Difference (in-year)
March 2021	38826	(+) 356
March 2020	38470	(-) 224
March 2019	38694	

Measured Household Property Movement

Due to the deferral of domestic charging, NI Water does not bill households for unmeasured or measured water, therefore we don't report figures for measured household property movements (they are included in the unmeasured line as they are not billed)

Unmeasured Non-Household Property Movement

Property Numbers	March 2020	1st Dec 2020	March 2021
Unmeasured Water Gross Non-Household	14003	13959	14565
Unmeasured Water Occupied Non-Household (L8 year-end sub calc)	8839	8656	8599
Unmeasured Water Voids Non-Household	5164	5303	5966

Measured Non-Household Property Movement

Property Numbers	March 2020	1st Dec 2020	March 2021
Measured Water Gross Non-Household	76302	76904	77434
Measured Water Occupied Non-Household (L9 year-end sub calc)	71296	71858	72186
Measured Water Voids Non-Household	5006	5046	4248

Non-Household Voids

Non-Household Voids	Voids	Difference (in-year)
March 2021	11214	(+) 1044
March 2020	10170	(-) 62
March 2019	10232	

Confidence Grades

We have kept the confidence grades consistent with those of AIR20. During the reviews mentioned in the company commentary above, we will retain evidence to support any change in confidence grades.

Whilst the quality of data will improve, the method of extraction and reporting will remain consistent. The automated tool (developed during AIR12) to populate the base property tables has remained in place for AIR21.

Annex A details the Line Methodology followed for the figures within Table 7 Lines 1-12.

Lines 13 – 17 Population

The population data used by NI Water has been derived from 2018 based Population Projections obtained from NISRA (Northern Ireland Statistics & Research Agency) website at https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/NPP18-ppp-coc.xlsx

NISRA Population Projections figures are based on births, deaths and migration information gathered by NISRA between 1st July and 30th June for each year. Net migration is the overall difference between the in-migration and out-migration for Northern Ireland and is calculated using health card registration and deregistration data for Northern Ireland. NISRA update their population projections every two years (2018 data remains the most recent NISRA Population Projections).

The population for unconnected properties has been calculated from two sources:

1. The gross number of unconnected household properties is provided by Customer Services.
2. The unconnected occupancy is sourced from the NIHE Housing Condition Survey 2016 (statistical annex – Table 5.6).
   https://www.nihe.gov.uk/Documents/Research/HCS-Main-Reports-2016/HCS-Main-Report-2016.aspx

The number of unconnected properties is 9,474 and an occupancy rate is calculated at 0.865 (rounded) to determine a total population for unconnected properties of 8,192. The total supplied population for all connected properties is calculated as 1895.87 (x1000). (Line 17)

Non-household population has been calculated by adding the population in communal residence (Table 1 - https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/HP16-bulletin.pdf) to the population of farms. The number of farms has been determined from the company's Rapid system and the occupancy rate is obtained from NISRA (Tables 2 & 3 https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/HP16-bulletin.pdf)

The communal population for AIR21 is 24,008.

The farm population is 31,146 x 2.513 = 78,272. Therefore with the addition of the communal population, the non-household population is 102.28 (x1000).

The connected household population is the difference between the non-household population and the overall connected population. This gives the household population a figure of 1793.59 (x1000) (Line 13). The confidence grade for this line is a B2. This line remains the dominant figure within Section C of Table 7.

The population for non-household measured/unmeasured was derived from the percentage split between measured (not including farms) and unmeasured non-household properties

and applied against the NHH communal population. The total farm population (78,272) has been classed as measured. The communal population (24,008) is split based on 8,719 unmeasured customers (17.73%) and 40,462 measured customers which excludes farms (82.27%). This therefore provides a population for measured NHH of 98.04 (x1000) (Line 16) and an unmeasured NHH population of 4.24 (x1000) (Line 15).

Line 17 is calculated by summing Line 13 + Line 14 + Line 15 + Line 16. This gives a figure of 1895.87 (x1000) which is the total connected population.

It is recognised that the primary means of determining population numbers is from data published by NISRA. Bearing this in mind NI Water, as in previous years, has endeavoured to populate a confidence grade against the various lines. The Reporter has previously stated that in doing so the company has made a reasonable effort to assign appropriate confidence grades and accepts that NI Water has no influence over the methodology adopted by NISRA.

Annex A - Line Methodology for Table 7 Lines 1-12

Line 1: Household Properties Connected during the Year

This line represents the number of new household (domestic) properties added within the area of supply during the reporting year (previously not connected for water supply).

The figures are based on the New Connections reported by the Customer Connection Team (CCT), as per embedded document. It is NIW policy to install meters on all Non-Domestic New Connections.

AIR 21 NC_ 6609 Water.xlsx

Therefore, the number of new household connections for the year is 6609.

Household properties connected during the year	6609

Line 2: Non-Household Properties Connected during the Year

This line represents the number of new non-household (non-domestic) properties added within the area of supply during the reporting year (previously not connected for water supply).

The figures are based on the New Connections reported by the Customer Connection Team (CCT), as per embedded document. It is NIW policy to install meters on all Non-Domestic New Connections.

Therefore, the number of new non-household connections for the year is 308.

Non-Household properties connected during the year	389

B) Billing

Line 3: Households Billed Unmeasured water

Due to the deferral of domestic charging, NI Water does not bill households for unmeasured or measured water.

Void properties have been excluded, so occupied numbers only used.

This is calculated from the monthly Rapid Property Summary for AIR21 (dated 31st March 2021) as attached below.

RPS March YE 2021.xlsx

Households Billed Unmeasured Water	End March 2020	End March 2021
Household – Unmeasured	708529	715232
Household - Measured – Not Charged (test meters)	116	38
Household - Measured	43996	44296
Household - Site Meters	1991	2503
Unmeasured - Not Charged	16	16
Total	754648	762085
Average (Apr20/Apr21)	**758367**	

The figure represents the number of unmeasured domestic properties that would have been billed had charging been introduced.

Line 4: Households Billed Measured Water (external meter)

Due to the deferral of domestic charging, NI Water does not bill households for measured water. Therefore, any domestic properties that would have been included in line 4 are now included in line 3, as per AIR10 erratum, Reporters Recommendations and Undertaking A Agreement.

Households Billed Measured Water (external meter)	End March 2020	End March 2021
	0	0
Average Apr20/Apr21	**0**	

Line 5: Households Billed Measured Water (not external meter)

Due to the deferral of domestic charging, NI Water does not bill households for measured water.

Average number of billed metered households (not externally metered).

An internal meter is one located inside the customer's property or attached to the property at above ground level in a box or cabinet. All other meters should be classed as external with void properties excluded.

Households Billed Measured Water (internal meter)	End March 2020	End March 2021
	0	0
Average (Apr20/Apr21)	**0**	

Line 6: Households Billed Water

Average number of households billed for water within the water supply area.

Calculated by adding AIR20 Table 7 lines 3, 4 and 5

Households Billed Water	Average 20/21
Households billed unmeasured water (Line 3)	758367
Households billed measured water (external meter) (Line 4)	0
Households billed measured water (not external meter) (Line 5)	0
Total	**758367**

The figure represents the number of domestic properties that would have been billed had charging been introduced.

Line 7: Household Properties (water supply area)

This is the number of connected household properties within the water supply area, including void properties.

This is calculated from the monthly Rapid Property Summary for AIR21 (dated 31st March 2021)

Household Properties (Water Supply Area)	End March 2020	End March 2021
Unmeasured	741224	748060
Measured – Not Charged (Test)	121	39
Measured	78736	49068
Site Meters	3019	3727
Unmeasured - Not Charged	18	17
Total	793118	800911
Average (Apr20/Apr21)	**797015**	

Line 8: Non-Household Billed Unmeasured Water

This is the average number of non-households billed for unmeasured water within the supply area, calculated from the Rapid Property Summary.

Figures are based on the average of End March 2020 and End March 2021 non-domestic unmeasured properties.

Non-Households Billed Unmeasured Water	End March 2020	End March 2021
	8839	8599
Average (Apr20/Apr21)	**8719**	

Line 9: Non-Household Billed Measured Water

This figure represents the average number of non-households billed for measured water within the supply area, calculated from the Rapid Property Summary.

Figures are based on the average of End March 2020 and End March 2021 non-domestic measured properties.

Non-Households Billed Measured Water	End March 2020	End March 2021
	71296	72186
Average (Apr20/Apr21)	**71741**	

Site metered properties are a subset of the overall non-domestic billed measured water customer base, therefore not included in the figure above to avoid duplication. E.g. Where multiple businesses/properties are served through one site meter, only the landlord or business park management is considered as the customer.

Line 10: Non-Household Billed Water

This figure represents the average number of non-households billed for water within the supply area.

This is calculated from the Rapid Property Summary for AIR21, excluding voids.

The sum of AIR21 Table 7 lines 8 & 9

Non-Households Billed Water	Average 20/21
Non-Households Billed Unmeasured Water (Line 8)	8719
Non-Households Billed Measured Water (Line 9)	71741
Total	**80460**

Line 11: Non-Household Properties (water supply area)

This is the average number of connected non-household properties within the water supply area, including void properties, calculated from the Rapid Property Summary.

Non-Household Properties (Water Supply Area)	End March 2020	End March 2021
Unmeasured	14003	14565
Measured	76302	77434
Total	90305	91999
Average (Apr20/Apr21)	**91152**	

Line 12: Void Properties

This is the average number of properties, within the supply area, which are connected to the distribution system but do not receive a charge, as there are no occupants – (voids). This is calculated from the Rapid Property Summary.

Void Properties (Water Supply Area)	End March 2020	End March 2021
Non-Household – Unmeasured	5164	5966
Non-Household – Measured	5006	5248
Household – Unmeasured	32695	32828
Household - Measured	4740	4772
Household – Measured - Not Charged (Test)	5	1
Household – Site Meters	1028	1224
Household - Not Charged	2	1
Total	48640	50040
Average	**49340**	

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 8 NON FINANCIAL MEASURES
WATER METERING (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**HOUSEHOLD METER INSTALLATION**																				
1	Selective meters - installed	nr	0	3,078	B3	3,030	B3	3,787	B3	5,218	B3	1,395	B3	0	B3	0	A1	0	B3	0	B3
2	Meter optants installed	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1
3	Meters installed - external meter with existing or new boundary box	nr	0	3,078	B3	3,031	B3	3,787	B3	5,218	B3	1,395	B3	0	B3	0	A1	0	B3	0	B3
4	Meters installed - external meter without boundary box	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1
5	Meters installed - internal meter	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1
6	No. of meter installation requests outstanding for greater than three months	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1
B	**NON HOUSEHOLD METER INSTALLATION**																				
7	Selective meters - installed	nr	0	692	B2	458	B2	509	B2	473	B2	449	B2	601	B2	699	B2	708	B2	721	B2
7a	Number of non household meters renewed	nr	0	4,653	B2	6,772	B2	6,044	B2	9,830	B2	9,671	B2	3,156	B2	3,150	B2	3,344	B2	6,927	B2
8	Meter optants installed	nr	0	45	B2	23	B2	18	B2	20	B2	57	B2	61	B2	52	B2	71	B2	46	B2
9	Meters installed - external meter with existing or new boundary box	nr	0	638	B2	396	B2	472	B2	469	B2	452	B2	614	B2	709	B2	706	B2	733	B2
10	Meters installed - external meter without boundary box	nr	0	17	B2	22	B2	37	B2	22	B3	38	B3	37	B3	35	B3	61	B2	30	B3
11	Meters installed - internal meter	nr	0	82	B2	62	B2	18	B2	2	B2	16	B2	11	B2	7	B2	12	B2	4	B2
12	No. of meter installation requests outstanding for greater than three months	nr	0	10	B2	8	B2	1	B2	2	B2	6	B2	4	B2	0	B2	4	B2	5	B2
C	**WATER DEMAND AT RECENTLY METERED NON-HOUSEDHOLD PROPERTIES**																				
13	Average water billed - selective metered properties	l/prop/d	2	363.53	B3	520.74	B3	449.68	B3	384.09	B3	532.55	B3	580.74	B3	628.33	B3	440.49	B3	221.39	B3

Table 8 – Non Financial Measures – Water Metering

Regulations made in 2016 removed the Art 81 obligation on NI Water to meter newly connected domestic premises.

Line - 1 Selective meter's installed

NI Water no longer installs meters at newly connected domestic premises for reasons stated above, no domestic premises had meters fitted in the reporting year.

Line 3 - Meters Installed – external meter with existing boundary box

All newly connected domestic properties are provided with a boundary box at or as close to the boundary as possible when connected to the water main. As such all new domestic properties have the capability to have a water meter fitted.

NI Water no longer installs meters at newly connected domestic premises for reasons stated above, no domestic premises had meters fitted in the reporting year.

Lines 7-12 - Non household meter installation

NIW installs water meters at newly connected non-domestic premises as per the obligation associated with Article 81 of The Water and Sewerage Services (Northern Ireland) Order 2006.

The company in an attempt to increase its meter penetration where permissible is continuing to install meters across its non-domestic revenue generating customer base, providing it is technically possible to do so.

Line 7 - Selective meters installed

Meters installed at the behest of NI Water include those properties selected because they are new non-domestic connections or fall into the selective category. The total selective meter installs for the year was 721. New connections accounted for 30 large and 310 small diameter installations, the other 381 installations are classed as selectives performed by the metering contractor and NIW staff.

Line 7a - Number of non-household meters renewed

NIW has a reactive meter maintenance section within the MCT and reactively replaces meters and street furniture associated with meters. The maintenance activities are driven by reports generated by the meter readers, meter query technicians and project teams. All Meter Maintenance Requests (MMR's) are opened as cases on the corporate case management system (Savvion) and issued to the contractor via a daily batch. The returned data is processed automatically via uploads to the Savvion system and any rejects go to various queues within the system monitored and progressed by NIW teams. The meter maintenance process is an end-to-end process managed by the metering section using a corporate process flow system known as Savvion linked to the corporate billing system. During the reporting year NIW meter maintenance section replaced 1280 meters through the MMR process.

NIW also had a Proactive Meter Exchange (PME) programme which was designed to target a number of small diameter meters exchanges each year. The meters selected for exchange are those deemed to be 17 years of age or more and where possible those meters with a whole life consumption reading >8000m3. During the reporting year, NIW exchanged 321 meters under the PME programme.

An additional 445 meters were replaced through an Engineering and Procurement contract for water mains rehabilitation.

Other teams within NI Water replaced a total of 4881 meters during the course of their activities and investigations. Of note for AIR 21 NIW replaced circa 3000 “dumb” meters for AMR enabled using field teams called off meter reading duties during the pandemic.

The total number of meters replaced by NIW in the reporting year combining all of the above work streams was 6927 meters.

Line 8 - Meter optants installed

NIW will install meters at existing non-domestic premises when a customer requests a meter and providing it is technically possible to do so. An optants process is in operation and has been communicated across the company to include the Customer Services Centre (CSC). If an unmeasured customer contacts the company and requests the option to have their premises billed as a measured (metered) property and it is determined following a survey to be possible, a meter will be installed. It is the company preference to install meters externally in boundary boxes or in chambers however if this is not technically possible an internal meter will be considered. The total number of non-domestic meter optants for the reporting year was 46.

Line 9 - Meters installed – external meter with existing boundary box

NI Water continues to actively install external meters across a number of metering work streams which includes optants and other selective non-domestic customer properties. While the majority of these are fitted in existing boundary boxes which essentially entails screwing in a meter, other installations can only be completed with the replacement of the boundary box. This involves replacing legacy stop tap boxes often referred to as ‘Toby’ boxes and replacing them with modern proprietary boundary box units. The total number of non-domestic meters installed within this category was 763.

Line 10 - Meters installed – external meter without boundary box

NI Water Developer Services Team (DS) is responsible for coordinating new non-domestic water connections and meter installations >32mm diameter. These large connections by the nature of their size require a chamber constructed to facilitate the meter and valves installations, these totalled 30 in the reporting year. This is around half the figure reported in AIR 20 due to the economy downturn associated with the pandemic.

Line 11- Meters installed – internal meters

NI Water’s preference is to install meters externally when possible. Internal installations are only considered and undertaken when the possibility of an external installation has been discounted because of engineering difficulties, shared supplies or an inability to capture the total volume of water entering a property. Internal meters have been installed across the selective and optant metering programmes. The total number of internal non-domestic meter installations completed this reporting year was 4.

Line 12 - No. of meter installation requests outstanding for greater than three months

The number of non-household optant meter installation requests that took longer than 3 months to complete was 5.

Line 13 – Average Water Billed - Selective Metered Properties

The meters uploaded to Rapid during the previous reporting year (2019/20) are the focus for this line, along with the consumption usage throughout the 2020/21 reporting year.

The TRIMMEAN function was applied to the consumption to ensure the result was a true average. There were some very high and very low consumption, which would have skewed the results.

The figure reported for Line 13 is 221.39 l/prop/day, a decrease of 219.10 l/prop/day from AIR20. To demonstrate the range of consumption for AIR20 and AIR21, please see table below:

Consumption Band (m^3)	**AIR20**	**AIR21**
1-1000	1388	696
> 1000	136	33
Total (excl. zeros)	1524	729

The embedded document below details the meter industry codes of the meters included in this calculation. The categories where there have been a decrease in the number of meters have been highlighted - This will help to explain/justify the increase in the l/prop/day volume. Due to the Covid-19 pandemic and lockdown restrictions there was also no metering activities carried out from April 20 to June 20.

AIR 20_21
Comparison per MIC..

NORTHERN IRELAND WATER LIMITED COMPANY - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 9 NON FINANCIAL MEASURES
WATER QUALITY (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	WATER TREATMENT AND DISTRIBUTION																				
	Lines 1 to 5 not used																				
B	DISTRIBUTION INPUT COVERED BY WORK PROGRAMMES AGREED WITH DWI																				
6	Raw water deterioration	Ml/d	3	23.100	A2	3.654	A2	3.559	A2	15.364	A2	15.322	A2	44.561	A2	49.970	A2	44.225	A2	44.422	A2
7	Conditioning water supplies to reduce plumbosolvency	Ml/d	3	563.648	A2	562.851	A2	560.429	A2	562.876	A2	571.703	A2	570.584	A2	594.486	A2	588.510	A2	593.669	A2
8	Reducing the risk from Cryptosporidium	Ml/d	3	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A2	0.000	A1
9	Other	Ml/d	3	22.952	A2	0.000	A1	106.441	A2	0.000	A1	0.000	A1	0.000	A1	202.164	A2	203.819	A2	0.000	A1

Table 9 – Water Quality

COVID-19

Please be aware that during 2020 due to the ongoing COVID-19 pandemic, with the agreement of the Drinking Water Inspectorate (DWI), NI Water reduced potable water sampling as part of the plan to protect staff and customers, whilst maintaining assurance that there was no risk to public health from public water supplies.

This included the cessation of all sampling at customer taps with effect from 16th March 2020, with a reduced number of parameters sampled upstream at Service Reservoirs.
From 18th May 2020 sampling returned to the regulatory frequencies, with the exception of a small number of parameters which are customer tap specific.

Customer tap sampling remains at designated Service Reservoirs or other identified fixed point locations.

This has created a shortfall in regulatory sampling at customer tap for the calendar year 2020.

During the period however, NI Water maintained full sampling and analysis at its Water Treatment Works and downstream Service Reservoirs as per regulatory requirements.
This along with customer tap samples taken at designated fixed points in the distribution system, ensured that the quality of water supplied to our customers was effectively monitored and maintained throughout the period.

Background – Year on Year

Drinking water quality compliance in 2020 was above the target level set for all water quality monitoring measures.

The perceived quality of water supplied by NI Water to customers has risen slightly over the last number of years:

- NI Water now assesses compliance using % Overall Compliance across customer tap, WTWs, SRs and Authorised Supply Points rather than Mean Zonal Compliance. Under this means of assessment, NI Water's compliance has remained stable from 99.90% in 2019 with 99.94% in 2020 (figure assessed by NI Water - waiting for confirmation from DWI). **This has been affected as above, by not sampling at customer taps.**
- The Drinking Water OPA (based on turbidity, iron, manganese, faecal coliforms, Total Trihalomethanes (THM) and aluminium at customer tap) has risen from 99.52% in 2019 to 99.81% in 2020. **This has been affected as above, by not sampling at customer taps.**
- The percentage compliance measured at Water Treatment Works (WTWs) has stayed stable from 99.96% in 2019 to 99.96% in 2020.
- The percentage compliance measured at Service Reservoir (SR) has stayed stable from 99.96% in 2019 to 99.96% for 2020.

Please note a total re-zoning exercise was carried out for 2009 based on more accurate DMA data. The new 2009 and 2010 Water Supply Zones were not contiguous with the previous zones, and as such were given new codes and names, with the codes reflecting the leakage supply areas, and the names reflecting the supplying WTW / SR and the major conurbation in the zonal area. Following some small WTWs being taken out of service in 2010, some further zones were created for 2011 with new codes and names as before. For

2014 onwards some zonal boundaries were moved to more closely match leakage operational boundaries.

The previous method of compliance assessment (Mean Zonal Compliance) gave undue emphasis on individual exceedances in small zones. The % Overall Compliance methodology treats all exceedances with the same emphasis.

Line 6 – Raw water deterioration

The data used for the estimation of average flow at WTWs in Table 9 lines 6-9 was supplied from operations leakage metering. For this return the Distribution Input was calculated as the average daily flow from the various individual sites or amalgamation of associated readings obtained from leakage metering. In accordance with the guidance, sites that were out of service at the end of the reporting period (the calendar year) will have been excluded and would be listed here.

Over the past number of years, NI Water's WTWs have had a number of exceedances of the pesticide MCPA. A programme of enhanced monitoring for MCPA has been setup for these sites. DWI is content with the above enhanced programme and the sites have not been included in the calculations.

Authorised Departures are no longer likely to be used as regulatory instruments against NIW by DWI. Notice under Regulation 31(4)(b) and Enforcement Orders (including "Consideration of Provisional Enforcement Orders", "Provisional Enforcement Orders") are now the methodology by which NIW is regulated by DWI.

A PEO for Derg WTW was opened in 2016 due to contravention of the Regulatory Standard for the pesticide MCPA. This was closed in 2019, and replaced with a Regulation 31(4)b notice which is ongoing.

A CPEO for Ballinrees WTW was opened in 2017 for the pesticide MCPA. This was closed in 2019, and replaced with a Regulation 31(4)b notice which is ongoing.

Including these 2 sites, the volume for Raw Water deterioration is therefore 44.422 Ml/d.

Line 7 – Conditioning water supplies to reduce Plumbosolvency

NI Water, as required by the Drinking Water Regulations (Regulation 32), has put in place orthophosphoric acid dosing to control plumbosolvency in the distribution system. This control measure is agreed with the DWI and the Health Authorities. The average initial dose rate was approximately 1 mg/l following propensity testing. The level of dosing is reviewed annually against compliance with existing lead standards, with DWI being informed as to the proposed dosing rates. DWI has the opportunity to query the proposed dose rates. Following the annual review, the dose rates were adjusted as agreed.

Site Name	Average Dosed Water (ML/d)
Altnahinch	8.844
Ballinrees	28.843
Belleek	1.652
Carmoney	19.648
Carran Hill	5.649
Castor Bay	100.521
Caugh Hill	17.121
Clay Lake	3.892
Derg	15.580
Dorisland	27.431
Drumaroad	99.868
Dungonnell	8.116
Dunore Point	111.477
Fofanny	36.371
Forked Bridge	12.879
Glenhordial	4.017
Killyhevlin	24.996
Killylane	10.636
Lough Bradan	7.493
Lough Fea	11.851
Lough Macrory	11.191
Moyola	15.050
Seagahan	10.544
Total:	**593.669**

Line 8 – Reducing the risk from Cryptosporidium

DWI approved Cryptosporidium risk assessments were previously carried out on all sources annually and showed effective barriers existed at all NI Water's treatment works.

The risk assessment for Cryptosporidium in the treated drinking water supply is carried out under the Drinking Water Safety Plan (DWSP) Regulation 31 Report for the treatment works and supply systems. The DWSP assesses the risk in the catchment and the treatment works pre and post control measures. The post control risk demonstrates if the treatment process has effective barriers in place to control the risk in the treated drinking water supply to low risk. The DWSPs are revised at least annually and submitted to the DWI.

Under the current guidance, which requires that this should be assessed against sites with "legally binding instruments", NI Water has no sites which fall into this category.

A warning letter for a Cryptosporidium exceedance at Drumaroad WTW was issued by the DWI during 2018. The treatability study carried out at Drumaroad WTW in PC15 identified treatment improvements to be undertaken to meet industry best practice for Cryptosporidium control. An Annex A has been submitted to the DWI to request support for a PC21 Water Non-Infra – WTW's funded scheme.

The return for this line is therefore 0 Ml/d.

Line 9 – Other

The PEO for Castor Bay WTW odour was closed in 2020.

The CPEO for Drumaroad WTW aluminium was closed in 2020.

There were no other legal instruments put in place during 2020 (see appendix).
The return for this line is therefore 0 Ml/d.

Confidence Grades

Confidence grades **used** in returns are based on OFWAT guidance documentation.

Appendix – Lines 6, 8 & 9

Site	Regulatory Enforcement	Parameter	Date Issued	Date Closed
Castor Bay WTW	PEO 18/01	Odour	25.06.2018	Closed 14.05.2020
Drumaroad WTW	CPEO 18/03	Aluminium	30.11.2018	Closed 10.01.2020
Derg WTW	Reg. 31(4)(b) Notice 2020/001	MCPA	30.06.2020	Ongoing
Ballinrees WTW	Reg. 31(4)(b) Notice 2020/002	MCPA	17.12.2020	Ongoing
Ballinrees WTW	Reg. 31(4)(b) Notice 2020/003	Taste & Odour	17.12.2020	Ongoing

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 10 NON FINANCIAL MEASURES
WATER DELIVERED (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**WATER DELIVERED - VOLUMES**																				
1	Billed measured household	Ml/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
2	Billed measured non-household	Ml/d	2	121.44		125.79		120.17		118.03		120.58		122.02		128.40		123.89		115.19	
3	Billed measured	Ml/d	2	121.44		125.79		120.17		118.03		120.58		122.02		128.40		123.89		115.19	
4	Billed unmeasured household	Ml/d	2	297.41		285.52		292.36		294.86		302.76		304.82		315.93		317.76		342.21	
5	Billed unmeasured non-household	Ml/d	2	6.87		6.07		5.82		5.28		5.17		5.14		5.49		5.53		4.52	
6	Billed unmeasured	Ml/d	2	304.28		291.59		298.18		300.14		307.93		309.96		321.42		323.29		346.73	
B	**WATER DELIVERED - COMPONENTS**																				
7	Estimated water delivered per unmeasured non-household	l/prop/d	2	630.51	C4	591.01	B4	606.98	B4	595.87	B4	601.02	B4	596.08	B4	637.41	B4	633.38	B4	518.41	B4
7a	Estimated water delivered per unmeasured household	l/prop/d	2	436.66	B3	414.50	B3	420.70	B3	418.97	B3	422.25	B3	417.91	B3	426.75	B4	423.56	B3	451.25	B3
8	Per capita consumption (unmeas'd h'hold - excl s/pipe leakage)	l/h/d	2	149.98	B3	145.53	B3	148.42	B3	148.42	B3	151.89	B3	152.35	B3	158.13	B4	158.00	B3	170.83	B3
9	Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
10	Underground supply pipe leakage (unmeas'd households)	l/prop/d	2	60.20		51.22		50.87		50.38		49.62		48.92		48.29		47.71		47.21	
11	Underground supply pipe leakage (ext. metered households)	l/prop/d	2	30.10		25.61		25.44		25.19		24.81		24.46		24.15		23.86		23.61	
12	Underground supply pipe leakage (other metered h'holds)	l/prop/d	2	60.20		51.22		50.87		50.38		49.62		48.92		48.29		47.71		47.21	
13	Underground supply pipe leakage (void properties)	l/prop/d	2	60.20		51.22		50.87		50.38		49.62		48.92		48.29		47.71		47.21	
14	Meter under-registration (measured households)	Ml/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
15	Meter under-registration (measured non-households)	Ml/d	2	9.29		9.70		9.21		8.52		8.22		7.81		7.63		6.87		6.18	
16	Distribution system operational use	Ml/d	2	2.36		2.39		2.51		3.05		2.93		3.51		3.20		3.05		3.14	
17	Water taken legally unbilled	Ml/d	2	14.79		15.16		17.10		16.80		16.40		17.57		16.76		15.09		12.24	
18	Water taken illegally unbilled	Ml/d	2	0.51		0.48		0.43		0.38		0.68		0.66		0.69		0.62		0.62	
19	Water taken unbilled	Ml/d	2	15.30		15.64		17.53		17.18		17.08		18.23		17.45		15.71		12.86	
20	Water delivered (potable)	Ml/d	2	441.02		433.02		435.88		435.35		445.59		450.21		467.27		462.89		474.78	
21	Water delivered (non-potable)	Ml/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
22	Water delivered (non-standard rates: potable)	Ml/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
23	Water delivered (non-standard rates: non-potable)	Ml/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
24	Distribution losses	Ml/d	2	115.44		127.31		126.08		122.08		123.52		122.52		120.23		120.62		117.80	
25	Total leakage	Ml/d	2	161.75	B4	167.21	B3	165.99	B3	161.99	B3	163.43	B3	162.43	B3	160.14	B3	160.53	B3	157.71	B3
26	Distribution input	Ml/d	2	558.82	B2	562.72	B2	564.47	B2	560.48	B2	572.04	B2	576.24	B2	590.70	B2	586.56	B2	595.72	B2
27	Bulk supply imports	Ml/d	2	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
28	Bulk supply exports	Ml/d	2	0.85		1.09		0.80		0.73		0.34		0.44		0.39		0.34		0.41	
29	Water treated at own works to own customers	Ml/d	2	557.97		561.63		563.67		559.75		571.70		575.80		590.31		586.22		595.31	
30	Overall water balance	CG			B2		A1		A1		A2		B2		B2		B2		B2		B2
C	**SECURITY OF SUPPLY**																				
31	Security of supply index - company's planned levels of service	nr	0	100		100		100		100		100		100		100		100		99	
32	Not used																				

Table 10 – Non Financial Measures - Water Delivered

Introduction

NI Water continues to follow the methodology as described in Chapter 10 of the Utility Regulator (UR) AIR21 Reporting Requirements and Definitions manual March 2021. In doing so it has adhered to the methodologies for estimating the water balance set out in the Demand Forecasting Methodology report produced by NERA on behalf of UKWIR.

As a result of the Sustainable Economic Level of Leakage (SELL) study in PC13 as the method of deriving company leakage targets, NI Water challenged themselves with the setting of a target to reduce leakage from 165 Ml/d to 155 Ml/d over the six year period of PC15 which included leakage reduction beyond what was stated in the SELL. The final determination set a target outturn of 153 Ml/d which was to achieve a 12 Ml/d reduction.

The outturn leakage figure for AIR15 was 165.99 Ml/d, was approx. 1 Ml/d higher than the target outturn for PC13 and also marked the initial leakage value from which PC15 target reductions commenced.

For AIR21, the reconciled leakage outturn figure of 157.7 Ml/d is approx. 4.7 Ml/d higher than the target outturn for PC15 of 153 Ml/d however represents an overall leakage reduction of 8.3 Ml/d over the 6 year period of PC15. The average annual leakage reduction for PC15 was 1.4 Ml/d in comparison to the targeted leakage reduction of 2 Ml/d.

For AIR21, the pre-MLE bottom up leakage figure of 154.7 Ml/d equated to a decrease of 2.4 Ml/d from AIR20.

Due to the extraordinary situation with COVID19, the impact on social and commercial water consumption is yet to be understood fully within the industry and may result in updated demand strategies.

In summary, the outputs of this water balance are that the Integrated Flow Method of leakage assessment has given a figure of 174.9 Ml/d for total leakage and the Minimum Night Flow Method has provided a figure of 154.7 Ml/d. When the resulting imbalance between the two methods of 20.2 Ml/d is compared to the Distribution Input figure of 597.7 Ml/d (pre-MLE), it provides a percentage discrepancy of 3.4%. This remains within the 5% tolerance set to enable a Maximum Likelihood Estimation method to be applied, using the squares method, and produces a reconciled leakage figure of 157.7 Ml/d. This figure is 4.7 Ml/d behind the PC15 profiled leakage target of 153.0 Ml/d.

This commentary will also reference the Leakage performance and reporting during PC15, the strategy and work for PC21. The impact of COVID will also be discussed.

Demand Analysis

The pre-MLE distribution input for AIR21 was 597.7 Ml/d, an increase of 9.0 Ml/d from 588.7 Ml/d in AIR20.

The graph in Fig. 1 below illustrates the monthly distribution input from AIR16 to AIR21 and shows that the DI for AIR21 remained consistently higher than 2019/20 at the start and end of the year however reduced to previous year’s values from August 2020 to December 2020. The periods of increased demand coincides with government imposed lockdowns and work from home guidance during the Covid-19 pandemic.

Fig. 2 shows AIR21 having similar cumulative rainfall and sunshine to that of the PC15 average weather. The first 12 weeks of AIR21 however had higher than average sunshine and lower than average rainfall which coincided with higher demand at the start of the year. Minimum ground temperatures, shown in Fig. 3, were near to the six year average however reduced significantly in the second week of January 2021. The temperatures recorded were the lowest since the freeze/thaw incident of 2010/2011. These low temperature penetrated to ground depths of 30cm and 100cm relatively rapidly, as shown in Fig. 4, and resulted in a mains burst outbreak also similar to that of the freeze/thaw. NI Water responded and recovered quickly to the immediate impact of the January incident however leakage recovery regarding a number of small defects across a large number of DMAs was slower.

Fig. 5 plots the weekly PCC value over the PC15 period and records a 10% increase in PCC compared to the average over the previous five years. NI Water observed a marked increase in demand during the first lockdown period with elevated consumption recorded throughout the remainder of the year. Fig. 6 indicates that household demand broadly trends with the distribution input.

Both NRRt and NRRd analysis for AIR21 was comparable to that of AIR20 with both reporting 3 Ml/d higher than the six year average during PC15. The higher observed NRRs are increasingly challenging to recover from.

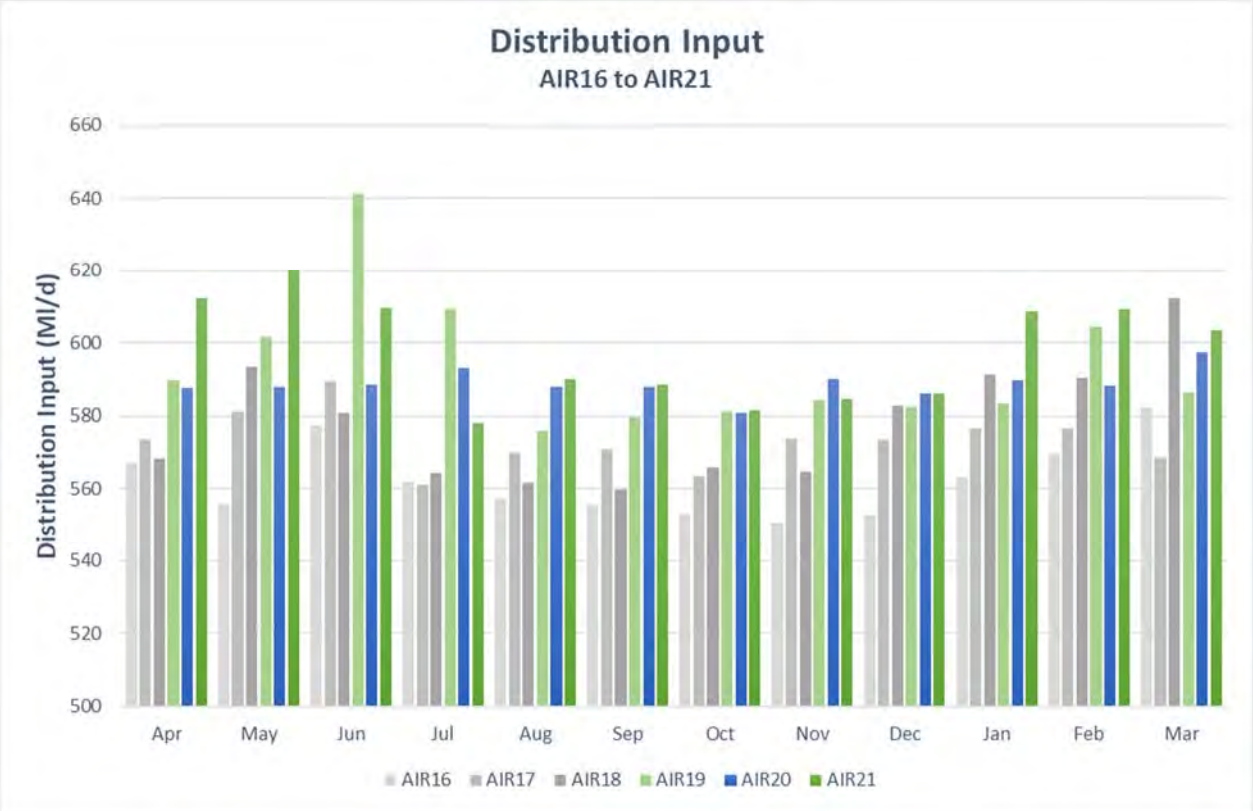


Fig 1

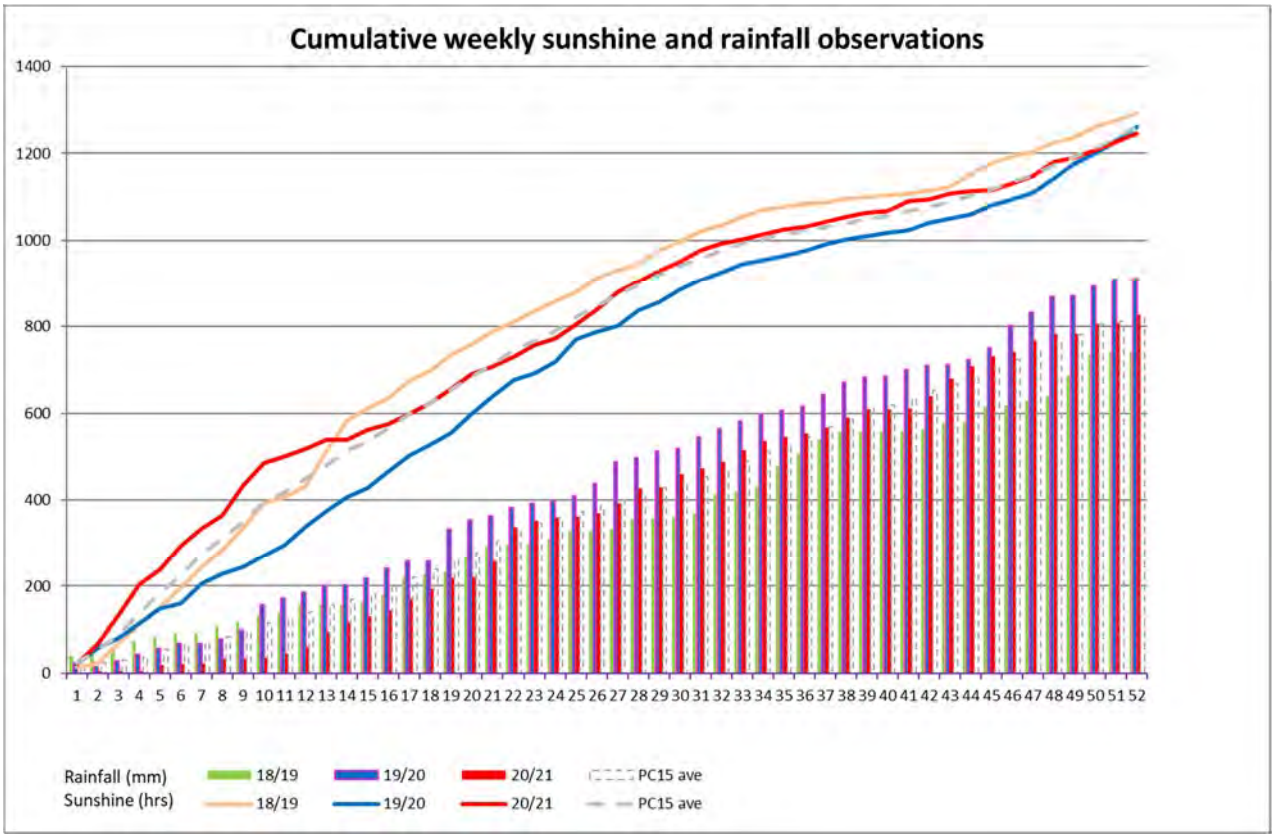

Cumulative weekly sunshine and rainfall observations
1400
1200
1000
800
600
400
200
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
Rainfall (mm)
Sunshine (hrs)
18/19
19/20
20/21
PC15 ave
18/19
19/20
20/21
PC15 ave

Fig 2

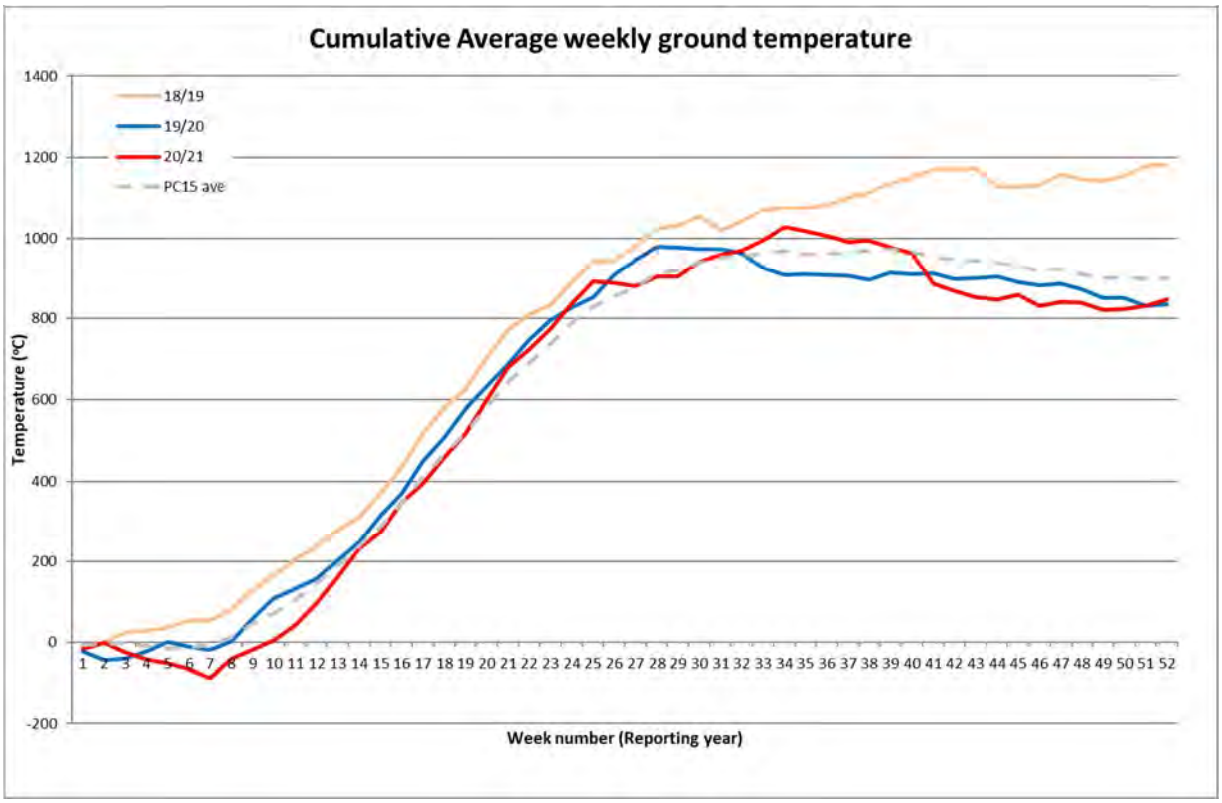
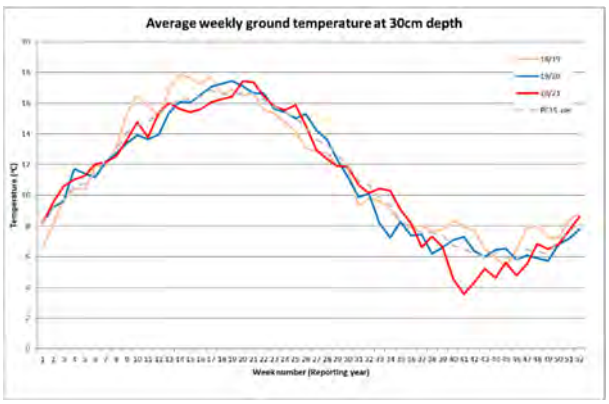

Cumulative Average weekly ground temperature
18/19
19/20
20/21
PC15 ave
Temperature (°C)
1400
1200
1000
800
600
400
200
0
-200
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
Week number (Reporting year)

Fig 3



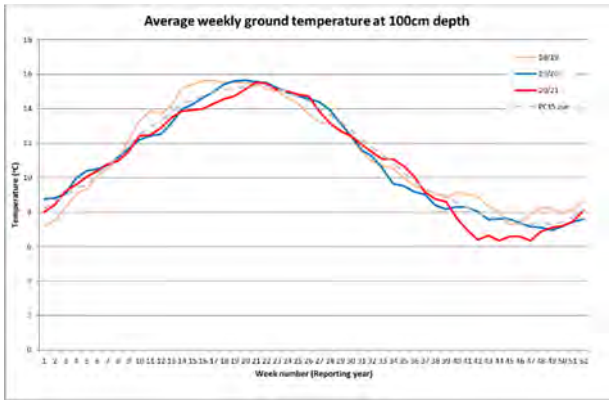


Fig 4

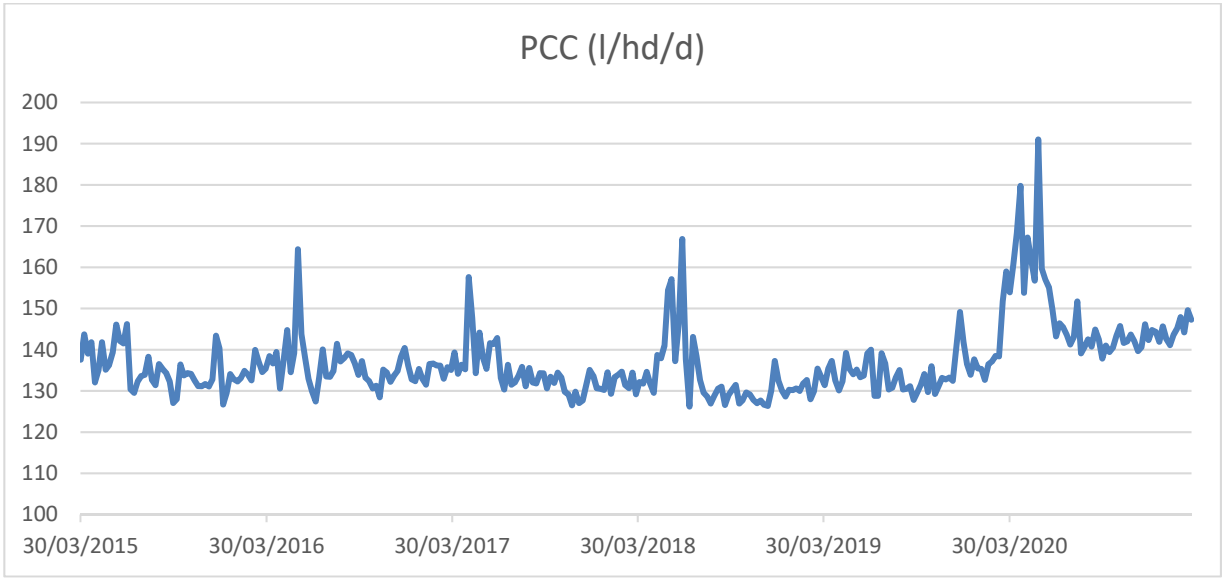


Fig 5

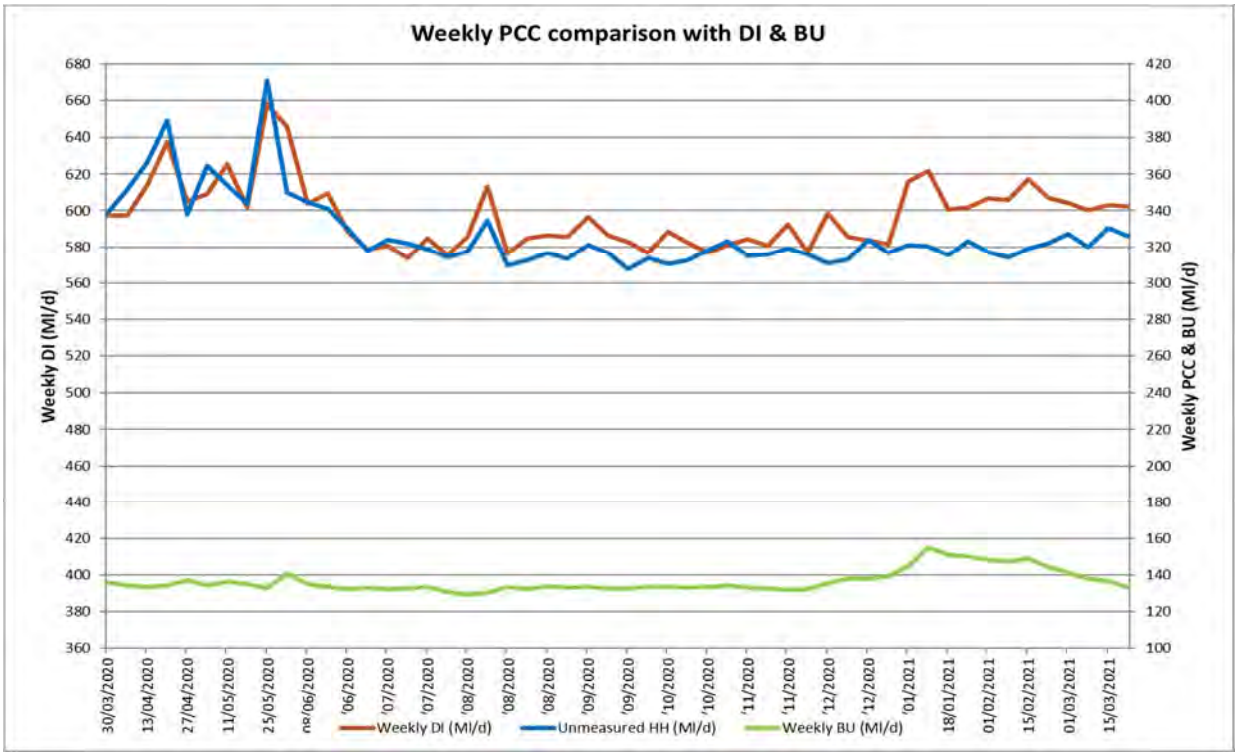


Fig 6

Data Quality

NI Water has remained committed to improve data quality throughout the PC10 and PC13 periods and continued this commitment throughout PC15. During PC21, further improvements to data will continue to take place through various programmes of work and the dynamic calculation of key leakage components.

With Netbase embedded as NI Water's leakage reporting tool, the UKWIR 20th Percentile calculation of Bottom Up leakage remains as reported in AIR20 commentary and in keeping with the Reporter's recommendations the Bottom Up error estimation is 10%.

NI Water are in the process of upgrading our leakage management software, Netbase, to the latest version which will align with the GB companies utilising this software. It is proposed that the Netbase upgrade will be in place during AIR22 with parallel leakage calculations being undertaken to understand any material changes to the leakage calculation.

NI Water are reporting a DMA operability value of 78% for year-end. NI Water is focussed on the continued improvement of operability however understand that this can be impacted by infrastructure upgrades, improvements and weather/major events.

During the initial five months of COVID19 lockdown, operability dropped to an average of 73% which was due to a number of factors including increased 'stay at home' household consumption, dry & sunny weather conditions and a decreased non-household consumption. The average operability for the latter seven months of the year was 78%.
During PC21, NI Water will continue to improve operability via a number of project streams outlined in the PC21 Business Plan.

COVID19

The unprecedented COVID19 pandemic has impacted the way in which domestic and commercial properties have used water. Analysis shows that household demand increased by 10% annually while non-household demand decreased by 7%. It is uncertain at this time whether working and social practices will return to 'normal' however analyses will continue to understand the potential impact to the leakage calculations.

In the year 2020/21 (AIR21), NI Water continued to follow its leakage reduction action plan and have commenced a number of further initiatives. The following is an overview of actions during AIR21.

- Recommendations on 'hotspot' rehabilitation schemes identified through the intensive DMA Studies workstream in regards to influencing Rehab Work Packages. Work commenced in the last quarter of 2019/20 to renew a number of mains sections identified through 'hot-spot' analysis however, COVID19 restrictions have delayed completion into reporting year 2021/22. An assessment of leakage benefits continues to be monitored and will be based on pre- and post-mains renewal analysis.
- Targeted DMA leak detection reporting is fully embedded within the suite of weekly reports highlighting DMAs with the greatest gains along with historic minimum achieved levels.
- Approx. 50% of our PRV stock were logged and reviewed regarding optimisation with over 350 of these being reduced further. These investigation will continue into AIR22.
- A pilot study was undertaken regarding 24hr modulated flow control on WPSs
- NRR continues to be reviewed every 6 months.
- An intensive review strategy of the top 100 DMAs is embedded within the DMA Studies and Optimisation project workstreams to reduce the NRR in DMAs susceptible to multiple resource interventions. This strategy has been developed on the positive results of pilot studies.

- NI Water purchased and installed 200 controllers during AIR21 and an ongoing programme of works to identify and install new pressure management schemes as well as optimising existing PRV and pumping regimes continues into PC21.
- Leakage Detection resources have been increased further during AIR21.
- In March 2020, NI Water commenced a pilot study with Utilis, utilising satellite SAR imagery to identify leakage points of interest. NIW are currently involved in a procurement exercise for the ongoing use of such technology.
- Other innovations include an increased deployment of noise logging and we have consulted with other water companies regarding the best practice for installation and analysis. We have also increased the use of pressure transient logging on the network to understand the implications of transients in a calm network.
- A pressure logging programme continues within the network to enable a dynamic HDF calculation. The project will be enhanced further during PC21 through the installation of over 3000 permanent pressure monitors and will cover each pressure managed area.
- NI Water continues to explore the benefits of SMART metering in understanding seasonal demand trends for non-domestic customers and refined leakage calculations. During PC21, 1000 loggers will be installed across a statistical representative sample of businesses.
- We have installed fast-logging points on a number of our PCC sites and sections of our rural network. We will expand our fast-logging installations and it is envisaged that this project will allow NI Water to dynamically review household night use as well as understand demand trends throughout the network. Our consultant, RPS, is undertaking analysis to advise on best practice in utilising this data.

Trunk Mains & Service Reservoirs

With an aspiration towards the use of company specific calculations for all key aspects of the water balance, NI Water continue to build on their trunk main and service reservoir leakage calculation through the primary use of flow balance assessments. A number of imbalances have been addressed which have included meter issues and connectivity.

NI Water considers it prudent to fully investigate trunk main audits with perceived leakage to understand the resource economics and uncertainty associated with flow balances for trunk mains and service reservoirs.

NI Water, in partnership with other E&W water companies, continued a project facilitated by WRc for determining uncertainties on large diameter upstream meters, the outputs of which will be developed and incorporated within NI Water's understanding, monitoring and reporting of trunk mains and service reservoirs.

Gross Measured Consumption

As part of the annual tariff submission to NIAUR, NI Water is required to submit the Principle Statement Information Capture System. One of the consistency checks in this submission is to compare the billed measured non-household volume (Table 10 Line 2) with the Principle Statement and for these volumes to reconcile to within 1%.

Reconciliation of both the Gross Measured Consumption Report and Principle Statement has closed to 0% since the 2014/15 reporting year.

HDF

In preparation for the PC15 submission, NI Water commissioned an SELL assessment to determine company leakage targets for submission years AIR16 to AIR21. As part of this review, HDF was assessed based on 2012/13 data and, as a result, it was deemed appropriate to update the HDF to 23.2.

As part of continuing data enhancements, and outlined within the PC21 business plan, NI Water will commence work on the installation of over 3000 permanent pressure monitors and the development of a pressure model utilising Netbase, data analytics and modelling. This model will allow NI Water to calculate HDF dynamically and reduce interruptions to supply and it is envisaged that the reported HDF will be introduced and enhanced during PC21.

Meter Under Registration

It should be noted that NIAUR determined that, during the PC15 period, the non-household meter under registration (NHH MUR) figure was to reduce from 8.33%, which was derived for AIR10 by WRc utilising the NI Water meter age profile and meter sample tests, to 5.5% which is understood to be the current NHH MUR average for E&W companies.

This reduction in NHH MUR was implemented linearly over the six years of the PC15 period, however WRc reviewed the company MUR during AIR21. For AIR21, NHH MUR has been updated to the calculated value of 5.75%.

Leakage Capital Investment

The PC15 leakage business plan clearly identified a number of key areas of capital investment to replace and improve our network/assets as well as the ongoing improvement in data availability and quality.

The upgrade of DMA meters from GSM logger technology to telemetry status remained a priority project thus providing access to continuous data to assist leakage management, NI Water and the customer. At present all DMA meters utilised in the leakage calculation are now monitored directly through telemetry with 93% of the stock operating via telemetry kiosks and the remainder updating regularly throughout the day and configured to alarm immediately upon the breach of a flow threshold.
Logger enhancements have provided the capability to poll loggers remotely to return data similarly to live telemetry updates. Multiple daily data downloads in parallel with the setting of flow and pressure alarm protocols have increased data availability and quality to enhance leakage monitoring, targeting and reporting as well as being available during major incidents.

During PC15 projects were carried out to replace existing PRV stock that are operational across the network and to design, install and commission new PRV sites to optimise leakage reduction. This has resulted in 192 PRV replacements and 171 new PRV installations during the year.

DMA optimisation continues to play an important role within the success of the function. In 2020/21 the resolution of High Volume DMAs has played a key part in this. The underlying objective has been initially to investigate the unique factors that cause these DMAs to behave in such a manner and subsequently to provide an engineering solution where possible to reduce leakage.

As work has continued in regards to High Volume DMA studies, DMA optimisation and data quality improvements this has resulted in over 200 infrastructure improvement schemes

being installed as part of the overall capital improvement programme and also the installation of 200 controllers on the network.

For reference, the table below states the variables/parameters which may impact upon the variance in individual water balance component calculations.

	AIR21	AIR20
HDF (hrs)	23.2	23.2
UNHH consumption (m3/yr)	168.35	207.70
PCC MUR (%)	7.39	7.39
HH occupancy (nr)	2.51	2.52
NHH MUR (%)	5.75	5.97
SPL (Ml/d)	39.91	39.91
HH night use allowance (l/p/hr)	2.64	2.64
NHH night use allowance (l/p/hr)	Dynamic (17.62)	Dynamic (20.38)
Per Capita Consumption (l/hd/d)	148.94	139.52

Projects regarding the review and analysis of the parameters listed in the table above continues with consideration and strategic planning required regarding the application and impact of updates in light of new and evolving water industry leakage reporting guidance.

Line 1 – Billed Measured Household

There are no billed measured households and the value is therefore zero.

Line 2 – Billed Measured Non-Household

The reported value for water delivered to non-households has decreased from 123.89 Ml/d in AIR20 to 115.19 Ml/d in AIR21.

In AIR15, after a full review, the Gross Measured Consumption Report (GMCR) was revised, amended and recoded to reflect the changes in data handling and the evolution of the metering and property company datasets which resulted in the variance between the GMCR and the Principle Statement calculations closing within the recommended 1%.

The variance between GMCR and the Principle Statement has closed to 0% since the 2014/15 reporting year. The GMCR is used to derive the billed measured non-household consumption as stated in Table 10 Line 2.

Similar to AIR20, the GMCR utilises metering data from the RAPID billing system. This volume does not include test meters that are not billed, trade effluent volumes, free supplies or NI Water supplies which are included under water taken unbilled. There was a noted decrease in measured consumption in AIR21 of 8.7 Ml/d. This decrease is likely due to the restrictions imposed on a number of measured non-households as a result of COVID19.

A non-household meter under-registration (MUR) value of 5.75% has been added to billed measured non-household use. It should be noted that the Utility Regulator determined that, during the PC15 period, the non-household meter under registration (NHH MUR) figure shall reduce from 8.33%, which was derived for AIR10 by WRc utilising the NI Water meter age profile and meter sample tests, to 5.5% which is understood to be the current NHH MUR average for E&W companies.
WRc undertook a study during AIR21 to review the MUR figure for NI Water which is now 5.75%.

No allowance for underground supply pipe leakage has been added to this value as the measured non-households are all externally metered and therefore the billed consumption already includes underground supply pipe leakage (however, the figure for underground supply pipe leakage for measured non-households has been estimated and is part of total leakage in other lines of the table).

The confidence limit of 10% on this component has not been changed and is still considered to be appropriate.

Line 3 – Billed Measured

This is the summation of lines 1 and 2.

Line 4 – Billed Unmeasured Household

The reported value for Billed Unmeasured Household volume for AIR21 is 342.21 Ml/d. This figure represents an increase from the AIR20 value of 317.76 Ml/d.

The Billed Unmeasured Household volumes have been calculated by multiplying the average PCC figure for NI Water by the unmeasured household population. The method and sources of information are consistent with previous AIR returns. Similarly the source of the PCC figure is generated from the NI Water domestic consumption monitor. The household population figure is sourced from the Northern Ireland Statistics and Research Agency (NISRA) 2018. Adjustments are made to this household population figure to account for:

- Non-Household Population – Sourced from the most recent NISRA 2018 based population projections in alignment with Table 7.
- Unconnected Properties Population – The number of unconnected properties has been provided within NI Water by Rapid. The population of unconnected properties is determined by multiplying the assessed average occupancy from the NIHE Housing Condition Survey report by the number of unconnected properties.
- Farm Population – The population of farms is included as non-household use. The population is calculated as the number of farms multiplied by the average occupancy rate from NISRA. The number of farms is sourced from RAPID (NI Water's Billing System). The assessment takes into consideration farm properties that became void during 2020/21 but will have billed consumption associated with them.
- PCC Night Use Allowance Assessment

Underground Supply Pipe leakage has been applied to the billed unmeasured household volume component of this calculation.

A meter under-registration factor of 7.39% has been applied to this total volume. This percentage was assessed by WRc and is specific to NI Water's domestic consumption monitor meters and has remained constant throughout PC15.

Since AIR19, we have been investigating the use of fast-logging technology with the installation of new meters and equipment on a number of our PCC sites. This technology will allow NI Water to determine a more accurate and dynamic household night-use value.

During the reporting year it is usual to undertake a comprehensive door to door survey covering approximately 20% of properties within the Domestic Consumption Monitor Areas Due to the government lockdowns, NI Water considered it prudent to postpone the survey

programme however we will re-establish surveys when door to door customer contact is considered appropriate.

The overall occupancy rate remains as calculated for AIR20 at 2.37. The NISRA occupancy rate for Northern Ireland is 2.51 for 2020/21.
A figure of 1.5% continues to be applied to allow for the 'Hawthorne Effect' and is consistent with previous AIR submissions.

The confidence limit of 10% on this component has not been changed and is still considered to be appropriate.

In order to better understand the seasonal consumption patterns within the company's rural household stock, NI Water have installed a number of PHC monitors in rural locations with the expectation of accounting for atypical household demand in rural areas. We will also investigate the benefits of calculating the billed unmeasured household value through the adoption of PHC sites. We have engaged our leakage management consultant, RPS, to review best practice across the other GB water companies with a view to aligning industry methodologies.

Line 5 – Billed Unmeasured Non-Household

The reported value for Billed Unmeasured Non-Household for AIR21 is 4.52 Ml/d. The value reported in AIR20 was 5.53 Ml/d. NI Water has continued with a programme of meter installation of unmeasured non-household properties.

There has been a noted decrease in this reported figure. Similar to the reduction in calculated consumption for measured non-households, this decrease is likely due to the restrictions imposed as a result of COVID19.

As unmeasured non-households have an allowance that has been estimated from metered non-households therefore underground supply pipe leakage has not been added to the occupied property component. Supply pipe leakage has been calculated for the void property component and included in this figure. A non-household company specific MUR value of 5.75% was applied for AIR21.

The confidence limit of 15% on this component has not been changed and is considered to be appropriate.

Line 6 – Billed Unmeasured

This is the summation of lines 4 and 5.

Line 7 – Estimated Water Delivered Per Unmeasured Non–Household

The post MLE figure for estimated water delivered per unmeasured non-household for AIR21 is 518.41 l/prop/d. The figure reported for AIR20 was 633.38 l/prop/d.

The allowance for unmeasured non-household properties for AIR21 is 168.35 m^3/prop/yr, a reduction from 207.70 m^3/prop/yr reported in AIR20.

Line 7a – Estimated Water Delivered Per Unmeasured Household

The post MLE figure for estimated water delivered per unmeasured household for AIR21 is 451.25 l/prop/d. The figure reported for AIR20 was 423.56 l/prop/d.

The confidence limit of 10% on this component has not been changed and is still considered to be appropriate. A confidence grade of B3 has been applied to this calculation.

Line 8 – Per Capita Consumption (Unmeasured Household – Excluding Supply Pipe Leakage)

The post MLE PCC figure for AIR21 is 170.83 l/hd/d. The figure reported for AIR20 was 158.00 l/hd/d.

NI Water continues to employ domestic consumption monitors set up specifically to monitor unmeasured household consumption. These sites are small (average size of 48 properties), permanently bounded, monitored for leakage, and flows into them are recorded by meters.

The average PCC figure (pre MUR) has been calculated as 148.94 l/hd/d. This assessment is based on 12 months consumption data from 1 April 2020 to 31 March 2021. This compares to a figure of 139.52 l/hd/d for AIR20.

Fast-logging has been installed on a number of PCC sites reporting 1-minute logged averages. The assessed domestic consumption on these sites therefore reflects the 1-minute data.

During previous high demand events and also noted as a result of atypical household demand analysis throughout the government lockdown restrictions, a review is underway to determine the most appropriate methodology to calculate household consumption.
We have engaged our leakage management consultant, RPS, to review best practice across the other GB water companies with a view to aligning industry methodologies. This review will include appropriate monitoring of households particularly in rural and remote rural areas.

A company specific MUR value of 7.39% has been used for unmeasured PCC. This figure has been provided by WRc as a result of a project commissioned by NI Water and is specific to NI Water's domestic consumption monitor meters.

The confidence limit of 10% on this component has not been changed and is still considered to be appropriate. A confidence grade of B3 has been applied to this calculation.

Line 9 – Per Capita Consumption (Measured Household - Excluding Supply Pipe Leakage)

There are no measured household supplies in NI Water; therefore no value has been input against this line.

Lines 10 to 13 – Underground Supply Pipe Leakage

For PC13, NI Water engaged their Leakage Management Services consultant, RPS, to review the underground supply pipe assessment which has resulted in the reduction of total supply pipe leakage to 39.91 Ml/d from 46.31 Ml/d during PC10. This accounts for approximately 25% of total leakage.

The total volume of Underground Supply Pipe Leakage was assessed using the recommended methodology contained in the UKWIR report 'Towards Best Practice for the Assessment of Supply Pipe Leakage' and based on 2012/13 company data.
As SPL has remained constant at 39.91 Ml/d throughout the PC15 period, it is required to adjust the 'per property' assessed underground supply pipe unit values on an annual basis due to increasing property numbers.

Therefore, the assessed SPL unit values of 52.49 & 26.25 l/prop/d, for unmeasured and measured properties respectively, require adjustment as they have been calculated using 2012/13 base year data resulting in a total SPL of 39.91 Ml/d.

The SPL assessment was required to remain unchanged for the duration of the PC15 period as agreed with the Utility Regulator, therefore the adjusted AIR21 unit values are 47.21 l/prop/d for unmeasured, other households and void properties, with a value of 23.61 l/prop/d being calculated for externally measured non-households.

Work previously undertaken, utilising Ofwat published data, indicated that the majority of the water companies in England and Wales estimate the underground supply pipe leakage on externally measured properties to be approximately half that of internally measured and other properties. NI Water has continued to adopt this assumption. In NI Water, the unmeasured non-household use is based on the measured non-household use. Therefore this assumption will also be applied to the unmeasured non-household.

The SPL calculation for NI Water is detailed in the NI Water Assessment of Leakage from Customer Supply Pipes (carried out by RPS).

It should be noted that the trend over recent reporting years has shown that the number of unreported customer side leakage defects, resulting in the issue of a Leak Notice, has continued to increase since the last SPL review utilising 2012/13 base data. In AIR21 the number of issued leak notices was consistent with the previous year.

Lines 14 to 15 – Meter Under-Registration

It should be noted that the Utility Regulator has determined that, during the PC15 period, the non-household meter under registration (NHH MUR) figure was to reduce from 8.33%, which was derived for AIR10 by WRc utilising the NI Water meter age profile and meter sample tests, to 5.5% which is understood to be the current NHH MUR average for E&W companies. During AIR21 WRc undertook a study to review during the MUR figure for NI Water which is 5.75%.

For AIR21, NHH MUR has reduced to 5.75% and it is proposed to review this again during the PC21 period.

Furthermore the MUR value applied to the unmeasured household consumption remains at 7.39%. Since AIR19, we have been investigating the use of fast-logging technology with the installation of new meters and equipment on a number of our PCC sites and the creation of PHC sites. Analysis is ongoing as to the most appropriate use of fast-logging data and the potential to utilise PHC methodologies in the calculation of the billed unmeasured household component. This review will likely lead to a change in methodology for the calculation of

billed unmeasured households which will be documented fully and will include an update of an appropriate MUR value.

Line 16 – Distribution System Operational Use

The reported value of Distribution System Operational Use (DSOU) for AIR21 is 3.14 Ml/d. The value reported for AIR20 was 3.05 Ml/d. This calculation is consistent with the AIR19 methodology.

The confidence limit of 25% on this component has not been changed and is considered appropriate.

Lines 17 to 19 – Water Taken Unbilled

The reported Water Taken Unbilled figure of 12.86 Ml/d in AIR21 is a decrease from the value of 15.71 Ml/d in AIR20.

As a result of the findings and subsequent amendments to the gross measured consumption report, as discussed within the Data Quality section of this commentary, an element of billed measured NHH consumption reported in AIR21 has been transferred into the water taken unbilled component of the water balance.

The methodology used to estimate each category within Water Taken Unbilled remains consistent with AIR20 and includes the addition, in AIR17, of the 'NHH property review project' category which estimates the consumption currently not captured as billed measured non-household but the likely consumption billed after surveying is completed. As this survey nears completion, the estimated unaccounted consumption has decreased.

The confidence limit of 25% on this component has not been changed and is considered appropriate.

Line 20 – Water Delivered (Potable)

All potable water supplied by NI Water is calculated as the sum of lines 3, 6 and 19.

Line 21 – Water Delivered (Non-Potable)

There are no non-potable supplies to NI Water customers.

Line 22 – Water Delivered (Non-Standard Rates: Potable)

There are no non-standard rates for potable supplies to NI Water customers.

Line 23 – Water Delivered (Non-Standard Rates: Non-Potable)

There are no non-standard rates for non-potable supplies to NI Water customers.

Line 24 – Distribution Losses

Distribution Losses for NI Water are calculated by subtracting Lines 16 (DSOU) and 20 (Water Delivered) from Line 26 (Distribution Input). Distribution Losses for AIR21 are estimated to be 117.80 Ml/d. This is a slight increase on the AIR20 figure of 120.62 Ml/d.

Line 25 – Total Leakage

Total leakage is the sum of distribution losses and underground supply pipe leakage. The reported figure for total leakage for AIR20 was 160.53 Ml/d. The reported figure for AIR21 is 157.71 Ml/d.

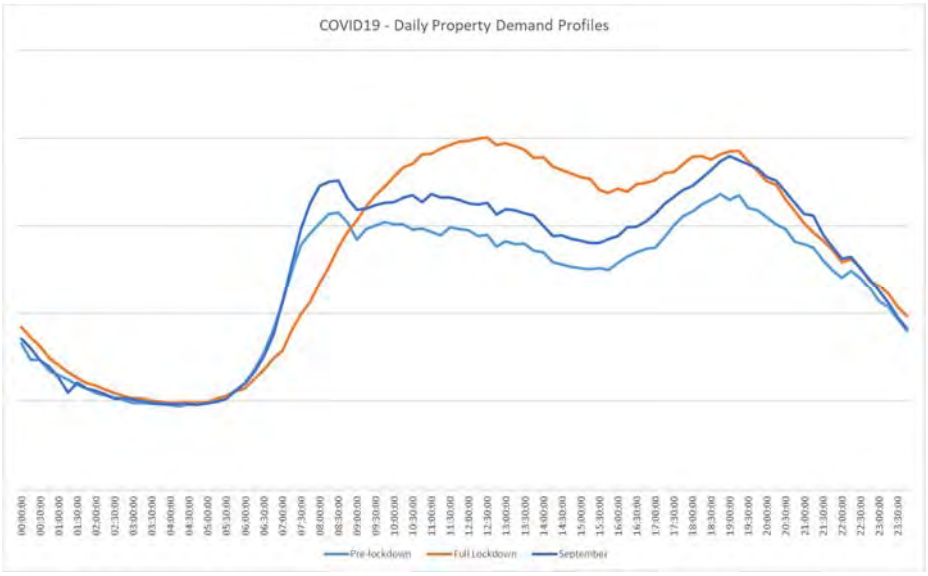
Total leakage is also calculated using an MNF methodology. For AIR20 the reported pre MLE MNF method leakage was 157.15 Ml/d. The figure reported for AIR21 is 154.74 Ml/d and equates to a decrease in BU leakage of 2.41 Ml/d.

NI Water has an extensive DMA network (approx. 1090 DMAs) covering 98% of all properties in Northern Ireland. All DMAs are monitored and exporting 15 minute flow data into corporate software systems and for leakage analysis. Approximately 93% of these DMAs are now monitored with electromagnetic meters with a direct link to the company telemetry system. The remaining DMAs are monitored by utilising data loggers attached to mechanical meters, and over the last few years logger data has migrated from GSM to GPRS communication technology. The GPRS loggers have an automatic link to the company's telemetry system and are programmed to provide data multiple times per day. NI Water are configuring the alarm capability of these loggers.

DMA minimum night flows (MNF) continue to be determined using a 20th percentile method. Minimum night flows are recorded on a daily basis.

Although NI Water stated that the household night-use would be updated annually, for AIR21, the company specific night use allowance for households has remained at 2.64 l/prop/hr. The household night use figure has been reviewed for AIR21 however the output of this indicates an increase of 26%. This calculation has utilised the fast-logging technology installed over the last 2 years however it would be prudent to undertake more detailed analysis to substantiate the use of these results.

Analysis of daily household consumption patterns before, during and after the imposed initial lockdown shows that the demand increase occurred during the day with nighttime usage remaining broadly consistent.



NI Water has also engaged RPS to undertake a review study to determine the benefits of moving the billed unmeasured household calculation from PCC to PHC. This would better align the calculation to that of GB water companies and with best practice and would provide evidence of geographic and seasonal demand variances within NI Water.

Previous commentaries have discussed that the PCC monitored property sites may not be fully representative of households within rural and remote rural areas. Analysis is ongoing

as to the most appropriate use of fast-logging data and this will likely lead to a change in methodology for the calculation of household night uses which will be documented fully.

The measured non-household night use allowance figure for AIR13 was 8 l/prop/hr as documented in 'Managing Leakage', however as stated in the AIR14 commentary, Netbase has become the leakage reporting tool for AIR14 onwards which utilises an integrated night use model embedded within Netbase which was developed based on the best practice as outlined in the UKWIR Report 'Estimating Legitimate Non-Household Night Use Allowances' for AIR10. This model was calibrated using approximately 1000 customer datasets and dynamically assesses night use based on consumption and consumer industry type. The equivalent industry weighted measured non-household night use figure for AIR21 is 17.6 l/prop/hr. This is a reduction in night use from 20.4 l/prop/hr in AIR20 and reflects the impact of COVID19 restrictions and the decrease in non-household consumption.

During PC21, the installation of loggers across a statistically representative sample of non-households will allow the dynamic and seasonal calculation of non-household night uses. This will be consistent with current industry best practice.

According to the guidance provided in the reporting requirements, this line calculates total leakage by adding Distribution Losses (line 24) to the various calculated SPL components for MHH, UHH, MNHH, UNHH & voids. The SPL figure was reassessed for the PC13 period as 39.91 Ml/d. It was proposed that SPL would be reassessed during the PC15 period and as part of an SELL study. The reported SPL using 2015/16 base data is 43.64 Ml/d.

As agreed with the Utility Regulator for the inclusion of stable data during a PC reporting period, total customer SPL remains at 39.91 Ml/d, however it should be noted that the trend over recent reporting years shows that the number of unreported customer side leakage defects, resulting in the issue of a Leak Notice, has increased by 52% since the SPL review utilising 2012/13 base data.

Similarly, NI Water's service reservoir leakage and trunk main leakage remains constant at 4.53 Ml/d and 13.66 Ml/d respectively. NI Water has continued to develop a company specific assessment for both trunk main and service reservoir leakage based on a flow balance methodology. This is consistent with the recommendations of the Reporter and Utility Regulator.

NI Water continues to investigate potential leakage within these audits and is undertaking a number of proactive steps to identify and resolve leakage and calculation issues.
However, NI Water consider it prudent to fully investigate the audits with perceived leakage to understand the resource economics and uncertainty associated with flow balances for trunk mains and service reservoirs.

Further work is required to refine NI Water's estimate and methodology particularly in relation to meter uncertainty. NI Water have engaged with other England & Wales water companies along with Scottish Water with a view of undertaking a joint research project into large diameter meter uncertainties in conjunction with WRc.

In addition, NI Water will review the recently published UKWIR report "Leakage Upstream of District Meters", and will assess trunk main and service reservoir leakage with a view to meet best practice.

A 10% error estimate has been applied to BU Leakage in the MLE calculation following the implementation of Netbase for PC13. This reflects the continued improvement in data quality resulting in the reduction of the error estimate from 15% reported in AIR13.

Line 26 – Distribution Input

The distribution input figure for AIR21 is calculated as a post MLE figure of 595.72 Ml/d. The distribution figure for AIR20 was 586.56 Ml/d. This increase was likely due to the increased household demand observed during the imposed COVID19 restrictions.

The company specific confidence interval for distribution input for AIR21 remains at 2.1% and is unchanged from AIR20.

The method of reporting and calculating the company distribution input figure remains consistent in that it is based on a definitive number of input meters. As in previous years, NI Water has continued with an annual programme of calibration of DI meters.

In line with the guidance provided, details of the distribution input for each of the PPP Water Treatment Works site is as follows:

	pre-MLE (Ml/d)	post-MLE (Ml/d)
Ballinrees	28.89	28.79
Castor Bay	114.40	114.02
Dunore Point	109.53	109.16
Moyola	15.25	15.20
Total	**268.07**	**267.08**

Line 27 to 28 – Bulk Supply Imports / Exports

There are no bulk imports of water to NI Water. There is one small import from the Republic of Ireland which supplies 3 properties.

There are 78 small exports to the Republic of Ireland. These exports are predominately individually metered customers and these meters are read and billed through RAPID in a category known as cross border supplies. This figure is included in the metered non-household consumption category.

The post MLE volume amounts to 0.41 Ml/d and includes an MUR adjustment of 5.75%.

Line 29 – Water Treated At Own Works to Own Customers

With the exception of the 78 small exports above, all water treated at its own works is used by NI Water's own customers. The post MLE distribution input volume amounts to 595.72 Ml/d and deducting the cross border exports the volume of water treated at NI Water's own works to its own customers is 595.31 Ml/d.

Overall Water Balance

AIR21 - Water Balance						
NIW	**Pre MLE** (mld)	**Error estimate** (%)	**Confidence Range** (mld)	**% of total**	**MLE Adjustment** (mld)	**Post MLE** (mld)
Billed Measured HH	0.00	10%	0.00	0.0%	0.00	0.00
Billed Measured NHH	113.59	10%	129.03	8.0%	1.60	115.19
Billed Unmeasured HH	328.81	10%	1081.16	66.6%	13.40	342.21
Billed Unmeasured NHH	4.52	15%	0.46	0.0%	0.01	4.52
SPL	39.91					39.91
DSOU	3.13	25%	0.61	0.0%	0.01	3.14
Water Taken Unbilled	12.73	25%	10.13	0.6%	0.13	12.86
Sum of components	577.61					595.72
Distribution Input	597.73	2%	162.10	10.0%	2.01	595.72
Top Down Leakage	**174.86**					
BU Leakage	**154.74**	10%	239.46	14.8%	2.97	**157.71**
Imbalance (mld)	**20.12**			100.0%		
% Imbalance	**3.37%**					**477.92**

Table 1: Water Balance

The Water Balance produces an overall imbalance of 20.12 Ml/d, (3.37%). The imbalance reported for AIR20 was 20.52 Ml/d, (3.49%).

It is considered that in applying the confidence grade in accordance with the guidance notes contained in Table 10 of the NIAUR Annual Information Return Reporting Requirements and Definitions Manual 2020, the confidence grade applied to the NI Water's water balance for AIR21 is B2. The confidence level for the overall water balance for AIR20 was B2.

Confidence Grades

All components in the water balance are subject to errors to a greater or lesser extent, and as a method of comparing the accuracy and robustness of water balance components, the Utility Regulator uses an Alpha-numeric confidence grading system consisting of reliability bands (A to D) and Accuracy Bands (1 to 6).

NI Water adopted this approach a number of years ago and the current confidence grading for the water balance are shown in Table 2 below.

Line 7 – The Unmeasured Non-household Water Delivered confidence grade remains a B4 for AIR21.
An error estimate of 15% has been applied to this component in the MLE calculations.

Line 7a – Unmeasured Household Water delivered has been assigned a confidence grade of B3. This remains unchanged from AIR20.

Line 8 - Unmeasured Household Per Capita Consumption has a confidence grade of B3. This component has been calculated using the company's own consumption monitor data and remains unchanged from AIR20.

Line 25 - Total Leakage has a confidence grade of B3 for AIR21 and is consistent with AIR20.

A 10% error estimate has been applied to BU Leakage in the MLE calculation following the implementation of Netbase for PC13. This reflects the continued improvement in data quality resulting in the reduction in error estimate from 15% reported in AIR13.

Line 26 - Distribution Input has a confidence grade of B2. The sum of components and the distribution input balance to less than 5%.
A 2.1% error estimate has been applied to DI in the MLE calculation.

Line 30 - In accordance with the definition provided by the Utility Regulator the overall Water Balance has a confidence grade of B2 in AIR21.

It is considered appropriate that the confidence grade for AIR21 is B2, as the water balance components reconcile with measured distribution input to greater than 2% and less than 5%. Similar to AIR20, Bottom Up leakage is estimated with over 80% of properties continually monitored through night line analysis (recorded more than 20 times per year) and sample flow balance audits have been undertaken on service reservoirs and trunk mains.

Table 2 Water Delivered Components Confidence Grades

Component	Reliability Bands				Accuracy Bands						
	A	B	C	D	1 <1%	2 1-5%	3 5-10%	4 10-25%	5 25-50%	6 50-100%	X
Unmeasured Non-Household Water Delivered (l/prop/d)											
Unmeasured Household Water Delivered (l/prop/d)											
Unmeasured Household Per Capita Consumption (l/head/d)											
Total Leakage (Ml/d)											
Distribution Input (Ml/d)											
Overall Water Balance											

Lines 31 - Security of Supply

Security of Supply is discussed in Table 10a.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURE

SECURITY OF SUPPLY INDEX - PLANNED LEVEL OF SERVICE (TOTAL)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	**WAFU (EA definition) (Ml/d)**	**Bulk imports (Ml/d)**	**Bulk exports (Ml/d)**	**Dry year distribution input (Ml/d)**	**Reporting year distribution input (Ml/d)**	**Dry year available headroom (Ml/d)**	**Target headroom (Ml/d)**	**Surplus/ deficit (Ml/d)**	**Percentage surplus/ deficit (Ml/d)**	**Zonal population**	**Percentage of total population with headroom deficit**	**Zonal index (%age deficit^2 x % population affected x 100)**	**Security of supply index**
North	107.35	0.00	0.00	73.47	74.70	33.88	2.46	31.42	0.41	255.095	0.00	0.00	
West	38.95	0.00	0.00	37.96	38.59	0.99	1.11	-0.12	0.00	100.380	0.05	0.00	
Central	32.68	0.00	0.00	28.42	28.90	4.26	0.91	3.35	0.11	85.526	0.00	0.00	
East	301.50	0.00	0.00	242.20	246.27	59.30	5.36	53.94	0.22	844.527	0.00	0.00	
South	157.75	0.00	0.00	139.34	141.67	18.41	4.65	13.76	0.10	364.529	0.00	0.00	
North East	84.75	0.00	0.00	40.42	41.09	44.33	4.48	39.85	0.89	176.872	0.00	0.00	
South West	36.10	0.00	0.00	26.17	26.61	9.93	1.26	8.67	0.32	68.942	0.00	0.00	
Total	759.08	0.00	0.00	587.97	597.84					1895.870		0.00	99.00

Table 10a (i) – Non Financial Measures - Security of Supply Index – Planned level of service

NI Water published its Water Resource and Supply Resilience Plan (WR & SR Plan) in June 2020. The WR&SR Plan takes 2014/15 as its base year and has a planning horizon up to 2042/43 for the Water Resource Management element. The Security of Supply Index (SoSI) calculated for AIR21 is based on Ofwat's letter RD 03/02, and is formulated for the first time from the information presented in the WR & SR Plan. It should be noted previous returns relating to SOSI where based on the 2012 Plan.

There have been changes to a number of the inputs in the calculation, based on the latest WR&SR Plan compared to previous, and these are detailed below:

1. The 2020 WR&SR Plan has seen the creation of two additional WRZs, increasing from 5 WRZs to 7 WRZs:
    a. The 2012 West WRZ has been split into two zones, the West WRZ and the South West WRZ. The reason for this split is the lack of connectivity across the new WRZ boundary resulting in differing levels of risk between the zones.
    b. The 2012 South and East WRZs have been split into 3 zones (South, East and North East) which better reflect the operation of the supply system.
    c. Supply to Belfast has been combined into the new East WRZ as there is extensive interconnectivity in this area.
    d. The selection of the North East/East resource zone boundary is based on the limited connectivity between the Water Supply Zones (WSZs) along this boundary. The exception is the bulk transfer from Dunore Point WTW, in the North East Zone, to Hydepark Service Reservoir (SR), in the Eastern Zone. However, as this provides a distinct and measured boundary point this was considered an appropriate border.
    e. The selection of the South/East boundary is based on the lack of interconnectivity between the WSZs along this line. While both zones have supplies from Castor Bay WTW, they both have their own dedicated trunk mains direct from the WTW.
    f. Rathlin Island has been included in the North WRZ as in the event of a water shortage on Rathlin, water from the North WRZ is tankered in to meet the shortfall.
2. The latest Water Available for Use (WAFU) figure has decreased from the 2012 plan by 13.95Ml/d from 773.05Ml/d to 759.1Ml/d. This is due to a number of reasons including an increase in outage allowance from 2% to 5% and the decommissioning of Camlough WTWs.
3. The dry year uplift factor has decreased in the latest plan from 7% in 2012 to 1.7% in 2020.
4. There are no bulk imports coming from outside the company but it should be noted that Column 2 (WAFU) of table 10a (i) includes the contributions from NI Water Clear PPP sites.

The total population figure used within the SoSI calculation has been confirmed to correspond with the population figure used in AIR 21 Table 7.

As part of previous reporters Recommendations, it stated that *'Recommend as part of the WMRP update the Company continues to investigate if data exists to further refine the normal year uplift.'*

To that end the outputs from the WR&SRP outputs have been used in the calculation of the 'dry year uplift factor.' The 'dry year uplift factor' refers to the % uplift that should be applied to average demand (Ml/d) in a normal weather year to estimate the average demand (Ml/d) in a dry weather year. Three approaches were assessed:

- Increased Summer Demand
- Increased Summer PCC
- Monthly weather-demand modelling

The Monthly Weather-Demand Model was the preferred model. This statistical regression model was developed to produce a relationship between monthly distribution input and weather parameters for the period April 2008 to March 2015 for which monthly regional demand data was available. A statistically very significant relationship was found between monthly demand and monthly average temperature and monthly total rainfall. However, the R-squared value (which measures the quantity of variance explained) by the model was 40%, and so the accuracy of the predictions may be poor.

The model was used to predict the monthly demands that could have been expected now in the event of 1995/96 weather (the most dry and hot year on record). This suggested that summer demand would be 3.39% higher than the base demand, leading to an estimate of dry year uplift factor of 1.7% (i.e. half of 3.39%). In essence, Summer Demand would be 3.39% higher for DYAA than NYAA.

Based on analysis carried out on historical rainfall and temperature data from 1988 to 2021, 2020/21 is deemed as a "Warm & Dry" year as can be seen in Figure 1 below. The monthly demand weather model was populated with the outputs for 2020/21 and this estimates the average DI would be 1.65% lower in a dry year (like 1995/96) than in 2020/21. This was calculated, as the DI was 3.35% higher in 2020/21 than would be expected in NYAA.

Therefore the Dry Year Uplift Factor then would be 1.7% (Difference in DYAA TO NYAA) – 3.35% (Difference in 2020/21 to NYAA) which equates to -1.65% (1.7% - 3.35% = -1.65 so 0.9835). Thus, an uplift factor of 0.9835 has been used in the SoSI 21 calculation.

It should be noted that 2020/21 is deemed as a "Warm & Dry" year and the average DI for 20/21 is the highest since 2010/11 at 597.84Ml/d an increase of 1.55% from 2019/20.

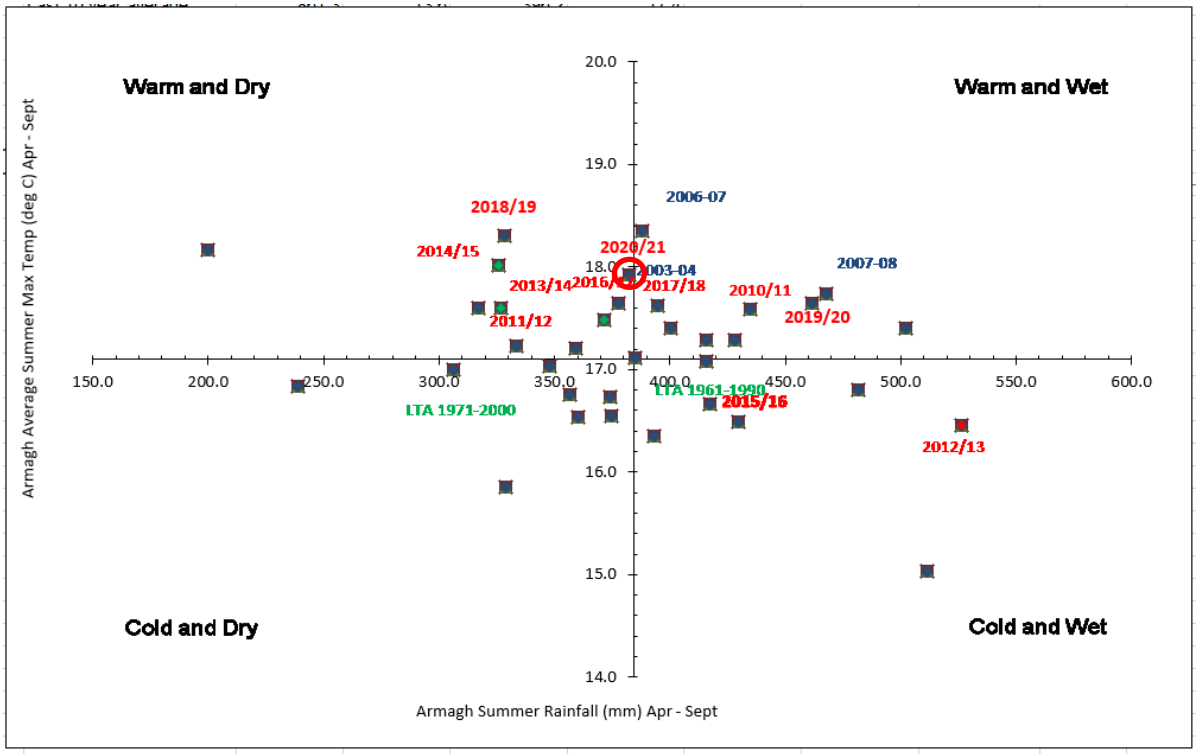


Figure 1 – Historical rainfall & Temperature Data Summer (April-September 2020)

The overall SOSI is when rounded down is **99%** (99.9953 Actual). This is due to a small deficit within the West Water Resource Zone and is first time NI Water have reported a figure less than 100.

As highlighted above although the DI for 20/21 is the highest since 2010/11 it was not necessarily the warmest and driest year in the intervening period albeit that Spring 2020 was exceptionally warm and dry. The biggest impact on DI is due to Covid, which has seen an increase in DI due the changing working and hygiene habits of the general population.

The WR & SR Plan did indicate a small surplus under DYAA within the West Zone however the current demands are in excess of what was modelled. It should be noted that a deficit was identified within the Zone under a Dry Year Critical Period (3.5Ml/d) and a new 17Ml/d Trunk Main to transfer water from the North Zone to the Central Zone has received funding and is planned to be completed in PC21. This trunk main will resolve any future issues within this Zone and once complete the SOSI will return to 100%.

In addition, since the development of the latest Water Resource & Supply Resilience Plan there is the ability to transfer up to 1Ml/d from the South West Zone to the West Zone, which would increase the WAFU for the West Zone if recalculated today.

Table 10a (iii) – Non Financial Measures - Security of Supply Index – Critical Period (TOTAL)

The security of supply index has been calculated based on the outputs from the Water Resource Management Plan (WRMP) 2020.

In previous years, the assumption by NI Water was that a SOSI – Critical Period has not been required. The previous justification has been that:-

The supplies available to NI Water are dominated by abstractions from Lough Neagh, which can be considered an infinite hydrological storage resource. In addition, recent demand data does not suggest that there is a strong peak demand driver in Northern Ireland. For these reasons, it is not appropriate or necessary to consider the critical period scenario for Northern Ireland, because this is not the primary driver for investment to maintain the supply demand balance. On this basis, there has been no need for NI Water to develop a SOSI calculation for a critical period.

As part of the Reporters Recommendations for AIR15, he stated- *Recommend the Company reassess the need for a Critical Period SOSI during its preparation of WRMP17.*

As highlighted previously as part of the current Water Resource and Supply Resilience Plan, critical periods were included within the analysis and it was felt a critical period SOSI should be available. This is now the case and a Critical SOSI calculation will be carried out for the first year of PC21 (AIR22).

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 11 NON FINANCIAL MEASURES
WATER SERVICE ACTIVITIES (NI Water Only)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**ASSET BALANCE AT APRIL 1**																				
1	Total length of mains	km	2	26,499.03	B3	26,700.79	B3	26,710.55	B3	26,712.44	B3	26,728.83	B3	26,778.15	B3	26,837.45	B3	26,958.40	B3	27,002.82	B3
B	**CHANGES DURING REPORT YEAR**																				
2	Mains renewed	km	2	285.42	A2	202.31	A2	164.91	A2	105.24	A2	161.29	A2	120.55	A2	154.66	A2	133.94	A2	96.65	A2
3	Mains relined	km	2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
4	Mains cleaned (total)	km	2	683.75	B3	1,096.52	B2	1,189.50	B2	1,191.68	B3	1,665.69	B3	2,008.61	B3	2,257.19	B3	2,390.31	B3	2,189.20	B3
6	New mains	km	2	89.05	B2	50.40	B2	118.24	B2	76.51	B2	75.22	B2	92.43	B2	83.91	B2	81.68	B2	64.92	B2
6a	Total length of new, renewed or relined mains	km	2	374.47		252.72	A2	283.15	A2	181.75	B2	236.51	A2	212.98	A2	238.57	A2	215.62	A2	161.57	A2
6b	Length of new, renewed or relined mains delivered under the watermain rehabilitation programme	km	2	326.41		226.13	A2	222.66	A2	116.92	A2	172.27	A2	126.00	A2	166.52	A2	149.33	A2	104.13	A2
7	Mains abandoned and other changes	km	2	357.29	A2	214.62	A2	208.09	A2	105.51	A2	167.55	A2	124.24	A2	158.49	A2	135.13	A2	89.05	A2
8a	Lead communication pipes replaced as a consequence of water quality sample failures	nr	0			20	B2	15	B2	37	B2	44	B2	43	B2	35	B2	18	B2	17	B2
8b	Lead communication pipes replaced as a consequence of customers notifying NI Water that they are replacing their lead supply pipe	nr	0			617	B2	566	B2	703	B2	599	B2	574	B2	562	B2	455	B2	324	B2
8c	Opportunistic lead communication pipes replacement undertaken under the watermain rehabilitation programme or during burst service pipe repairs	nr	0			1239	A2	2747	A2	660	B2	1801	A2	76	B3	75	B3	41	B3	28	B3
8d	Lead communication pipes replaced under the proactive lead replacement programme	nr	0			0	A1	401	B2	1,922	B2	1,867	A2	1,767	A2	2,070	A2	1,781	A2	1,675	A2
9	Total lead communication pipes replaced	nr	0	1,271	B3	1,876	B3	3,729	B2	3,322	B2	4,311	A2	2,460	A2	2,742	A2	2,295	A2	2,044	A2
10	Communication pipes replaced - other	nr	0	8,566	B3	8,790	B3	7,469	B3	3,915	B3	5,608	B2	3,769	B2	4,232	B2	5,664	A2	3,739	A2
11	Mains bursts per 1000km	nr	0	93	B3	86	B3	85	B3	74	B3	80	B3	91	B3	92	B3	82	B3	88	B3
C	**ASSET BALANCE AT MARCH 31**																				
12	Total length of mains	km	2	26,700.79	B3	26,710.55	B3	26,712.44	B3	26,728.83	B3	26,778.15	B3	26,837.45	B3	26,958.40	B3	27,002.82	B3	27,014.82	B3
D	**DISTRIBUTION STUDIES**																				
13	Cumulative number of distribution zone studies completed	nr	0	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1
14	Distribution zone studies ongoing	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1
15	Total distribution zones identified for study	nr	0	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1	71	A1
16	Cumulative % distribution zone studies completed	%	1	100	A1	100	A1	100	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1
17	Percentage population/properties - completed studies	%	1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1	100.0	A1
E	**WATER QUALITY COMPLIANCE MEASURES**																				
18	% overall compliance with drinking water regulations	%	2	99.77		99.81		99.86		99.83	A2	99.86	A2	99.88	A2	99.90	A2	99.90	A2	99.94	A2
19	% compliance at consumers tap	%	2	99.63		99.74		99.78		99.74	A2	99.77	A2	99.81	A2	99.83	A2	99.84	A2	99.91	A2
20	% iron compliance at consumers tap	%	2	97.25		98.08		98.95		98.40	A2	98.66	A2	98.85	A2	98.94	A2	98.89	A2	99.56	A2
21	% Service Reservoirs with coliforms in >5% samples	%	2	0.00		0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A2	0.00	A1	0.00	A1	0.00	A1
F	**NOMINATED WATER SERVICE OUTPUTS**																				
22	Completion of nominated trunk main schemes	nr	0	2	A1	0	A1	1	A1	2	A1	1	A1	0	A1	0	A1	0	A1	1	A1
23	Completion of nominated water treatment works schemes	nr	0	0	A1	0	A1	3	A1	1	A1	0	A1	0	A1	0	A1	1	A1	1	A1
24	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks	nr	0	1	A1	0	A1	1	A1	0	A1	0	A1	1	A1	0	A1	1	A1	1	A1
G	**ADDITIONAL WATER SERVICE OUTPUT MEASURES**																				
25	Number of Catchment Management Plans	nr	0			3	A1	5	A1	3	A1	7	A1	3	A1	0	A1	2	A1	0	A1
26	Number of school visits	nr	0	138		150		209		277	A1	257	A1	219	A1	246	A1	229	A1	266	A1
27	Number of other education events	nr	0	35		38		59		65	A1	64	A1	62	A1	66	A1	143	A1	12	A1
28	% Service Reservoirs where sample taps have been assessed and are to required standard	%	1							0.0	A1	0.0	A1	72.9	A2	98.3	A1	100.0	A1	100.0	A1

Table 11– Water Service Activities

Line 1 – Total length of mains at 1st April 2020

This value has been extracted from AIR20 return.

Lines 2 to 10 - Changes during the reporting year

This document provides the commentary on the following tables and lines for NI Water
It records the amount of capital and maintenance activity carried out in the report year 20/21 on water mains and communication pipes and reviews progress on some PC15 targets.

The figures for these lines were supplied respectively by:

- Consultants: Capita Infrastructure and Real Estate, on behalf of the Asset Delivery Team, by extracting and summarising the source output data of Projects Progress, (which are submitted monthly by Asset Delivery).
- The Water Production Line (Networks Water/Water Business Unit), on behalf of The Customer Services Directorate (CSD), by extracting and summarising the source output data from their monthly reporting records.

Total Mains Activity Progress

Northern Ireland Water has delivered 161.86km (i.e. the total of the table below) of total mains activity in this period. (No relining has been carried out in this period).

Watermains Rehabilitation Progress against PC15 Target

The cumulative length of Watermains Rehabilitation pipelines completed to the end of year 5 from the Line 6b output in AIR16, 17,18 ,19 and 20 was:
116.92km + 172.27km + 126.00km + 166.52km + 149.33 = 731.04 by end of year 5 of PC15

The final PC15 total achieved at end of year 6 is:
731.04 + (21.65km of new mains + 82.48km of rehabilitated mains=) 104.13

Final Output Total achieved for Watermains Rehabilitation = 835.17km

A final year target to be achieved in PC15 was discussed in year 5 by the *NIW Organisational Review Group (ORG)*, however no formal Change Control was ever submitted to ORG to seek a change to Watermains rehab targets as this programme is integral to the overall Base investment by NI Water and the funding for same is provided by means of modelled econometric comparative assessment which of itself does not define a watermains rehab target but an overall base investment

NI Water had asked for greater allocation of CDEL funding to be greater in Year 5 than Year 6 to enable us to deliver more PC15 Outputs and unfortunately DFI were unable to facilitate this. Given NI Water had invested more in Base Maintenance than the £530m PC15 FD allocation we sought to balance overall base spend and thus reduced the investment in watermains rehab as the serviceability metric for watermains remained positive.

Based upon the above NI Water decided to reduce the target for Watermains for PC15 but this means that the overall target of 905km was not achieved during PC15. Despite this target not being achieved the serviceability measures associated with the water network remain stable with other initiatives including the ‘Interruption to Supply Strategy implementation’ projects providing positive customer impacts.

Watermains Rehabilitation Progress against PC15 Target

Summary: The cumulative length achieved in PC15 = 835.17km, marginally short of the PC15 Final determination of 905km without any negative customer impacts.

Proactive Lead Replacements Total against PC15 Target

The AIR21 sub programme 23 results showed 1,675nr lead pipes replaced as a result of the implementation of the proactive lead replacement programme.

The 6 year PC 15 target of 11,064 Nr is therefore exceeded as the number of lead communications pipe replacements respectively from AIR16 to AIR21is:
1,922 + 1,867 + 1,767 + 2,070 + 1,781 + 1675= 11 082

The PC15 final total of proactive lead Replacements is 9,407nr + 1675 = 11 082
This output figure exceeds the target of 1,844 x 6= 11 064nr

Final Proactive Lead Replacement Progress against PC15 Target

The Lead Communications pipe replacement target for the whole of PC15 has been achieved and exceeded by 18 extra Lead communications pipes

Summary of Mains Activity Figures for PC15

Activity Description	Total Return AIR16 (km)	Total Return AIR17 (km)	Total Return AIR18 (km)	Total Return AIR19 (km)	Total Return AIR20 (km)	Total Return AIR21 (km)	PC15 TOTAL (km)
New Mains (WMRP)	12.87	11.77	17.60	23.12	18.90	21,65	105.91
Renewed Mains (WMRP)	104.05	160.50	108.40	143.40	130.43	82.48	729.26
Relined Mains (WMRP)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total WMRP Activity	**116.92**	**172.27**	**126.00**	**166.52**	**149.33**	**104.13**	**835.17**
Nominated Trunk Mains (New)	20.32	7.86	0.00	0.00	0.00	0.00	28.18
Nominated Trunk Mains (Renewed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Nominated Trunk Mains Activity	**20.32**	**7.86**	**0.00**	**0.00**	**0.00**	**0.00**	**28.18**
Sub Programme 23c and 23e Trunk Mains	0.00	0.00	10.98	10.02	1.54	8.18	30.72
Sub Programme 23c and 23e Distribution Mains	0.00	0.00	0.00	0.00	1.88	5.01	6.89
Total Sub Programme 23c and 23e	**0.00**	**0.00**	**10.98**	**10.02**	**3.42**	**13.19**	**37.61**
New Mains – within new Developments	42.37	55.59	74.83	60.79	62.78	43.27	339.63
Total mains within new Developments	**42.37**	**55.59**	**74.83**	**60.79**	**62.78**	**43.27**	**339.63**
1st Time Services – Serving New Developments	0.95	0.00	0.00	0.00	0.00	0.29	1.24
1st Time Services - Renewed	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Activity Description	Total Return AIR16 (km)	Total Return AIR17 (km)	Total Return AIR18 (km)	Total Return AIR19 (km)	Total Return AIR20 (km)	Total Return AIR21 (km)	PC15 TOTAL (km)
Total 1st Time Services	**0.95**	**0.00**	**0.00**	**0.00**	**0.00**	**0.29**	**1.24**
Mains Development/Diversions - Renewed	1.19	0.79	1.17	1.24	0.09	0.98	5.46
Total New Development Activity	**1.19**	**0.79**	**1.17**	**1.24**	**0.09**	**0.98**	**5.46**
Total Mains Activity in the Period	**181.75**	**236.51**	**212.98**	**238.57**	**215.62**	**161.86**	**1247.29**

Strategic Trunk Mains and Related Distribution Mains Progress for PC15 - Year 6

Nominated Trunk Mains

JB693 Carland – Cookstown Strategic TM

No pipe laying work took place in this reporting period on this scheme this pipeline is now complete.

JR342 Strategic Link Castor Bay – Belfast

No pipe laying work took place in this reporting period on this scheme this pipeline is now complete.

Sub Programme 23c: Previous Trunk Mains Rehabilitation during PC15 Period

The following Non-Nominated Trunk Mains were addressed in PC15 during 18/19 as risk based prioritised rehabilitation schemes.

JN550 Lough Fea to Kingmills TM

No pipe laying work took place in this reporting period on this scheme this pipeline is now complete.

JN544 Doochrock to Drumkeeran TM

No pipe laying work took place in this reporting period on this scheme this pipeline is now complete.

JN545 112 Alleyhill to Doochrock

No pipe laying work took place in this reporting period on this scheme this pipeline is now complete.

Sub Programme 23c: Trunk Mains Rehabilitation during AIR21 Period

JL785 A6 Dungiven Drumahoe

As part of the A6 Dungiven Drumahoe TNI Project JL785, 4.27km of replacement trunk/strategic main was installed during this reporting period.
As part of the A6 Dungiven Drumahoe TNI Project JL785, 3.52km of replacement distribution mains were installed during this reporting period.

AIR 21 ONLY

JC 404 113 Gortycavan Road

As part of this scheme 3.85km of replacement trunk/strategic mains was installed during this reporting period.

As part of the Gortycavan Road Project 0.075km of replacement distribution mains was installed during this reporting period.

JA 308 Deerpark Road Toome and Creagh Road Toome

As part of the JA 308 Deerpark Road Toome and Creagh Road Toome

1.42km of replacement distribution mains were installed during this reporting period.

JN 561 111 Glenhordial to Killybrack Replacement

As part of this scheme 0.063km of replacement trunk/strategic mains was installed during this reporting period.

Sub Programme 23e: Appraisal of NI Water Infrastructure at Railways, DRD Road and Pipe Bridges (Water)

JI 048 Resilience of Pipelines Crossing Northern Ireland Railways Track

This Project involves the slip lining, (insertion of a smaller pipe inside the existing pipe), to rehabilitate the pipeline. This work is not funded out of Watermains Rehabilitation.
In this period (0km) of Watermains pipeline under railway tracks were slip lined.
TOTAL AIR21 = 0.0km

1. *The Total of Trunk/Strategic mains installed in this reporting period comes to 4.27km + 3.85km + 0.063km = = 8.18km*
2. *The Total of Distribution mains installed in this reporting period (not funded by Watermains Rehab Budget) comes to 3.52km + 0.075km + 1.42km = 5.01km*

Line 2 - Mains renewed (km)

Line	Description	Units	DP	AD	AD CG	CSD	CSD CG	Total	Overall CG
2	Mains renewed	km	2	95.67	A2	0.98	**B3**	96.65	**A2**

Asset Delivery

- The Asset Delivery team has continued its method of reporting on renewed mains in line 2 to comply with the Regulator's Annual Information Return reporting requirements and definitions manual.
- The Asset Delivery Figure is made up of 82.48km of Watermains Rehabilitation and 5.01km of distribution mains related to the A6 Roadworks and Gortycavan schemes, the 8.18km of trunk mains installed under these schemes also (including the replacement of the outlet from Glenhordial to Killybrack)
- **TOTAL AD FIGURE =95.67km check**
- This figure does not include first time services
- Asset Delivery is the primary contributor to this information
- The confidence grade is therefore A2

CSD Networks Water

- CSD Networks Water has continued to manage some smaller schemes, for example, social housing redevelopments and minor mains diversions or realignments.
- The Water Production Line (Networks Water) underwent some restructuring, effective from the 10th June 2019, and focus on responsibility for providing data for this line switched from the old Business to Customer (B2C) Field Mangers to Requisition and Construction Managers (R&C Managers) based in **Developer Services (DS) Function.** Distribution and Maintenance Field Managers within the Water Production Line also still have the ability to report any mains renewals, if appropriate, but details provided through this source would be very minimal.
- **Total delivered in this period is 0.98km**
- This confidence grade is B3
- Networks Water continues to develop the established process for monthly reporting using the Mobile Works Management system, as a source for base information

The CSD mains renewal work is usually very low volume as is the case here.
Continuing discussion and guidance is provided for the relevant Field Managers when providing this information.

The restructuring during June 2019 resulted in changes to some working practices and some focus may have been lost when reporting any relevant data. The length recorded for Networks Water has been provided by R&C Managers within Developer Services Function and shows an increase from last year but the figure is generally in line with the last 5 year's average.

Most of the workload relevant to this line is dependent on other bodies such as NIHE or Transport NI and is also customer driven. There is no set target for each year.

Overall Line Confidence Grade is A2 - The overall confidence grade is A2 due to the fact that the Asset Delivery return is 99 % of the total with minimal CSD input.

Line 3 - Mains relined (km)

At present this activity is not carried out either by Networks Water or by Asset Delivery and the Confidence Grade is A1 as the total is 0.00km.

Overall Line Confidence Grade is A1 as the return is zero for both Asset Delivery and CSD Networks Water.

There has been no change in the current mains relined figures in PC15 as this methodology is not currently used within NIW. The Asset Delivery Team continue to review the value for money from the delivery of mains relining.

Line 4 - Mains cleaned (km)

Line	Description	Units	DP	AD	AD CG	CSD	CSD CG	Total	Overall CG
4	Mains cleaned (total)	km	2	0.00	A2	2,189.20	**B3**	2,189.20	**B3**

Asset Delivery

No cleaning or flushing or conditioning activities have taken place in this reporting period through the AD Budget

Confidence Grade A2

CSD Networks Water

Detailed data for the reporting period was collated by the Water Business Unit using Mobile Work management (MWM) system reports. As directed by the Regulator, repeat flushing of the same length of main has been discounted.

Work Orders are automatically generated at various frequencies and dispatched to Distribution Technicians in the field. This information is captured on the MWM system.

The recorded units are the total number of reactive fire hydrant flushing jobs plus the count of flushing MST's active on the Ellipse system, minus those flushing MST's which have not been performed a minimum of once in the report year. This has been converted from units to km using a revised factor of 0.317km per flushing.
(See Methodology statement for detail).

- The 2021 information return is: 6906no. flushings x 0.317km per flush = 2189.20kms.
- This comprises a total count of 6720no. flushing MST's in Ellipse, minus 50no. flushing MST's identified as not having been carried out in the report year, plus 236no. reactive flushing jobs completed.

For AIR21, Maintenance Scheduled tasks (MST's), as part of the planned flushing programme, have continued to be implemented. The programme has been amended from the previous year only in that some frequencies of flushing have been reduced but locations remain generally the same. Some MST's have been removed due to the on-going mains rehabilitation programme and others added as a consequence of repeat customer complaints or water quality sample failures.

The flushing programme has generally not been affected by COVID-19 Contingency Planning but was temporarily suspended for a period from early June 2020 to early August 2020 for other reasons. This was due to a sustained period of high demand on the distribution network in the midst of a prolonged warm weather spell. There was however, no adverse impact caused by the suspension, on returns for the reporting year. This is evidenced by the figure of only 50no. MST's not being completed out of total no. of 6270 in the system.

The total length of main flushed has slightly decreased this year following successive increases over the previous 3 years .This is primarily down to a sizable reduction in the number of reactive flushings carried out and, to a lesser extent, a slight reduction in the applied flushing factor.

Following restructuring in June 19, Distribution Technicians, who complete the flushing MST's, have been able to become more customer focused as other tasks they would have previously carried out have been re-assigned elsewhere.

Confidence Grade B3

Although the total no. of reactive flushing jobs (236no.) may contain some repeat flushings, at the same location these are considered to be minimal and the Company considers the data collated for this line to be continually improving.

There is a slight decrease in the completed no. of reactive flushing's which may be linked to overall improvements in water quality standards and 'Calm Network' training completed by both Distribution Technicians and contractor's staff.

The Covid 19 pandemic may also be a factor with the impact of much larger numbers of people "working from home" but with a reduction in the number of face to face customer contacts.

The number of flushing MST's not carried out has also decreased noticeably from AIR 20 This may be down to the fact that other tasks carried out by Distribution Technicians, that were deemed "non-essential" during the pandemic, freed up more time for completion of flushing MSTs.
As per previous audit recommendations the number of flushing's have been converted to km.

The number of flushing's have been captured for the period 1st April 20 – 31st March 21 year using base information from MWM and then converted to km using the revised factor of 0.317.

The revised factor of 0.317km per flush is based on an increasing sample batch (401no. in total) being compiled throughout the year. Flushing details will continue to be added to the sample list and the applied factor revised as necessary throughout AIR 22.

The Total figure for mains cleaned by CSD throughout PC15 is as follows:
AIR16 = 1,191.68km, AIR17 = 1,665.69km, AIR18 = 2,008.61km, AIR19= 2,257.19km, AIR 20=2,319.45, AIR21 = 2,189.20 = 11,631.32km

Overall Confidence Grade = B3 as all of pipeline cleaning has been carried out by CSD

Future Reporting

For AIR 22 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information. The MST flushing programme is under continuous review with the addition and removal of MST's on an on-going basis and adjustments to the frequency of individual MST's. Data will continue to be collated in relation to reviewing the revised applied factor of 0.317km per flush.

Line 6 - New mains (km)

Line	Description	Units	DP	AD	AD CG	CSD	CSD CG	Total	Overall CG
6	New mains	km	2	21.65	A2	43.27	B2	64.92	B2

Asset Delivery

This is the output for the new mains which have been laid in year 20/21.

All Asset Delivery information is compiled from Asset Delivery contract management information monthly returns. This is an accurate measurement of the actual lengths of water

mains laid, renovated or replaced, compiled from contractor's on-site records. The information is collated from each individual contract on a monthly basis and aggregated into an overall annual figure.
The figure for 20/21 = 21.65km is comparable to previous years

The Asset Delivery Confidence Grade is A2. This figure is obtained from Monthly Reports in CMS and aggregated into an annual return.

CSD Networks Water
Data for the period April 20 – March 21 was collated by Field Managers using system reports, which when checked and confirmed, were transferred onto a spreadsheet managed by the Water Business Unit. This figure primarily includes data for new mains laid in new housing developments throughout the year.

Data for the period 1st April 20 – 31st March 21 was collated by Requisition and Construction Managers (R&C Managers) based in Developer Services (DS) function. When checked and confirmed the details were transferred onto a spreadsheet managed by the Water Business Unit. This figure primarily includes data for new mains laid in new housing developments throughout the year.

Networks Water (data provided by R&C Managers within DS) is the sole contributor for new mains laid in new housing developments. Asset Delivery Function is the primary contributor for new mains (replacement upsizing).

CSD Networks Confidence Grade is B2.
This figure shows an approximately 2/3 decrease from last year's figure and is primarily down to the impact of the COVID 19 pandemic and the suspension of progress in some developments. **T**his is particularly evident in the first quarter of the report year when restrictions were at their most stringent. It is expected that, as restrictions continue to be lifted and 'normality' returns, the housing market should begin to recover more vigorously and this figure will show a substantial increase for AIR 22

Future Reporting
For AIR 22 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

The Overall Line Confidence Grade is B2 for this line -This figure is arrived at by considering that the AD total is approximately half of the CSD total. It is reasonable therefore to state that the CG assessment is B2, as the CSD figure predominates.

The total new mains figure of 64.92km is made up of 21.65km of New Mains WMRP with 0 km of New Strategic Trunk Mains and 43.27km of first time services.

The final AIR21 figure of 64.92km is around 3/4 of last year's total.

Line 6a: Total Length of new, renewed or relined Mains (km)

Line	Description	Units	DP	AD	AD CG	CSD	CSD CG	Total	Overall CG
6a	New renewed or relined mains	Km	2	117.32	A2	44.25	B2	161.45	A2

This is the calculated sum of Lines 2, 3 and 6 the Asset Delivery Total 82.48km of Watermains Rehab plus 21.65km of new mains plus 8.06km of Trunk Main Rehab and 5.01km of replacement watermain as part of the TNI Dungiven to Drumahoe Project and related Road realignment schemes not funded by Watermains Rehabilitation Budget (see details above).

The AD Total is 82.48 + 21.65 +8.18+5.01 = 117.32km

The CSD Total of 44.25km is derived from 0.98km of renewed mains plus 43,27km of new mains = 44.25km. As this figure is the calculated sum of Lines 2,3 and 6 **The CSD Confidence Grade is B2**

Overall Line Confidence Grade is A2 as the Asset Delivery contribution is approximately one third of the total, the A2 Confidence Grade predominates.

Line 6b - Length of new, renewed or relined mains delivered under the Water Main Rehabilitation Programme (km)

Line	Description	Units	DP	AD	AD CG	Total	Overall CG
6b	New renewed or relined mains under WMRP	Km	2	104.13	A2	104.13	**A2**

AD (The sole contributor to this line) has continued its method of reporting on new mains in line 6 to comply with the Regulator's Annual Information Return reporting requirements and definitions manual.

The figure of 104.13km is derived from the Asset Delivery totals of 82.48km of Watermains Rehab plus New Watermains 21.65km = 104.13km in total.

Overall Line Confidence Grade is A2 as the Asset Delivery Team are the only contributors to this line.
The corresponding figures for the last 6 years is shown here:
AIR16=116.92km, AIR17=72.27km, AIR18 =126km, AIR19 =166.52km, AIR 20=149.33km
AIR 21=104.13km

The PC15 Running Total for mains installed under the Watermains Rehab Budget is calculated as the cumulative total to the end of March 2020 of 731.04km but now adding in this AIR21 total of 104.13km, to give a final PC15 total of 835.17km.
The cumulative output length achieved in PC15 under the Watermain Rehabilitation Programme = 835.17km

This is marginally short of the PC15 Final determination of 905km without any negative customer impacts. See discussion on the introduction summary above

Overall Line Confidence Grade is A2 as Asset Delivery contribution is 100% of the total here, therefore A2 is the Confidence Grade.

Line 7 - Mains abandoned and other changes (km)

Line	Description	Units	DP	AD	AD CG	CSD	CSD CG	Total	Overall CG
7	Mains abandoned	Km	2		A2	1.04	B3	89.05	**A2**

	and Other Changes			88.01					

Asset Delivery

The total of Abandoned Mains in this period = 81.28km, originally reported as abandoned (plus add in the 0.174km that was erroneously originally reported by AD as relining) = 81.45km

In addition there were abandoned mains arising outside of watermains rehabilitation on the many schemes required for Road Realignments
This abandonment figure comes to 6.56km

Add this 6.56km to the 81.45km of watermains rehab work gives an AD Total of 88.01km

Asset Delivery Confidence Grade is A2.

CSD Networks Water

Data for April 20 – March 21 was collated by Field Managers, confirmed and input onto a spread sheet managed by the Water Business Unit who collate the data for the annual reporting period. Asset Delivery is the primary contributor to this information but Networks Water will continue to have input where appropriate with smaller schemes, in particular social housing redevelopments and minor mains diversion. The figure for Networks Water is down from AIR 20 and can, in part probably be linked to the focus on only essential tasks being addressed during the Covid 19 pandemic

CSD Networks Water Confidence Grade is B3.
Continuing discussion and guidance will be on-going for the relevant Field Managers when providing this information, in particular following the restructuring within the Water Production Line in June 19.

Future Reporting
For AIR 22 Networks Water will continue to develop the established process for monthly reporting using MWM as a source for base information

The Overall Line Confidence Grade is A2 as approximately 98% of this return is from Asset Delivery**.**

Line 8a: Lead Communication pipes replaced – as a consequence of water quality sample failures (no.)

Line	Description	Units	CSD	Total	Overall CG
8a	Lead Communications Pipes replaced as consequence of WQ Sample Failures	Nr	17	17	B2

Data for the reporting period 1st April 20 – 31st March 21 was collated using system reports by Requisition and Construction Managers based in Developer Services Function. The details, when checked and confirmed, were input onto a spreadsheet. This is managed by the Water Business Unit which collates the data for the annual reporting period.

Confidence Grade: B2

Scientific Services section also hold records of addresses where water quality samples have failed in relation to lead content. This figure is down from last year's figure but

continues to be minimal compared to the figures submitted for Line 8b. The general trend over the last five years has been downwards and the drop in numbers may be attributable to the continuing high level of water quality standards and a reducing number of lead communication pipes remaining in the network. Sample locations are also random which means that areas where lead may still be prevalent can be under represented.

Future Reporting

For AIR 22 Networks Water will continue to use the refined definitions for Lead Communication Pipe replacements for monthly reporting using both MWM as a source for base information and Scientific Services records.

Overall Line Confidence Grade is B2.

Comment – This figure continues to be minimal compared to the figures submitted for Line 8b.

Line 8b - Lead Communication pipes replaced – as a consequence of customers replacing their lead supply pipe (no.)

Line	Description	Units	CSD	Total	Overall CG
8b	Lead Communications Pipes replaced as consequence of Customers notifying of supply pipe change	Nr	324	324	B2

Data for the reporting period 1st April 20 – 31st March 21 was collated using system reports by Requisition and Construction Managers (R&C Managers) based in Developer Services (DS) Function. When checked and confirmed the details were transferred onto a spreadsheet managed by the Water Business Unit.

Confidence Grade: B2

This figure continues to decline year on year but there is no set target for this line as it is customer driven. The continued reduction in numbers may be down to the ever declining number of lead services remaining in the network plus less private renovation work being carried out. COVID 19 has also contributed to a sharper decline this year compared to previous years and this is particularly evident during the first quarter of the report year.

Future Reporting

For AIR 22 Networks Water will continue to use the refined definitions for Lead Communication Pipe replacements for monthly reporting using MWM as a source for base information.

Line 8c - Lead Communication Pipes replaced – Opportunistic (no.)

Line	Description	Units	AD	AD CG	CSD	CSD CG	Total	Overall CG
8c	Opportunistic Lead Communications Pipes replaced	Nr	0	A2	28	**B3**	28	B3

Asset Delivery

The PC15 year 4 for sub programme 8 results showed zero lead communication pipes replaced as part of opportunistic lead replacement programme for asset delivery.

This is not something that seems to be currently recorded in the CPMR system, so it is feasible that there may have been some opportunistic lead communication pipes replaced while replacing existing watermains.
The potential recording of this is something that will need to be discussed for the next year reporting cycle within NIW.

CSD Networks Water

Data for the reporting period April 20 – March 21 was collated by the Water Business Unit using MWM system reports run on a monthly basis by Field Manager area for selected Standard Jobs. When checked and confirmed the data was input onto a spreadsheet managed by the Business Unit.

Confidence Grade: B3

This figure is down in comparison to the previous few years but could be indicative of fewer repairs in the network where lead is a factor. It is also in line with returns for Lines 8a and 8b.

It remains problematic when analysing some Work Orders to ascertain if a full communication pipe replacement has taken place and if lead was a factor. This is generally dependent on the repair crew adding suitable closure comments or on comments provided by the initiator of the job. There are varying degrees of accuracy and detail across different Field Manager areas.

Future Reporting

For AIR 22 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

The AD Team are currently looking into the ongoing reporting of this information as a BAU activity for PC21

The Overall Line Confidence Grade is B3 using the CSD figure of B3 due to the data dominance for this line BY CSD.

Line 8d - Lead Communication pipes replaced – Proactive lead replacement programme (no.)

Line	Description	Units	AD	Total	Overall CG
8d	Lead Communications Pipes replaced under proactive programme	Nr	1,675	1,675	**A2**

Overall Confidence Grade is A2 due to the fact that all of this data was sourced from the Asset Delivery Team whose CG is A2 for this line. This output figure is an accurate representation of this activity as it is a proactive Project focused on replacing a number of lead communications pipes in defined areas. Again this figure is extracted from the CMS/CPMR system.
The PC15 year 5 sub programme 23 results showed 1,781nr lead pipes replaced as a result of the implementation of the proactive lead replacement programme.

The AIR21 sub programme 23 results showed 1,675nr lead pipes replaced as a result of the implementation of the proactive lead replacement programme.

The 6 year PC 15 target of 11,064 Nr is therefore exceeded as the number of lead communications pipe replacements respectively from AIR16 to AIR21is:
1,922 + 1,867 + 1,767 + 2,070 + 1,781 + 1675= 11 082

The PC15 final total of proactive lead Replacements is 9,407nr + 1675 = 11 082
This output figure achieves the PC15 target of 1,844 x 6= 11 064nr

Final Proactive Lead Replacement Progress against PC15 Target
The Lead Communications pipe replacement target for the whole of PC15 has been achieved and exceeded by 18 extra Lead communications pipes

Line 9 - Total Lead Communication Pipes Replaced – Sum of 8a, 8b, 8c and 8d (no.)

Line	Description	Units	AD	AD CG	CSD	CSD CG	Total	Overall CG
9	TOTAL Lead Communications Pipes replaced	Nr	1,675	A2	369	B2	2,044	**A2**

Asset Delivery
This is the calculated sum of Lines 8a, 8b, 8c and 8d
Calculation - The Asset Delivery Total is 1,657 + 0 (No opportunistic Lead Replacements reported) = 1,657
Asset Delivery Water Confidence Grade is A2.

CSD Networks Water
This is the calculated sum of Lines 8a, 8b, 8c and 8d
Calculation - The CSD Total is 17+324+28 = 369
CSD Networks Water Confidence Grade is B2.

Overall Line Confidence Grade is A2, as the bulk of this return is from the Asset Delivery Team.

Line 10 - Communication pipes replaced – other (no.)
Number of communication pipes (all types of materials but excluding lead) replaced for other reasons (e.g. at the customer's request or due to Rehab of the watermain)

Line	Description	Units	AD	AD CG	CSD	CSD CG	Total	Overall CG
10	Communications Pipes replaced (other)	Nr	2,211	A2	1,528	**B3**	3,739	A2

Asset Delivery
The Asset Delivery Water Confidence Grade is A2 This figure averages out at around 3,000 for this figure throughout PC15 ,therefore this figure is around 2/3 of the average figure, however this is due to the lower total lengths required to achieve the PC15 target in year 6

CSD Networks Water
Data for the reporting period March 20 – April 21 was collated by the Water Business Unit using MWM system reports run on a monthly basis by Field Manager area for selected

Standard Jobs. When checked and confirmed, the data was input onto a spreadsheet managed by the Business Unit.

It remains problematic when analysing some Work Orders whether or not a full communication pipe replacement has been carried out or only a localised burst service repair completed.

CSD Networks Water Confidence Grade is B3.

This figure is broadly in line with the figure provided for AIR 20 and detailed analysis of MWM reports and individual Work Orders continues.

It remains problematic when analysing some Work Orders whether or not a full communication pipe replacement has been carried out or only a localised burst service repair completed. This is generally dependent on the repair crew adding suitable closure comments or on comments provided by the initiator of the job. The level of accuracy and detail provided varies by Field Manager area.

Line 11 - Mains bursts per 1,000km

The specified unit for Line 11 is Mains Bursts per 1,000km. NIW do not currently record Mains Bursts per 1000km but record the actual number of Mains Bursts Repairs carried out. Detailed data for the reporting period April 20 – March 21 was collated using MWM system reports which when checked and confirmed were transferred onto a summary spreadsheet. A number of repairs attributable to third party damage have also been extracted from the final total. The total no. of mains bursts repairs for Networks Water was then converted to bursts per 1,000km.

Calculation of Mains Bursts per 1,000km

Total Burst Mains divided by Total length of mains multiplied by 1,000

2400 – 29 (rechargeables) / 27,014.82km = 0.0878 x 1,000 = 87.8

Total Bursts per 1,000km = 87.8

2017 information return was 2,196 (inc. 61no. rechargeables)
2018 information return was 2,510 (inc. 66no. rechargeables)
2019 information return was 2,562 (inc. 95no. rechargeables)
2020 information return is 2,237 (inc. 26no. rechargeables)
2021 information return is 2,400 (inc. 29no. rechargeables)

Proportion of bursts within line 11 detected by proactive methods

The total number of Mains Repairs carried out by the Water Production Line (Networks Water) was 2400 (including 29no. due to third party damage).
The number of mains repairs carried out due to non-proactive leakage detection methods was 1268.
The number of mains repairs carried out due to proactive leakage detection methods was 1132.

Confidence Grade B3

Networks Water, within the Water Production Line, underwent some re-organisational change in early June 2019 but this has not impacted data capture methodologies or technical processes when collating the required information.

Burst Numbers Summary Table	AIR17	AIR18	AIR19	AIR20	AIR21	Percentage Changes	
						AIR19 to AIR 20	AIR20 to AIR 21
CSD Networks Water (non-proactive detection)	1313	1394	1451	1186	1268	-18.3%	6.9%
CSD Networks Water (pro-active detection)	883	1116	1111	1051	1132	-5.4%	7.7%
Third Party Damage	61	66	95	26	29	-72.6%	11.5%
Total	2135	2444	2467	2211	2371	-10.4%	7.2%
Burst Rate per 1000km	79.7	91.1	91.5	81.9	87.8	-10.5%	7.2%

The number of bursts for Networks Water has been captured for the complete year using base information on a monthly basis from MWM reporting systems. In conjunction with burst flag reports, taken from the CAR2Map database, individual Work Orders have been analysed and duplicates and non-mains repairs extracted. This year's burst rate figure shows a significant increase from AIR 20 but is very much in line with the average figure for the last five year reporting period (AIR17 to AIR21) i.e. 86.4. The following comments continue to be positive factors in relation to burst main repair numbers:

- Mains rehabilitation schemes continue to have a positive impact in reducing the no. of defects with older iron mains being replaced
- Pressure Management Schemes in targeted areas including new installations, replacements and the relocation of pressure reducing / sustaining valves.
- Continuing detail has been paid to the classification of mains repairs as opposed to communication pipe repairs or replacements.

The number of mains repairs due to both non-proactive and proactive leakage detective methods shows an increase from AIR 20 and this is primarily down to prolonged cold spells, in particular throughout January, but also in February and March. This is also reflected by an overall 9% increase in the number of 'Run of Water' complaints logged compared to AIR 20 figures.

The number of mains repairs down to proactive leakage detection methods is up in comparison with the last five years' average figure from AIR 17 onwards (1059no.) and there has been continued emphasis on proactive leakage detection by 'In House' Crews.

There is no significant change in the number of repairs attributable to Third Party Damage. The reasons for this remain unclear and are difficult for NI Water to manage as the figure is dependent on both contractors admitting liability and front line operatives initiating a rechargeables process. NI Water will continue to emphasise the need for this process to be followed by front line operatives when circumstances apply.

Unplanned, Unwarned Interruptions

AIR	DG3 Properties Affected	2018/19	2019/20	2020/21
Table 2: Line 5	More than 3 hours	58,816	49,181	**24,445**

The above figures confirm that between AIR20 and AIR21, there was a 50% reduction in the Table 2 Line 5 DG3 outturn number of properties affected by an unplanned, unwarned interruption of more than 3 hours and unlike previous returns, the trend is not reflected in the Table 11 Line 11 burst rate outturn.

The primary reason for this is the ongoing implementation of the **ITS Strategy** which is continuing to have a positive impact on performance as a number of proposals and initiatives are taken forward.

- Post interruption reviews are establishing learning points from past events that can be developed though the ITS Project Board and adopted as BAU.
- Significant engagement work has been undertaken in the last year by the ITS Project Manager with the implementation of the new 'working differently' process aimed at reducing the Minutes of Lost Supply per Property outturn.
- NI Water's Water Production Line and Asset Delivery staff have been 'working together' for the benefit of customers.
    - Tankers have been deployed during ITS events to maintain storage levels at service reservoirs and to feed directly into the water distribution network.
    - Temporary supplies have been laid in order to minimise interruptions during planned and unplanned operations.
- Additional equipment has been purchased to assist colleagues, including ITS Trailers.

Line 12 - Total length of mains 31st March 2021

This figure has been extracted from the Corporate Asset Register. There has been no change to the structure of the data reported on this year from the previous years that would directly affect the total provided. The confidence grade of the data will remain the same as the previous year. There have been no significant improvements in data quality since the AIR20 reports. Any new data will have adhered to the NIW Code of Practice for the submission of asset data ensuring that data quality levels have been maintained throughout the year.

No water main has been excluded based on its diameter size. The minimum diameter size of a water main within the Corporate Asset Register is 1 inch or 25mm. There are water mains with a diameter of 0 as this information is unknown.

This figure has not been calculated from Lines 1, 2, 6 and 7, it has been extracted using the process outlined in the methodology using data extracted from the Corporate Asset Register.

Lines 13 to 17- Distribution studies

Lines 13 to 17 reflect the reporting requirements for the Zonal Study Methodology that has traditionally been employed by NIW to highlight and prioritise investment in the Water Network.

This methodology involved, identifying Zones which were then: intensively examined, hydraulically modelled, site checked and discussed in detail with NIW Managers.

The output of this exercise was a prioritised list of Network Rehabilitation and Rationalisation schemes.

All Zonal Studies have been addressed and completed over the 13 years or so prior to 2014, and therefore all of NIW Zones had been addressed by the Rehabilitation/Zonal Study Process (as shown in the table below).

The Confidence Grade therefore of this line is A1.

Line 13 – Cumulative number of distribution zone studies completed

The Zonal Studies table has been removed, as agreed with the Reporter, as this metric does not reflect the NIW PC15 Networks Water rehabilitation approach. The implications for Lines 13 to 17 are that, the specific question in relation to Zonal Study completion should probably be changed in the future to reflect progress in the new WIIM methodology. The total submitted however is 71 Zonal Studies completed (this has been the return for the past two years as it does not change).

Watermains Infrastructure Investment Model (WIIM) Workpackages Overview

The Zonal Study methodology has now been superseded by the WIIM Methodology. This methodology relies on current Corporate asset data to build up a picture of prioritised needs which is then checked hydraulically against a model and the output reviewed by NIW Managers and Field Staff.

The WIIM methodology involves taking all appropriate NIW asset datasets, which reflect the performance of the network (also including Customer data), and applying a scoring matrix to reflect these datasets for all distribution pipelines in NIW. These scores are then applied to each pipeline .The highest scoring model areas are then examined for prioritised and appropriate intervention depending on the drivers for each pipeline

The 71 Model areas have now been combined into 54 proposed model areas reflecting the current Water Resource areas.
During the 2016-2017 period two phases of prioritised interventions were commenced under the WIIM methodology, with the following WPs being issued in 2016 -2017, see table below.

Water Networks Rehab Workpackages passed to Delivery Team in 2016-2017 by the AP Networks Water Team (All Costs stated are Pre –Construction estimates)

WPs WIIM 1.2	Month completed	Year completed	Cost £
Althaninch Bushmills 1	April	2016	1.7M
Althaninch Bushmills 2	April	2016	2.0M
Ballinrees Limavady 1	April	2016	2.2M
Ballinrees Limavady 2	April	2016	1.2M
Carran Hill Crossmaglen	April	2016	2.5M
Clay Lake Keady	April	2016	2.5M
Dunore BGO North	April	2016	1.3M

Dunore East	April	2016	2.4M
Dunore Point	April	2016	2.2M
Lough Braden	April	2016	2.4M
Lough Fea	April	2016	2.3M
Loughmacrory	April	2016	2.0M
Moyola	April	2016	2.2M
TOTAL			**£27M**

WPs WIIM 1.2	Month completed	Year completed	Cost £
Antrim North	November	2016	2.2M
Antrim South	November	2016	1.3M
Banbridge South Armagh	November	2016	1.8M
Craigavon	November	2016	2.6M
Fermanagh North	November	2016	2.8M
Fermanagh South	November	2016	2.1M
Lurgan Moira	November	2016	2.6M
Tyrone North	November	2016	2.4M
Tyrone South	November	2016	2.4M
Tyrone West	November	2016	2.1M
Antrim Ballyclare	March	2017	2.3M
Lisburn	March	2017	2.4M
Newtownards	March	2017	2.2M
TOTAL			**29.2M**

WIIM 2.2 Work Package Overview (passed to the Asset Delivery Team in 2017-2018 on the 8/11/17)

WPs WIIM 2.2	Schemes Count	Sum of length (m)	Sum of scheme Cost £
Carrickfergus	71	22,363	£2,876,178
Castor Bay Dungannon	50	23,669	£2,332,064
Drumaroad Ards Peninsula	57	31,117	£2,950,220
Drumaroad Bangor	67	21,985	£2,660,555
Foffany South	50	31,216	£2,561,401
Seagahan Armagh	73	29,212	£2,534,986
Total	**368**	**159,562**	**£15,915,404**

Note: The WIIM 3 data analysis was completed in autumn 2018 to inform the next phases of WIIM 3 Schemes to be delivered over the next several years. All proposed are mapped and available for view on the NIW WIST Layer (An App on the Corporate Data System)

WIIM 3.1 Overview of Work Packages, passed to the Asset Delivery Team in 2018-2019 period (on the 4/10/18)

WP Name	Length (m)	Cost	Scheme Count
Ballywonard_Belfast	25,956	£2,486,569	65

Coleraine_Bushmills	27,876	£2,212,565	48
Derry_Carnmoney_Derg	24,483	£1,912,835	59
Derrylin_Ballygawley	33,244	£2,242,731	27
Drumaroad Ards_Carryduff_Bangor	18,113	£1,872,628	51
Enniskillen_Derrygonnelly_Ballinamallard	33,367	£2,648,941	49
Lurgan_Craigavon	23,032	£1,787,103	41
Portadown_Banbridge_Scarva	22,041	£1,764,091	38
High Priority Scoring WP	34,923	£2,626,864	27
Saintfield_Ballynahinch	21,812	£1,800,815	35
Strangford_Portavogie_Killinchy	20,170	£1,945,522	22
Toome_Randalstown	28,754	£1,962,176	16
Total	**313,771**	**£25,262,841**	**478**

WIIM Super Workpackage Overview, passed to the Asset Delivery Team in 2020-2021 period (on the 28/09/20)

WP Name	Length (m)	Cost	Scheme Count
Eastern Super Package	65,001	£8,254,003	63

Hydraulic Model Rebuilds

Hydraulic Model rebuilds are now identified by looking forward into the following years WIIM priority areas and making a judgement as to whether the model in this area is adequate to allow accurate Verification of the WIIM Desktop priority schemes. If the model quality is considered to be inadequate for purpose, due to the passage of time and the fact that the area has been extensively rehabilitated since the model was originally built, then the model area is prioritised for re-build so that the WIIM Work package can be carried out in the following year.

The hydraulic models are rebuilt and kept up to date so they can be used as a tool to help identify network performance problems and develop best value solutions which improve the customers' levels of service. The hydraulic models are currently being used to develop schemes for the Water Mains Rehabilitation programme, determine the impact of new developments, resolve DG2 low pressure problems, verify DG3 figures for Interruption to Supply (ITS) events and support major incidents. The hydraulic models are currently being used to plan network improvements, inform robust investment decisions and support operational decision making. The model library is continually enhanced to improve coverage across the entire network so that the models can be used as a valuable support tool.

Hydraulic Model Rebuilds Completed in 2016-2017

Hydraulic Models Rebuilds Completed in 2016-2017	Month Completed	Year Completed	Numbers of Properties
Drumaroad Ards Carryduff	May	2016	10,100
Purdysburn	June	2016	41,500
Carran Hill Clay Lake	June	2016	10,000
Castor Bay Dungannon	March	2017	27,100
Carrickfergus	March	2017	36,000
Foffany South	May	2017	26,200

Drumaroad Ards	March	2017	23,800
Drumaroad Bangor	March	2017	34,200
Seagahan Armagh	May	2017	15,200

Hydraulic Model Rebuilds Completed in 2017-2018

Hydraulic Models Rebuilds Completed in 2017-2018	**Month Completed**	**Year Completed**	**Numbers of Properties**
Seagahan Armagh	August	2017	15,211
Fofanny South	May	2018	26,236
Drumaroad Ballynahinch	June	2018	17,183
Drumaroad Downpatrick	June	2018	17,342
Corrody Derry	June	2018	27,236
Carmoney Eglington	July	2018	18,909
Ballywonard	August	2018	13,681

Hydraulic Model Rebuilds Completed in 2018-2019

Hydraulic Models Rebuilds Completed in 2018-2019	**Month Completed**	**Year Completed**	**Numbers of Properties**
Trunk Main Model	January	2019	N/A

Hydraulic Model Rebuilds Completed in 2019-2020

Hydraulic Models Rebuilds Completed in 2018-2019	**Month Completed**	**Year Completed**	**Numbers of Properties**
Dunore East	December	2019	2,086
Killylane CWB North	March	2020	2,735
Killylane CWB South	March	2020	17,435

Hydraulic Model Rebuilds Completed in 2020-2021

Hydraulic Models Rebuilds Completed in 2020-2021	**Month Completed**	**Year Completed**	**Numbers of Properties**
Camlough Newry West	October	2020	10,932
Castor Bay Tandragee	October	2020	5,693
Derg Strabane	November	2020	16,508
Lough Macrory Beragh	November	2020	4,652
Lough Macrory Killyclogher Omagh	November	2020	14,615
Killyhevlin / Enniskillen	March	2021	34,448
Belleek Garrison	March	2021	2,122

Hydraulic Model Rebuilds in Progress 2020-2021

Hydraulic Models Rebuilds in Progress 2020-2021	Status	Year To Be Completed	Numbers of Properties
Drumaroad Lisburn - Castlereagh	Phase 2	2021	11,947
Lisburn South Rural	Phase 2	2021	6,053
Belfast Oldpark	Phase 2	2021	22,439
Dunore Ballygomartin South	Phase 2	2021	18,809
Dunore Ballygomartin North	Phase 2	2021	19,344
Dunore Belfast North	Phase 2	2021	20,474
Belfast Breda South	Phase 2	2021	25,344
Belfast Purdysburn	Phase 2	2021	17,034
Belfast Breda North	Phase 2	2021	18,884
Belfast Ballyhanwood	Phase 2	2021	25,538
Forked Bridge Dunmurry	Phase 2	2021	27,988
Forked Bridge Stoneyford	Phase 2	2021	11,913
Caugh Hill Dungiven	Phase 2	2022	7,107
Ballinrees Coleraine	Phase 2	2022	42,212
Dunore Point Ballymena East	Phase 2	2022	2,013
Ballymena	Phase 2	2022	15,328
Dungonnell	Phase 2	2022	16,760
Foffany North	Phase 2	2022	20,508
Castor Bay Lurgan	Phase 2	2022	13,121
Castor Bay North	Phase 2	2022	51,322

Summary of Current Model Status

Model Number	Model Code	Model Name	Model available	Date Model Calibration (Maintained)
1	BTPK	Belfast Oldpark	AQUIS	2009
2	FBDY	Forked Bridge Dunmurry	AQUIS	2010
3	DBNS	Dunore Ballygomartin South	AQUIS	2009
4	DDAP	Drumaroad Ards Peninsula	Infoworks WS (converted)	2017
5	DDAC	Drumaroad Ards Carryduff	Infoworks WS (converted)	2016
6	DDBH	Drumaroad Ballynahinch	Infoworks WS (converted)	2018
7	LSRL	Lisburn South Rural	AQUIS	2010
8	RNID	Rathlin Island	None	N/A
9	DPBE	Dunore Point Ballymena East	AQUIS	2005
10	BASH	Breda South	Infoworks WS (converted)	2014
11	AHBS	Altnahinch Bushmills	Infoworks WS (converted)	2015
12	DELL	Dungonnell	Infoworks WS (converted)	2013
13	KENH	Killylane CWB North	Infoworks WS	2019
14	KESH	Killylane CWB South	Infoworks WS	2019
15	DPAM	Dunore Point Antrim	Infoworks WS (converted)	2015
16	DEET	Dunore East	Infoworks WS	2019 (2021)

Model Number	Model Code	Model Name	Model available	Date Model Calibration (Maintained)
17	CGUS	Carrickfergus	Infoworks WS (converted)	2017
18	BWON	Ballywonard	Infoworks WS (converted)	2018
19	FBSD	Forked Bridge Stoneyford	AQUIS	2005
20	CBLN	Castor Bay Lurgan	Infoworks WS (converted)	2014
21	DDAN	Drumaroad Ards Newtownards Town	Infoworks WS (converted)	2016
22	DDBR	Drumaroad Bangor	Infoworks WS (converted)	2017
23	DDLU	Drumaroad Lisburn - Urban	Infoworks WS (converted)	2015
24	PBUR	Purdysburn	Infoworks WS (converted)	2016
25	DDDK	Drumaroad Downpatrick	Infoworks WS (converted)	2018
26	FOSH	Foffany South	Infoworks WS (converted)	2018
27	CBNH	Castor Bay North	Infoworks WS (converted)	2013
28	FONH	Foffany North	Infoworks WS (converted)	2013
29	DBNN	Dunore Ballygomartin North	AQUIS	2009
30	DBNH	Dunore Belfast North	AQUIS	2009
31	CYEN	Carmoney Eglinton	Infoworks WS (converted)	2018
32	CHNW	Camlough Newry West	Infoworks WS	2019
33	CHCN	Carran Hill Crossmaglen	Infoworks WS (converted)	2016
34	CLKY	Clay Lake Keady	Infoworks WS (converted)	2016
35	LMBH	Lough Macrory Beragh	Infoworks WS	2019
36	MAUM	Moyola Unagh Mormeal	Infoworks WS (converted)	2015
37	CYDY	Corrody Derry	Infoworks WS (converted)	2018
38	BSLY	Ballinrees Limavady	Infoworks WS (converted)	2006
39	LFEA	Lough Fea	Infoworks WS (converted)	2015
40	SNAH	Seagahan Armagh	Infoworks WS (converted)	2017
41	CBDG	Castor Bay Dungannon	Infoworks WS (converted)	2017
42	KNEN	Killyhevlin / Enniskillen	Infoworks WS	2019
43	BKGN	Belleek Garrison	Infoworks WS	2019
44	LBDN	Lough Bradan Drumquin	Infoworks WS (converted)	2015
45	LMKC	Lough Macrory Killyclogher Omagh	Infoworks WS	2019
46	DGSE	Derg Strabane	Infoworks WS	2019
47	MAMT	Moyola Magherafelt	Infoworks WS (converted)	2015
48	CHDN	Caugh Hill Dungiven	AQUIS	2006
49	BSCE	Ballinrees Coleraine	AQUIS	2002
50	CBTE	Castor Bay Tandragee	Infoworks WS	2019
51	DBSH	Dunore Breda North	AQUIS	2009
52	BMEN	Ballymena	Infoworks WS (converted)	2013
53	DDLC	Drumaroad Lisburn - Castlereagh	AQUIS	2004
54	BBHW	Belfast Ballyhanwood	Infoworks WS (converted)	2004

Lines 18-23 Water Quality Compliance

COVID-19

Please be aware that during 2020 due to the ongoing COVID-19 pandemic, with the agreement of the Drinking Water Inspectorate (DWI), NI Water reduced potable water sampling as part of the plan to protect staff and customers, whilst maintaining assurance that there was no risk to public health from public water supplies.
This included the cessation of all sampling at customer taps with effect from 16th March 2020, with a reduced number of parameters sampled upstream at Service Reservoirs.
From 18th May 2020 sampling returned to the regulatory frequencies, with the exception of a small number of parameters which are customer tap specific.

Customer tap sampling remains at designated Service Reservoirs or other identified fixed point locations.

This has created a shortfall in regulatory sampling at customer tap for the calendar year 2020.

During the period however, NI Water maintained full sampling and analysis at its Water Treatment Works and downstream Service Reservoirs as per regulatory requirements.
This along with customer tap samples taken at designated fixed points in the distribution system, ensured that the quality of water supplied to our customers was effectively monitored and maintained throughout the period.

Line 18 - % Overall compliance with drinking water regulations

NI Water is assessed for its overall performance by % Overall Compliance at customer tap, WTWs, SRs, and Authorised Supply Points. Under this measurement method, there has been a plateauing in compliance over the last number of years, against a Utility Regulator specified target of 99.79%. Please note that water supplied from PPP assets is included in the compliance assessment. **This figure has been affected as above, by not sampling at customer taps.**

Reporting Year	2014	2015	2016	2017	2018	2019	2020
% Overall Compliance	99.86	99.83	99.86	99.88	99.90	99.90	99.94

Line 19 - % Compliance at consumers tap (including supply points)

NI Water is assessed for its overall performance by % Compliance at customer tap including authorised supply points. Please note that water supplied from PPP assets is included in the compliance assessment. **This figure has been affected as above, by not sampling at customer taps.**

Reporting Year	2014	2015	2016	2017	2018	2019	2020
% Compliance at consumer tap (including supply points)	99.78	99.74	99.77	99.81	99.83	99.84	99.91

As the root data used for the derivation of these lines is accurate, but there is an inherent uncertainty in any non-bacteriological analytical measurement, the confidence grade should be reported as A2.

Line 20 - % Iron compliance at consumers tap

This figure has been affected as above, by not sampling at customer taps.

Reporting Year	2014	2015	2016	2017	2018	2019	2020
% Iron compliance at consumer tap	98.95	98.40	98.66	98.85	98.94	98.89	99.56

As the root data used for the derivation of these lines is accurate, but there is an inherent uncertainty in any non-bacteriological analytical measurement, the confidence grade should be reported as A2.

Line 21 - % Service reservoirs with coliforms in >5% samples

NI Water has continued to report 0 for this metric, having had 0 service reservoirs with >5% exceedances over the last number of years. There is an ongoing service reservoir cleaning programme to maintain this.

As the root data used for the derivation of these lines is accurate and the bacteriological analysis shows no presence of coliforms in >5% of samples, the confidence grade should be reported as A1.

For 2019, all PC15 targets were met.

Line 22 - Completion of nominated trunk main schemes

Northern Zone Resilience Phases 1 and 2 achieved Beneficial Use in Year 6 (2020/21) of the programme. This scheme was agreed through the Change Control Protocol within PC15 for delivery of Phase 1 &2 and through the PC21 Business Plan submission to deliver Phases 3 & 4.

The confidence for this line was assessed as A1: this is based on review of CPMR approvals and financial details contained within CPMR.

Line 23 - Completion of nominated water treatment works schemes

Killyhevlin WTW achieved Beneficial Use in Year 6 (2020/21) of the programme.

The remaining WTWs which have not been delivered are;

JN538 Derg WTW MCPA upgrade	(expected BU date November 2022)
JL795 Ballinrees WTW MCPA upgrade	(expected BU date November 2023)
JA319 Dorisland WTW	(expected BU date August 2022)

As with all projects in the Capital Works Programme, COVID restrictions have accounted for some delays to these projects. However, towards the end of PC15 NI Water have changed their approach to WTW projects by commissioning pilot plant trials where appropriate in order to inform the correct solution. This approach has led to delays in agreeing solutions for the above schemes but in doing so has shown that the original solution suggested would not have demonstrated best value to the company. As a result, Derg WTW solution has been agreed as a development output within the PC21 determination and will be submitted to the UR as a Change Control to confirm scope and costs relating to the work. This work is now expected to deliver in Year 3 of PC21.

Following the trials at Derg, the pilot plant has been moved to Balinrees WTW to ensure that the correct solution for the works is achieved. This work is now expected to deliver in Year 2 of PC21.

The Scope of work required for Dorisland WTW was also subject to internal scrutiny and as a result the business case for this work only achieved approval in Feb 2021. This has now been programmed for delivery in Year 2 of PC21.
The confidence grade for this line was determined using the reporting guidance and was assessed as A1 following review of CPMR approvals and financial details contained within CPMR.

Line 24 - Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks

Killyhevlin CWT achieved Beneficial Use in Year 6 (2020/21) of the programme. The remaining CWT which has not been delivered is Drumaroad WTW Clear Water Tank which was programmed for Beneficial Use in March of 2021. This date was not achieved due to delays on site relating to COVID restrictions and demobilisation during lockdown. The project is now currently expected to achieve Beneficial Use in the first year of PC21 (2021/22) and has been included in the PC21 Submission to the UR.

The confidence was assessed as A1 following review of CPMR approvals and financial details contained within CPMR.

Line 25 – Number of Catchment Management Plans

There were 15 live Catchment Management Plans (CMPs) fully completed in the PC15 period.

Killyhevlin and Belleek CMPs were completed under the 'Erne' system joint CMP as part of the Source to Tap project system in Q4 of 2019/20 by The Agri Food and Bioscience Institute (AFBI), one of the research partners of the INTERREG VA-funded Source To Tap Project which has NI Water as a lead partner. Derg CMP was also reproduced under the Source To Tap project to include the cross-border catchment information which had not been included in the 2015 edition (see Table 2 below *).

The PC15 Final Determination originally stated a total of 40 CMPs for completion in the period (Table 1 row 1). However it was discussed and agreed at ORG (Outputs Review Group) that CMPs for out-of-service catchments were not required (Annex A). Subsequently, the Utility Regulator have reflected this in their latest Cost & Performance Report by adjusting the target to 15 (extract below line 24, footnote 7).

E	New Output Measures			
24	Number of Catchment Management Plans	15[7]	13	On track
25	Number of lead communication pipes replaced under the proactive lead replacement programme	7376	7626	Target met
26	Number of school visits	704	999	Target met
27	Number of other education events	228	257	Target met
28	% Service Reservoirs where sample taps have been assessed and are to required standard	100%	98.3%	Marginally behind

Table 3.1: NI Water PC15 Key Outputs for Water Services

[6] Target amended for reasons described in 3.2 to ensure a like for like comparison with delivery.
[7] The original PC21 target was based on all catchments, including those not in service. It has subsequently been revised to reflect catchments in service and exclude those completed in PC13.

In the PC15 period there were 15 CMPs completed.

Table 1.

		PC15						
		2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**Total**
1	PC15 Final Determination	6	7	7	6	7	7	**40**
2	Actual Delivery	3	7	3	0	2	-	**15**

Table 2.

Water Treatment Works Name	CMP delivery year	Delivery Date
Killylane	*2013/14*	*31/03/2014*
Dorisland	*2013/14*	*31/03/2014*
Clay Lake	*2013/14*	*31/03/2014*
Derg (Inc. Strule)	*2014/15*	*31/03/2015 / 31/03/2020 **
Lough Braden	*2014/15*	*31/03/2015*
Caugh Hill	*2014/15*	*31/03/2015*
Carmoney	*2014/15*	*31/03/2015*
Seagahan	*2014/15*	*31/03/2015*
Altnahinch	2015/16	31/03/2016
Drumaroad (incl Silent Valley, Annalong & Lough Island Reavey)	2015/16	31/03/2016
Fofanny	2015/16	31/03/2016
Dunore Point	2016/17	31/03/2017
Castor Bay	2016/17	31/03/2017
Moyola	2016/17	31/03/2017
Ballinrees	2016/17	31/03/2017
Lough Macrory	2016/17	31/03/2017
Lough Fea	2016/17	31/03/2017
Glenhordial	2016/17	31/03/2017
Carron Hill	2017/18	31/03/2018
Rathlin	2017/18	31/03/2018
Dungonnell	2017/18	31/03/2018

Completed in PC13 period

Water Treatment Works Name	CMP delivery year	Delivery Date
Killyhevlin	2018/19	31/03/2020 *
Belleek	2018/19	31/03/2020 *

Abandoned Water Treatment Works/Abstraction Points

1. Altmore (High)
2. Altmore (Low)
3. Ballydoolagh (IR)
4. Ballysallagh Lower
5. Ballysallagh Upper
6. Ballyversall
7. Boomers Reservoir
8. Church Road
9. Conlig Lower (IR)
10. Conlig Upper
11. Craigahulliar
12. Creightons Green (IR)
13. Dunalis
14. Killea (WTW)
15. Leathemstown
16. Lough Cowey
17. Lough Money
18. Portavoe IR
19. Quolie (North)
20. Quolie (South)
21. Stoneyford Reservoir

Line 26 - Number of school visits

There were 266 schools visited during this reporting period. This figure exceeds the annual PC15 target of 176 for School Visits, with an overall total target of 1056 for the duration of the six year term. The target has been exceeded substantially each year throughout PC15 term. I have added previous school visit outputs below for ease of reference:-

- 2015/16 = 277
- 2016/17 = 257
- 2017/18 = 219
- 2018/19 = 245
- 2019/20 = 229
- 2020/21 = 266

- Accumulative output target up to year six of PC15 = 1056

- Current actual output up to year six of PC15 = 1493

This output figure demonstrates that we had facilitated 437 more 'School Visits' during the duration of PC15.

Line 27 - Number of other education events

There were 12 other education events attended during this reporting period. The PC15 target of Other Education Events, with an overall target of 342 for the duration of the six year term has been exceeded throughout the PC15 term.

I have added the previous other education events outputs below:-

- 2015/16 = 65
- 2016/17 = 64
- 2017/18 = 62
- 2018/19 = 66
- 2019/20 = 143
- 2020/21 = 12

- Accumulative output target up to year six of PC15 = 342

- Current actual output up to year six of PC15 = 412

This output figure demonstrates that we had facilitated 70 more 'Other Education Events' during the duration of PC15.

Line 28 - % Service Reservoirs where sample taps have been assessed and are to required standard

291 sample taps have been installed during PC 15. This is 100% of the total of 291 to be addressed. This figure was confirmed by the Project Manager for the "Sample Tap Installation "Project

The sample tap contract was awarded in 16/17 with delays due to the development and award of New Frameworks, in addition delays were partly caused by the approval process required on the design before the manufacture of the sample tap points could commence.

The final three of these taps (not reported in AIR 19) were completed in April 2019 to confirm that the 10% target has been met for PC 15

Confidence Grade A1

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES
WATER EXPLANATORY FACTORS - (NIW Only)

	DESCRIPTION	UNITS	DP	1 NR OF SOURCES	2 PROP'N DIST INPUT	3 BULK PROP'N OF D.I.	4 REPORT YEAR	CG
				UNITS / DP	UNITS / DP	UNITS / DP		
				nr / 0	Prop'n (0-1) / 3	Prop'n (0-1) / 3		
A	**SOURCE TYPES AND PUMPING**							
1	Impounding reservoirs			22	0.767	0.000		B2
2	River abstractions			9	0.233	0.000		B2
3	Boreholes			1	0.000	0.000		B2
4	Source types and pumping; total			32	1.000	0.000		B2
5	Average pumping head - total	m.hd	1				92.6	B4

		TOTAL PROP'N OF D.I.		TOTAL NR OF WORKS	
		UNITS	DP	UNITS	DP
		Prop'n (0-1)	3	nr	0
B	**TREATMENT TYPE**				
6	Proportion of distribution input - simple disinfection	0.000		0	
7	Proportion of distribution input - W1	0.000		0	
8	Proportion of distribution input - W2	0.000		0	
9	Proportion of distribution input - W3	0.000		9	
10	Proportion of distribution input - W4	0.500		10	
11	Proportion of distribution input - total	0.500			
12	Total numbers of works			19	

				BAND 1 <= 165mm	BAND 2 166 - 320mm	BAND 3 321 - 625mm	BAND 4 > 625mm
C	**POTABLE MAINS**						
13	Potable mains (nominal bore)	km	2	21,138.05	4,203.02	1,392.00	281.76

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES
WATER EXPLANATORY FACTORS (PPP Only)

				1	2	3	4	
	DESCRIPTION	UNITS	DP	NR OF SOURCES	PROP'N DIST INPUT	BULK PROP'N OF D.I.	REPORT YEAR	CG
				UNITS / DP	UNITS / DP	UNITS / DP		
				nr / 0	Prop'n (0-1) / 3	Prop'n (0-1) / 3		
A	SOURCE TYPES AND PUMPING							
1	Impounding reservoirs			2	0.047	0.000		B2
2	River abstractions			4	0.953	0.000		B2
3	Boreholes			0	0.000	0.000		A1
4	Source types and pumping; total			6	1.000	0.000		B2
5	Average pumping head - total	m.hd	1				153.0	B4

		TOTAL PROP'N OF D.I.		TOTAL NR OF WORKS	
B	TREATMENT TYPE	UNITS	DP	UNITS	DP
		Prop'n (0-1)	3	nr	0
6	Proportion of distribution input - simple disinfection	0.000		0	
7	Proportion of distribution input - W1	0.000		0	
8	Proportion of distribution input - W2	0.000		0	
9	Proportion of distribution input - W3	0.000		0	
10	Proportion of distribution input - W4	1.000		4	
11	Proportion of distribution input - total	1.000			
12	Total numbers of works			4	

				BAND 1 <= 165mm	BAND 2 166 - 320mm	BAND 3 321 - 625mm	BAND 4 > 625mm
C	POTABLE MAINS						
13	Potable mains (nominal bore)	km	2	0.00	0.00	16.42	0.00

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES
WATER EXPLANATORY FACTORS - (Total)

	DESCRIPTION	UNITS	DP	1 NR OF SOURCES	2 PROP'N DIST INPUT	3 BULK PROP'N OF D.I.	4 REPORT YEAR	CG
				UNITS / DP	UNITS / DP	UNITS / DP		
				nr / 0	Prop'n (0-1) / 3	Prop'n (0-1) / 3		
A	**SOURCE TYPES AND PUMPING**							
1	Impounding reservoirs			24	0.444	0.000		B2
2	River abstractions			13	0.556	0.000		B2
3	Boreholes			1	0.000	0.000		B2
4	Source types and pumping; total			38	1.000	0.000		B2
5	Average pumping head - total	m.hd	1				119.7	B4

		TOTAL PROP'N OF D.I.	TOTAL NR OF WORKS
		UNITS / DP	UNITS / DP
		Prop'n (0-1) / 3	nr / 0
B	**TREATMENT TYPE**		
6	Proportion of distribution input - simple disinfection	0.000	0
7	Proportion of distribution input - W1	0.000	0
8	Proportion of distribution input - W2	0.000	0
9	Proportion of distribution input - W3	0.276	9
10	Proportion of distribution input - W4	0.724	14
11	Proportion of distribution input - total	1.000	
12	Total numbers of works		23

				BAND 1 <= 165mm	BAND 2 166 - 320mm	BAND 3 321 - 625mm	BAND 4 > 625mm
C	**POTABLE MAINS**						
13	Potable mains (nominal bore)	km	2	21,138.05	4,203.02	1,408.42	281.76

Table 12 – Water Explanatory Factors

Water sources & treatment types – NI Water only

Changes to Sources since AIR20

NI Water (Only) had the following 32 sources in service for part or all of AIR21, including in total: - boreholes (1nr), impounding reservoirs (22 nr), and rivers & loughs (9 nr). There is no net change in the total number of sources from AIR20 to AIR21.

Changes to treatment types since AIR20

The treatment type totals in service for AIR21, have not changed since AIR20. Similarly, there has been no change in the treatment categories since AIR20. Therefore for AIR21 the treatment categories are - simple disinfection (SD) (0 nr); simple disinfection plus simple physical treatment (W1) (0 nr); single stage complex physical or chemical treatment (W2) (0 nr); more than one stage of complex treatment (W3) (9 nr); more than one stage of complex treatment, capturing processes with very high operating costs (W4) (10 nr).

Changes to proportional distribution input since AIR

The Distribution Input (DI) has increased slightly from last year. In 2019/20 the total average DI was 588.71 Ml/day, this has increased by 1.55% to 597.84 Ml/day in 2020/21, and this is based on the Pre Maximum Likelihood Estimation (MLE) figure.

The following table shows changes which have occurred with reference to source types and treatment types since AIR20.

Location	AIR20 Source Type	Treatment Type	WTW In Service during AIR 21	Sources In Service at 31st Mar 2020	Sources In Service at 31st Mar 2021
Rathlin	Borehole	W3	Yes	Yes	Yes
Killylane	Imp. Reservoir	W3	Yes	Yes	Yes
Dungonnell	Imp. Reservoir	W3	Yes	Yes	Yes
Altnahinch	Imp. Reservoir	W3	Yes	Yes	Yes
Lough Fea	Imp. Reservoir (listed as a Lough for AIR15 – classified as IR in June 2015)	W3	Yes	Yes	Yes
Drumaroad	2No Imp. Reservoirs (Ben Crom IR & Silent Valley IR)	W3	Yes	Yes - 2No. sources	Yes - 2No. sources
Caugh Hill	Imp. Reservoir - Altnaheglish IR & River (Glenedra)	W3	Yes	Yes – 2No. sources	Yes – 2No. sources
Glenhordial	Imp. Reservoir	W3	Yes	Yes	Yes
Lough Bradan	2 No - Lough Bradan Imp. Reservoir, and Lough Lee	W4	Yes	Yes - 2No sources	Yes - 2No sources

Location	AIR20 Source Type	Treatment Type	WTW In Service during AIR 21	Sources In Service at 31st Mar 2020	Sources In Service at 31st Mar 2021
Dorisland	7No Imp. Reservoirs – (Dorisland IR, Lough Mourne IR, Copeland IR, Lower South Woodburn IR, Upper South Woodburn IR, Middle South Woodburn IR and North Woodburn IR)	W4	Yes	Yes - 7No. sources	Yes - 7No. sources
Lough Macrory	1No Imp. Reservoir & 1No Lough (Lough Fingrean IR & Lough Macrory-Lough	W4	Yes	Yes - 2No. sources	Yes - 2No. sources
Clay Lake	Imp. Reservoir	W4	Yes	Yes	Yes
Fofanny	3No Imp. Reservoir (Lough Island Reavey, Fofanny, Spelga)	W4	Yes	Yes – 3No. sources	Yes – 3No. sources
Seagahan	Imp. Reservoir	W4	Yes	Yes	Yes
Camlough	Lough – No longer used since 30/3/16	N/A	No	No	No – Last day of production at Camlough WTW was 30/3/16
Killyhevlin	Lough	W4	Yes	Yes	Yes
Carran Hill	Lough	W4	Yes	Yes	Yes
Belleek	Lough	W3	Yes	Yes	Yes
Carmoney	River	W4	Yes	Yes	Yes
Derg	River	W4	Yes	Yes– 2No sources (River Strule introduced April 2016, and River Derg)	Yes– 2No sources
		Total	**19**	**32**	**32**

1. Caugh Hill WTW

Caugh Hill WTWs is fed directly and independently by 2 sources Altnaheglish IR and Glenadra River. The works can also be fed by Kerlins Burn, but this has only been used in drought events and has not been used since 1995. Telemetry information for 20/21 indicates that 29.9% of the raw water into the WTWs came from Glenedra River during the AIR21 period. The Distribution Input for Caugh Hill has therefore been split between the IR and the River, for the computation of the proportional distribution input for Lines 1 to 3.

The draw off from Glenedra River is based on quantity & quality available. When the river is in normal condition the inlet valve is open fully to take as much water as possible from this source. However when there is a flood or a period of inclement weather & the water quality deteriorates the inlet valve is throttled back to reduce the inlet from this source. The normal percentage draw off is difficult to estimate as the raw water quality changes frequently and the NI Water throughput has been reduced significantly over the years with the introduction of the Ballinrees source.

2. Fofanny WTW

Fofanny WTWs is fed directly and independently by 3 sources Lough Island Reavy IR, Spelga IR and Fofanny IR. NI Water is listing these three sources for Fofanny WTWs, for AIR20.

3. Lough Bradan WTW

Lough Bradan WTWs is fed directly by Lough Lee (lough) and Lough Bradan Impounding Reservoir. Lough Lee is therefore being reported as a source. For AIR21, according to the Plant Manager, 40% of the total WTWs' raw water comes from Lough Lee (and 60% from Lough Bradan IR) and enters into the pipework between Lough Braden IR and the WTWs. Any extra coming from Lough Lee would backup into Lough Bradan IR and would vary depending on rain fall amounts.

Although telemetry information was available for AIR17 to determine the split of the raw water coming from Lough Lee and Lough Bradan IR, such information has not been available since data points were not carried forward following the outstation upgrade.

4. Camlough WTW

Camlough WTWs was taken out of service on 31/3/16, with the last day of production on 30/3/16. The new Castor Bay to Newry Trunk Main was laid to enable the abandonment of Camlough WTW. Hence the Castor Bay supply area had been extended to cover the catchment previously supplied by Camlough WTW. Hence Camlough WTWs and Camlough Lake do not feature in the AIR20 figures respectively for treatment types and water sources.

5. Lough Fea WTW

Lough Fea WTWs is fed by Lough Fea, which is classified as an Impounding Reservoir.

6. Lough Macrory WTW

Lough Macrory WTW is fed directly by Lough Macrory (lough). Lough Fingrean IR overflows naturally into Lough Macrory, with the water being pumped on to the WTW. Approximately 90% of the water in Lough Macrory originates from Fingrean IR. As in AIR20, NI Water is listing Lough Macrory and Fingrean IR as two sources for Lough Macrory WTW for AIR21.

7. Belleek & Killyhevlin WTWs

Although both Belleek WTW and Killyhevlin WTW are supplied by the same source i.e. Lough Erne, NI Water is counting Lough Erne as a source for each of the works, due to its size, in line with the approach to Lough Neagh as depicted in the UR AIR13 Chapter 12 guidance.

8. Drumaroad WTW

Drumaroad WTW is fed directly by Silent Valley IR. It can receive occasional supply from Lough Island Reavy IR, to compensate Silent Valley water during operational maintenance or Drought Management. However this IR is not being reported against Drumaroad as it is reported against Fofanny WTW. Silent Valley is supplied by Ben Crom IR. Silent Valley IR and Ben Crom IR collect raw water from the Mourne Mountains' catchment area. NI Water is listing Silent Valley IR and Ben Crom IR as two sources for Drumaroad WTW.

9. Dorisland WTW

Dorisland WTW is fed directly by Dorisland IR. However Dorisland IR is fed through a system of 6 IRs namely, Lough Mourne IR, Copeland IR, Lower South Woodburn IR, Upper South Woodburn IR, Middle South Woodburn IR and North Woodburn IR.

The above consists of six man made dams and one natural lake (Lough Mourne). Raw water from all dams can be mixed in many different combinations depending on storage and water quality. NI Water seeks to balance water level in each IR by controlling inlet and outlet valves. The Woodburn IRs can be used all year round. However Lough Mourne and Copeland IRs are used only in winter months due to challenges with algae. These IRs are important to NI Water from the point of view that they can be individually isolated and water diverted to waste, in the event of a pollution incident.

Following a number of years raw water deterioration due to the presence of MCPA, (a herbicide approved product used for rush control) NI Water installed GAC Filtration at this site to ensure the water quality parameters we achieve. This latest investment at this plant has been operational since April 2015.

10. Derg WTW

The main source for Derg WTW has been the River Derg. The River Strule has also been feeding the works from April 2016, contributing approximately 30% of the raw water which is pumped to the Derg WTW Inlet, during AIR21. NI Water is listing River Strule and River Derg as two sources for Derg WTW, for AIR21, as the works receives water directly from the two sources.

Capacities of NIW's impounding reservoirs (22No)

The table below depicts the capacities of the 22 NIW Only Impounding Reservoirs which were in service during the AIR21 period. Ballinrees IR and Altikeeragh IR which are operated by PPP are not included in the table.

Raw Water Source – IRs	Total Capacity(ML)	Head WTWs
Altnahinch IR	1270	Altnahinch WTW
Altnaheglish IR	2273	Caugh hill WTW
Clay Lake IR	1895	Clay lake WTW

Raw Water Source – IRs	Total Capacity(ML)	Head WTWs
Lough Mourne IR	2621	Dorisland WTW
Copeland IR	607	Dorisland WTW
Lower South Woodburn IR	487	Dorisland WTW
Upper South Woodburn IR	1669	Dorisland WTW
Middle South Woodburn IR	2135	Dorisland WTW
North Woodburn IR	372	Dorisland WTW
Dorisland IR	302	Dorisland WTW
Ben Crom IR	7721	Drumaroad WTW
Silent Valley IR	13276	Drumaroad WTW
Dungonnel IR	1090	Dungonnel WTW
Lough Island Reavy IR	9091	Fofanny WTW
Spelga IR	3327	Fofanny WTW
Fofany IR	395	Fofanny WTW
Glenhordial IR	100	Glenhordial WTW
Killylane IR	1363	Killylane WTW
Lough Bradan IR	611	Lough Braden WTW
Lough Fingrean IR	746	Loughmacrory WTW
Lough Fea IR	539	Lough Fea
Seagahan IR	2220	Seagahan

The Water Supply Business Unit continues to keep the status of WTW and Boreholes up to date and liaises with NI Water's Asset Information Centre to ensure that this information is aligned with GIS. Any anomalies with information held on GIS, compared to that held by the Water Supply Business Unit, are identified and steps are taken to realign the data.

With ref to the UR's Guidance, regarding the 'proportion of water taken from Lough Neagh that is included within Block A of each table and identify which source type'. – the PPP sources Castor Bay, Moyola and Dunore extract from Lough Neagh, with no extraction by NI Water sources.

The following table identifies the proportion of water taken from Lough Neagh (which is classified as a 'River Abstraction' source) within Block A and B of Table 12:

Table 12 Block	Proportion of water extracted from Lough Neagh - NIW Only	Proportion of water extracted from Lough Neagh – PPP Only	Proportion of water extracted from Lough Neagh - Total
A	0%	0.892	0.400
B – with reference to Treatment Type W4	0%	0.936	0.735

Line 5 - Average pumping head – NI Water only / PPP only / Total

The NI Water 'Total' AIR21 Average Pumping Head is 119.65m.hd with a confidence grade of B4, an increase of 2.92m.hd from AIR20 (116.73m.hd).

Summary

In previous returns the Average Pumping Head (APH) calculation has centred on using completed Detailed Zonal Study (DZS) area data. With the completion of the DZS Project, this has now become redundant as an information source. Thus NI Water have been investigating alternative data sources, principally Telemetry, for updating and improved confidence. Data sourced from NIW telemetry system, Telemweb, had been included in the APH calculation from AIR12. For AIR21 the use of data from telemetry has continued to be used, with 78% of pump set returns based fully or in part on telemetry data.

For AIR21, NI Water had 378 pump sets in service. Of these 263 are based on flow and/or lift data from telemetry. 58 of the 378 have no / incomplete data, no return has been made for these pump sets.

Reporter recommendations for previous returns stated pump sets with a significant contribution to the overall calculation be targeted (say flow x lift >50m.h). There are 100 pump sets with an individual contribution greater than or equal to 50m.h. Of these, 98 are based on flow and / or lift data from telemetry. No telemetry points currently exist for the 2 remaining pump sets.

The daily flow total for individual pump sets is 1615.48Ml/d. Of this 1604.92Ml/d is based on telemetry data. Thus 99.4% of flow is based on data relative to the reporting year. Similarly the total lift for individual pump sets is 17,511.07m, of which 6,712.6m is based on telemetry data, equating to 38.3% of lift based on data relative to the reporting year.

The Average Pumping Head figure has increased by 2.92m.hd from AIR20. Distribution pump sets have contributed a decrease of 0.08m.hd to the overall figure Water Supply, an increase of 1.21m.hd and PPP an increase of 1.79m.hd. The increase is mainly attributed to a Supply Source Optimisation Project (as part of an energy efficiency drive) where cheaper upland water is preferred over lowland sources as storage levels permit.
The table below lists pump sets whose contribution to the overall AIR21 APH figure has changed by +/-0.5m.hd or greater from its corresponding contribution in AIR20. These 2 pumpsets represents 1.49m.hd increase. The changes are explained in more detail further in the commentary.

Pump sets whose contribution to the overall AIR21 APH figure has changed by +/-0.5m.hd or greater from AIR20

Name	AIR20 Individual APH	Contribution to Overall AIR20 APH Figure	AIR21 Individual APH	Contribution to Overall AIR21 APH Figure	Contributing difference from AIR20/AIR21
Dunore WTW HL (Hydepark & Ballyrobin)	11,844.66	20.120	12,378.02	20.705	0.59

Name	AIR20 Individual APH	Contribution to Overall AIR20 APH Figure	AIR21 Individual APH	Contribution to Overall AIR21 APH Figure	Contributing difference from AIR20/AIR21
Lough Island Reavy Fofanny RWPS	1883.79	3.2	2,453.85	4.105	0.9

Distribution pump data in master pump table

In keeping with the Reporters view that given the good progress made in recent returns with data from Telemetry being obtained for 78% of pump sets, the rollout programme should continue. The report created to provide data from Telemweb only produces information from the date pump sets are added. Some telemetry data for pump sets may not be data based on the full reporting year but will be based on a minimum of 3 months. For future returns, the report will provide data for the whole reporting period.

For pump sets with no telemetry data currently available, calibrated network models (Current Average Daily Demand Models) constructed by a framework of Consultants performing Detailed Zonal Studies (DZS) in various study areas across Northern Ireland continues to be the data source. Pump sets based solely on DZS data makes up 22% of the return.

No data was available for previous returns for the following pump sets. Telemetry data is now available to allow a return to be made against them for AIR21.

- Glenchuil WBS

Where mean lift and average ADD flow cannot be obtained from a suitable calibrated network model / or telemetry, no estimation of these parameters has been included for distribution pumps in the Master Pump Table.

Changes to distribution pumpsets have contributed a decrease of 0.08m.hd to the overall change from AIR20

There have been no significant contributors within Distribution.

Supply pump data in master pump table

Abstraction pumps, treatment process pumps and WTW outlet pumps have not generally been included in the DZS network models. Therefore, local NI Water supply personnel have provided data from a variety of sources, listed below, for the determination of mean lift and average current flow for each pump supplying the distribution zones.

- Telemetry (Telemweb),
- Direct readings of dials from pump sites,
- Record Drawings for pump lift, and
- NIW Total Flow Calculations for WTW in NI.

As with distribution pump sets, the use of telemetry data has been sought for Supply pump sets, with all but 2 of the 44 Supply pump sets based on flow and / or lift data obtained from Telemweb.

Changes to Supply pump sets have contributed an increase of 1.212m.hd to the overall change from AIR20.

The main contributors are listed in the table below:-

Name	AIR20 Individual APH	Contribution to Overall AIR20 APH Figure	AIR21 Individual APH	Contribution to Overall AIR21 APH Figure	Contributing difference from AIR20/AIR21
Lough Island Reavy Fofanny RWPS	1883.79	3.20	2453.85	4.105	0.9

Lough Island Reavy Fofanny RWPS –Management of supply sources (Foffanny WTW)

Distribution Input (DI)

The Company DI by Supply Source (597.84Ml/d) has been provided by the Company's Leakage Data Management Unit, as has the PPP Only DI (268.07Ml/d) and the NI Water Only DI (329.77Ml/d), obtained by adding the relevant Water Supply sources.

PPP pump data in master pump table

Flow and lift information has been provided by the PPP Concessionaire through Contracts Management Section and have provided the following commentary:

The Average pumping head – total (Line 5) has been calculated in accordance with the calculation described in the Guidance.

Dalriada installed pressure gauges for manual readings at each of the Delivery Points (with the obvious exception of the 2 gravity feed points at Ballinrees) as listed below:

- Moyola HLP
- Ballinrees HLP (Moys)
- Magheraliskmisk HLP (CB1)
- Ballydougan HLP (CB2)
- Forked Bridge (FB)
- Crewe Hill HLP (FB2)
- Dunore Point HLP (DP1 & DP2)

In conjunction with the updated average flows has produced an updated average pumping head calculation when applied to the agreed formula for Average Pumping Head.

Lift (m) – Lift figures continue to be derived from the pressure gauges on High Lift and for Interstage or Low Lift taken from the quoted values that are physically stamped on each pump. This procedure has enabled these figures to be consistent with last year's approach.

Average to Supply (Ml/d)

Note that the average flows represent updated figures for the 2020/21 year. These have been derived from dispatch records over the past year which record - via a series of frequently calibrated flowmeters at each Delivery Point on site - the volumes dispatched to NI Water in accordance with the dispatch requests received and also from on-site records and SCADA trends of interstage volumes. Also the Lift has been shown for each interstage process at each site. Therefore, in conjunction with the updated average flows this has produced an average pumping head calculation when applied to the agreed formula for Average Pumping Head.

This has demonstrated an increase in overall calculated Average Pumping Head [153.02m for AIR21 and 152.08m for AIR20]. This increase in Average Pumping Head has been caused by the increased proportion of pumped abstraction (from the River Bann) and gravity abstraction from upland sources at the Ballinrees WTW, associated with the overall increase in throughput from this WTW. Other factors in APH increase include the increased throughput for Dunore Point, Moyola and Castor Bay WTW's, which are all pumped into supply.

Changes to PPP pump sets have contributed 1.79m.hd increase to the overall figure from AIR20.

The main contributors to the change are:

Name	AIR20 Individual APH	Contribution to Overall AIR20 APH Figure	AIR21 Individual APH	Contribution to Overall AIR21 APH Figure	Contributing difference from AIR20/AIR21
Dunore WTW HL (Hydepark & Ballyrobin)	11844.66	20.12	12378.02	20.705	0.59

The changes in PPP contribution is mainly around the Source Optimisation Project.
There is a minor discrepancy between the PPP APH figure (152.02m.hd) calculated by the PPP Concessionaire and the figure calculated by NI Water (152.95m.hd). The discrepancy has occurred with the PPP DI figure used268.0Ml/D by PPP, 268.07Ml/D NI Water and rounding up/down of individual pump data. The NI Water PPP DI figure is based on data provided by the Company's Leakage Data Management Unit as indicated in Distribution Input (DI) section above.

PPP only and NI Water only 'Average Pumping Head' calculations

Average Pumping Head is by definition the amount of pumping required to transport an average ML of water from abstraction at source to supply the customer through the Distribution Network.

The UR AIR14 Guidance for Table 12 has requested an 'Average Pumping Head' to be calculated for NI Water only and PPP only. It should be noted that it is NI Water's interpretation that the true definition (as stated above) of Average Pumping Head is not being reflected through the splitting up of the overall NI Water Average Pumping Head value.

The NI Water only and PPP only 'Average Pumping Heads' are 92.62m.hd and 152.95m.hd, respectively. The PPP only value is in relation to the Pumping Head within the works. PPP WTWs do not have specific Distribution Networks, and therefore the water is extracted, treated and then exits the works into the NIW Distribution Network. Within the Distribution Network, PPP water then mixes with NI Water water, therefore making it impossible for NI Water and PPP flows to be truly separated for use in PPP only and NI Water only average pumping head calculations. Hence the value of 152.95m.hd calculated for PPP only is more in relation to the Pumping Head within the works.

However the UR AIR14 guidance document for Table 12 states 'Average Pumping Head should be calculated for 'NI Water only', 'PPP only' and the 'total company'. Different denominators should be used to calculate the average pumping head for each table (i.e. 'NI Water only', 'PPP' and 'Total') reflecting the amount of water entering supply from NI Water treatment works, PPP treatment works and in total, respectively. There is no requirement for the sum of the NI Water and PPP pumping head figures to equal the total company APH. The numerator for the 'NI Water only' calculation should reflect pumping from NI Water treatment works and all NI Water distribution system pumping. The numerator for the 'PPP' calculation should reflect only pumping associated with the PPP concession.'

NIW has complied with this request and has provided separate Average Pumping Head values for NI Water only, PPP only and the Company 'total'. The respective distribution input values, associated with NI Water only, PPP only and Company 'total' sources have been used as denominators to calculate the respective Average Pumping Head values.

The issue, outlined above, as posed by NI Water in previous returns regarding the proportioning of the Average Pumping Head between NI Water Only and PPP Only, is further exacerbated through the AIR14 approach, as requested by the UR. The use of the PPP source related DI, as a denominator to calculate the PPP Average Pumping Head, indicates the amount of pumping required to transport an average ML of water from abstraction at source to the 'exit' gate of the WTWs. However the use of the NI Water Only source related DI, as a denominator for the NI Water Only Average Pumping Head, indicates the amount of pumping required to transport an average ML of NI Water Only water from abstraction at source to supply the customer through the Distribution Network, in addition to the pumping required to transport an average ML of PPP Only water from the 'exit' gate of the PPP WTWs through the NI Water Distribution Network.

A confidence grade of 'B4' has been allocated to these values of 92.62m.hd and 152.95m.hd for the 'Average Pumping Head' for NI Water only and PPP only respectively.

With ref to the UR's Guidance, regarding the 'proportion of water taken from Lough Neagh that is included within Block A of each table and identify which source type'. – the PPP sources Castor Bay, Moyola and Dunore extract from Lough Neagh, with no extraction by NIW sources.

Data shortcomings

Calibrated hydraulic network models used in the data collection of pump lift and head have been built by a framework of DZSC's over a period of more than five years. Thus, models used have various calibration days.

Leakage reduction and changes to the system subsequent to the field test and model construction have not been taken into account. New pumps or pumps not field tested / modelled will also have no data available from DZSC's.

NI Water distribution input for WTW's/sources in NI are current 202/21 figures which may not absolutely match pump data available from the older network models but this represents the best combination available.

The report set up to provide telemetry data from Telemweb has been available since November 2012. The report created to provide data from Telemweb only produces information from the date telemetry points are added. Some telemetry data for pump sets may not be based on the full reporting year but will be based on a minimum of 3 months. For future returns, the report will provide data for the whole reporting period.

Data relating to lift from telemetry is limited. Where flow data only is available from telemetry, lift data from the DZS model has been used. These may not be an absolute match but represents the best combination available.

58 of the 378 as having an 'in service' operational status during AIR21 period have no or incomplete data, no return has been made for these pump sets. As the majority of these pump sets are distribution booster sets, it is anticipated, if full data were available, it would have minimal impact on the overall figure.

Confidence grade

The Confidence Grade is B4 as per the Reporter recommendations from AIR17 submission.

Improvements from AIR20

Shortcomings highlighted in previous returns included the age of data from network models and as such subsequent leakage reduction and network changes would not have been taken into account. This is being addressed with the increasing use of Telemetry data. Telemetry data is relevant to the current reporting year with flow data more in line with the DI figure. With over 99% of flow and almost 39% of lift now based on data relevant to the reporting period, data quality continues to increase.

Future improvements

Continue the interrogation of Telemweb for relevant data. Improved data capture from the upgrade of treated water pumping stations delivered through capital projects, base maintenance schemes and the iCAT project.

Average Pumping Head result comparison from 2008 to 2021

	DI Ml/d	Sum (flow x lift)	Average Pumping Head (m.hd)
2008 Assessment	284.459	31655.54	111.28
2009 Assessment	420.93	47845.27	113.67
2010 Assessment	609.62	84470.31	138.57
2011 Assessment	627.5	100446.95	161.82
2012 Assessment	585.09	91225.01	155.90
2013 Assessment	559.37	78170.54	139.7
2014 Assessment	562.4	75211.22	133.73
2015 Assessment	564.92	64740.9	114.6
2016 Assessment	561.62	62697.39	111.64
2017 assessment	573.23	68539.45	119.57
018 Assessment	577.62	70,092.1	121.03
2019 Assessment	593.05	72,788.13	122.74
2020 Assessment	588.71	68,722.01	116.73
2021 Assessment	597.84	71,532.15	119.65

Line 13 - Potable mains

This figure has been extracted from the Corporate Asset Register. There has been no change to the structure of the data reported on this year from the previous years that would directly affect the total provided. The confidence grade of the data will remain the same as the previous year. There have been no significant improvements in data quality since the AIR20 reports. Any new data will have adhered to the NIW Code of Practice for the submission of asset data ensuring that data quality levels have been maintained throughout the year.

PPP

Lines 1- 4 Column 1 only – Number of sources (PPP)

The PPP Water sources have remained consistent over the reporting period for AIR21 as they were with AIR20. In accordance with AIR17, NI Water has included the River Bann intake as an additional source to Ballinrees WTW. The reasoning used is, that there exists the potential to source the WTW directly from the River Bann rather than purely directing this source from the Ballinrees Impounding Reservoir. NI Water has also included the Altikeeragh IR as a source for Ballinrees WTW as it supplied a proportion of the water for Ballinrees WTW during the period 20120-21 as it did in 201-20.

Line 5 Column 4 only – Average pumping head (PPP)

The reported data is solely due to the average flows called by the Company from its PPP sites, it has varied from last year's average flows.

Lines 6-10 Column 1 only – Types of Treatment by Proportion (PPP)

No changes to the PPP types of treatment over the reporting period.

Lines 6-10 Column 2 only – Total number of Units referred to Type (PPP)

No changes to the PPP types of treatment over the reporting period.

Line 13 – Potable Mains (PPP)

No changes to the length of Potable Mains operated by the PPP Contractor over the reporting period.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 13 NON FINANCIAL MEASURES
SEWERAGE PROPERTIES & POPULATION (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	PROPERTIES																				
1	Households properties connected during the year	000	3	3.455	B2	3.108	B2	2.627	B2	4.076	B2	5.442	B2	6.385	B2	6.240	B2	5.170	B2	5.148	B2
2	Non-households properties connected during the year	000	3	0.123	B2	0.106	B2	0.13	B2	0.198	B2	0.112	B2	0.178	B2	0.347	B2	0.266	B2	0.333	B2
B	BILLING																				
3	Households billed unmeasured sewage	000	3	586.127	A2	591.043	B2	594.525	A2	599.994	A2	609.753	A2	619.835	A2	629.513	A2	639.082	A2	647.350	A2
4	Households billed measured sewage	000	3	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1	0.000	A1
5	Households billed sewage	000	3	586.127	A2	591.043	B2	594.525	A2	599.994	A2	609.753	A2	619.835	A2	629.513	A2	639.082	A2	647.350	A2
6	Non-households billed unmeasured sewage	000	3	9.250	A2	8.706	A2	8.132	A2	7.513	A2	7.314	A2	7.354	A2	7.362	A2	7.480	A2	7.458	A2
7	Non-households billed measured sewage	000	3	23.014	A2	23.347	A2	23.56	A2	23.809	A2	24.343	A2	24.820	A2	25.296	A2	25.705	A2	26.107	A2
8	Non-households billed sewage	000	3	32.250	A2	32.053	A2	31.692	A2	31.322	A2	31.657	A2	32.174	A2	32.658	A2	33.185	A2	33.565	A2
9	Void properties	000	3	44.637	A2	44.479	B2	44.164	A2	43.463	A2	42.551	A2	41.741	A2	41.579	A2	41.483	A2	41.998	A2
C	POPULATION																				
10	Total connected population	000	3	1,512.024	B3	1,514.925	B3	1,521.776	B3	1,529.734	B3	1536.699	B3	1544.413	B3	1550.715	B3	1565.984	B3	1552.799	B3

Table 13 – Sewerage Properties and Population (Non-financial measures)

Introduction

Table 13 focuses on the number of properties and population connected to the public sewerage supply system. It extends to 10 lines, set out in three blocks:

- Block A Properties (Lines 1 & 2). Reports properties connected during the year.
- Block B Billing (Lines 3-12). Includes a breakdown of all measured and unmeasured household and non-household properties billed by the company. The property numbers should be the average for the reporting year.
- Block C Population (Lines 13-17). This records the population within each of the measured and unmeasured household and non-household categories. The population numbers should be the average for the reporting year.

The information in this table is used in tariff and charging analysis and determination (sewerage unit cost).

Data Sources, Data Validation and Data Quality Projects

NI Water's data on property counts and classifications is reported monthly from RapidXtra within the Rapid Property Summary (RPS). The data is extracted from the Diamond Warehouse via Microsoft SQL Server to produce the RPS report.

Our AIR20 methodology has remained consistent with previous years – using the automated Property Model tool to populate Table 13 figures (this was first introduced in AIR12 – the RPS as the input).
The RPS provides us with a snapshot at the end of each month in terms of net movement; however it alone does not support in the explanation of gross movements within the data. The plan is to further enhance the Power BI property models and incorporate these models across the business during 2021/22.

Customer/Property information is updated through:

- BAU ('business as usual') customer contacts, such as new connection requests, customer move in/move outs, or
- through Data Quality initiatives/Projects, and/or
- Metering work streams e.g. UNHH (Selectives), Optants, and Proactive Meter Exchange etc.

Under the Water & Sewerage Services (2006) Order, NI Water were required to install meters on all new household connections from April 2007. This practice has stopped as directed by a change in legislation, which took effect in July 2016. The legislation was amended by Regulations, which in effect relieved NI Water of the obligation to install meters at newly connected domestic properties. As domestic customers are not charged on a measured basis, the property is reported as unmeasured. Some domestic properties were initially reported as measured in AIR10 but this was rectified as per the erratum to AIR10. Depending on the basis for charging when domestic billing is introduced, these customers can be activated as measured household if required.

Based on standard industry figures, the volumes returned to sewer are assumed to be 95%, unless the customer challenges this assumption; whereupon they can apply for a non-return to sewer allowance which will be investigated and determined by NI Water.

For clarity, where reference is made in Table 13 to 'billed' household and 'billed' non-household, this is taken as the provision of water services to customers whether they are billed directly (non-domestic customers) or payment is made through subsidy by DFI (domestic customers).

As with Table 7 (Water) – as per Utility Regulator guidelines, farms were reclassified as billed non-households for AIR09 – this has remained for AIR21. Previously, in AIR08, farms had been classified and reported as 'billed' households; on the principle of their status and allocation of 'domestic allowance'.

The difference between the AIR20 and the AIR21 property figures can be explained as follows:

1. New Connections during the 2020/21 reporting year. The figures are based on data supplied by our Customer Connections Team and represent completed connections during the reporting year. The projections for New Connections remain in line with the agreed PC15 forecasts, however we have noted a downturn and will review mid-year (during the draft Principle Statement) to ascertain if projections should be changed.
2. Added as a result of a customer contact. i.e. septic tank empty request, no water complaint, blocked sewer, updating of standing data e.g. removal of services etc. Within this category there are 2 scenarios:
    (a) The adding of properties NI Water allegedly did not know about
    (b) The adding of duplicates as the customer's address could not be found on Rapid. Rapid may hold the site number but when the customer contacts NI Water, they quote the verified postal address, which is different, therefore creating a duplicate. The street name may also have changed from the time of New Connection to that of customer contact (street names can change in the early stages of site development).
3. Removal/reclassification of properties as a result of data quality initiatives/projects
    a. Duplicate properties
    b. Reclassification of properties that were recorded in error
4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

For NI Water, accurate property data is fundamental for many systems and processes, including customer service, metering, billing, consumption, leakage and Major Incident Planning & Response. The Rapid Customer Contact System contains the master property data for NI Water.

As Data Owner for Property Standing Data, The Head of CSD Services is responsible for the property standing data held by NI Water; this is monitored and managed through the Property Information Group (PIG). The CSD Services MI & Data Team chair this group.

The role of PIG is to ensure that there is appropriate governance, controls and reporting for changes made to core data on the system. As Property Data Owners, we need to ensure the processes around creation, maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. Control is key for us; as such we have identified the systems, processes and people using property information across the business, alongside confirming data accuracy and endeavouring to reduce the opportunities for erroneous data entry and creation (such as the inability to recreate demolished properties or duplicate properties).

The issues under consideration were identified as of corporate relevance, therefore to ensure appropriate direction and governance the PIG was formalised. Key objectives include:

1. To agree a single consistent source of property data.
2. To ensure the source property data represents accurate, up-to-date information appropriate for use by the business.
    a. To understand and agree data primacy in respect of data updates from NI Water and external (Land & Property Services - LPS) sources
    b. To ensure the processes around creation (i.e. New Connections), maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. i.e. through CBC Data Validation (Phase 1, Phase 2, Phase 3, 105 Days DV)
    c. To co-ordinate property reconciliations between NI Water & external sources i.e. Data Sharing Agreements between NI Water & LPS, NI Water & Belfast City Council (BCC) etc. and understand the reasons and validity of any differences
    d. To understand and ensure the adequacy of long term procedures for database maintenance, including the updating of data standards and associated CDE M&M Plans
3. To ensure the reporting requirements for the business are met relating to data held on Rapid, particularly, but not exclusively, in respect of tariffs, leakage, Annual Information Returns (AIR) & Principle Statement (PS) returns.
4. Challenge the data in the areas of
    a. Data categorisation & structure
    b. Data robustness – i.e. where is our data good and where is there opportunity for improvement? Identify projects that could aid improvement
    c. Data alignment – both internally and externally. Internally between systems such as Rapid, Ellipse, GIS, Diamond, Netbase, IMS etc. Externally through data reconciliations, such as LPS above.
5. To agree measures to improve the quality and integrity of the data, particularly the key CDEs as monitored by IMU
6. To agree the content and frequency of reports required by NI Water.
7. To agree the quality checking criteria for the above data and reporting and develop a Quality Plan including the determination of responsibilities and audit trails.
8. To produce & circulate an ‘operate and maintain’ programme for property data to the business.

The COVID 19 pandemic has caused delays to our 20/21 plans, however our aim for 2021/22 remains the same with continued focus for PIG including analysis and action on:

- Volume of properties coming onto the Rapid billing system on a monthly basis
    - new connections
    - customer contact
    - project work
- Volume of properties coming off the Rapid billing system (demolished)
    - sample check to ensure reason for demolition has been noted and on system audit trail recorded
- Volume of properties amended on the Rapid billing system
    - In particular, address fields -> building number, street name, town and postcode
    - sampling to identify if the data changes are data improvement or data regression
    - if data regression, further analysis into the process is undertaken

- Review of access privileges
    - Rapid audit
    - Through monthly audit samples
    - Internal CRs require sign off from PIG as BAU
    - Working with Echo to review access privileges on an ongoing basis
- Interruptions to supply notices – returned mail
    - This returned mail was brought to the attention of LPS and include properties that LPS have classified as live properties despite being returned as 'no such address' etc.
    - The 2 way communication with LPS will help underpin our governance work and provide direction to the business on practices

The PIG Strategy for 2021/22 will include the following:

- New Connections - A push to move to on-system reporting following the Business Improvement New Connections Review
- Further use of PowerBI – We currently use Power BI to create and issue the monthly Rapid Property Summary (RPS) and will continue to explore the use of Power BI in other aspects of our property work throughout 2021/22
- Rapid-POINTER Reconciliation - follow on actions to be worked through and benefits realised. i.e. Uploading of UPRNs from POINTER where a property can move from an A match to an A* match
- Continued monitoring of data alignment between systems – Rapid and Ellipse, GIS, Netbase, Diamond, IMS etc.
- Smart Cities (Belfast City Council Rates Maximisation Project) – Ongoing data sharing project that commenced in August 19
- Continuation of the 2 way communication with LPS - This will help underpin our governance work and provide direction to the business on practices that will work alongside LPS
- Student Accommodation – further case studies on student accommodation re-development sites. Liaise with Belfast City Council to understand at what stage they can inform NI Water of properties that are to be re-developed as student accommodation.
- Test Meters – monitor numbers of 'retain for review' meters
- Properties with 'no water supply' (no water/well water) – review and validate on a monthly basis

Summary

As Table 13 is based on averages, please find summary table below for 'End March 2020' and 'End March 2021'. The '1st Dec 2020' actuals are used in the Principal Statement and Tariff Setting process.

Property Numbers	March 2020	1st Dec 2020	March 2021	Expected Movement
Unmeasured Sewerage Household	643562	648594	651137	Increase
Unmeasured Sewerage Non-Household	7587	7395	7328	Decrease (but project work has led to an increase)
Measured Sewerage Non-Household	25812	26110	26401	Increase

Voids	41358	41859	42638	Currently no trend that aligns with water
Total	**718319**	**723958**	**727504**	**Increase**

Site Metered Properties

As part of the ongoing data checks, NI Water has been confirming the number of site metered properties (multiple properties being charged through a single meter, such as business parks and industrial estates).

To ensure that these meters are not double counted, as with Table 7, the non-domestic site meters are not included in Table 13 non-domestic property counts (although NI Water still retain this information for customer record and charging purposes).

There are 2788 domestic properties (an increase of 438 during 20/21) classified as site meters. There will be further investigation and analysis to be completed during 2021/2022 to ensure these are classified correctly. The output of the Metering & Billing project can result in additional site metered properties being added to Rapid.
Overall, the number of non-domestic site meters has decrease by 540 during 2020/21. (14235-14775). This is as a result of categorisation movements in year such as measured water to site meter and unmeasured water to site meter.

Unmeasured Not Charged Properties

From the RPS, there are deemed to be 659 (gross) 'unmeasured – not charged' properties which (based on sample taken) are mostly NI Water properties. The CSDS Services MI & Data Team are currently investigating any 'unmeasured – not charged' properties outside of NI Water ownership to ensure they are classified correctly.

Unmeasured Household Property Movement

The table below provides a reconciliation of the reporting year property movements and resulting property numbers. It sets out how the properties have changed over the reporting year, due mainly to new connections, alongside some movement in the occupancy status. Note: these reported figures include domestic properties that are metered but as NI Water does not bill households for water, they are reported as unmeasured.

Property Numbers	March 2020	Dec 2020	March 2021
Unmeasured Sewerage Gross Household	677065	682373	684964
Unmeasured Sewerage Occupied Household (L3 year-end sub calc)	643562	648594	651137
Unmeasured Sewerage Voids Household	33503	33779	33827

Household Voids	Voids	Difference (in-year)
March 2021	33827	(+) 324
March 2020	33503	(-) 177
March 2019	33680	

Measured Household Property Movement

Due to the deferral of domestic charging, NI Water does not bill households for unmeasured or measured water, therefore we don't report figures for measured household property movements (they are included in the unmeasured line as they are not billed)

Unmeasured Non-Household Property Movement

Property Numbers	March 2020	1st Dec 2020	March 2021
Unmeasured Sewerage Gross Non-Household	12311	12267	12768
Unmeasured Sewerage Occupied Non-Household (L6 year end sub calc)	7587	7395	7328
Unmeasured Sewerage Voids Non-Household	4724	4872	5440

Measured Non-Household Property Movement

Property Numbers	March 2020	1st Dec 2020	March 2021
Measured Sewerage Gross Non-Household	28943	29318	29772
Measured Sewerage Occupied Non-Household (L7 year end sub calc)	25812	26110	26401
Measured Sewerage Voids Non-Household	3131	3208	3371

Non-Household Voids

Non-Household Voids	Voids	Difference (in-year)
March 2021	8811	(+) 956
March 2020	7855	(-) 72
March 2019	7927	

Confidence Grades

We have kept the confidence grades consistent with those of AIR20. During the reviews mentioned in the company commentary above, we will retain evidence to support any change in confidence grades.

Whilst the quality of data will improve, the method of extraction and reporting remained consistent. The automated tool (developed during AIR12) to populate the base property tables has remained in place for AIR21.

Annex A details the Line Methodology followed to calculate the figures within Table 13 Lines 1-10.

Annex A – Line Methodology for Table 13 Lines 1-10

A) Sewerage Properties and Population

Line 1: Household Properties Connected during the Year

This line represents the number of new household (domestic) properties added to the sewerage network during the reporting year (Previously not connected to the sewerage system).

The figures are based on the New Connections reported by the Customer Connection Team (CCT). A series of filters was then applied to identify New Connections connected for sewerage, as per embedded document. It is NIW policy to install meters on all Non-Domestic New Connections.

AIR 21 NC_5481 Sewerage.xlsx

Households properties connected during the year	5148

The number of new domestic connections for the year is 5148.

Line 2: Non-Household Properties Connected during the Year

This line represents the number of new non-household (non-domestic) properties added to the sewerage network during the reporting year (Previously not connected to the sewerage system).

The figures are based on the New Connections reported by the Customer Connection Team (CCT). A series of filters was then applied to identify New Connections connected for sewerage, as per embedded document. It is NIW policy to install meters on all Non-Domestic New Connections.

Non-Households properties connected during the year	333

The number of new non-domestic connections for the year is 333.

B) Billing

Line 3: Households Billed Unmeasured Sewerage

Due to the deferral of domestic charging, NI Water does not bill households for unmeasured sewerage.

This figure refers to the average number of households billed for unmeasured sewerage within the supply area. Void properties have been excluded, so occupied numbers only used.

This is calculated from the monthly Rapid Property Summary for AIR21 (dated 31st March 2021) as embedded below.


RPS March YE 2021.xlsx

Households Billed Unmeasured Sewerage	End March 2020	End March 2021
Household - Unmeasured	611062	618500
Household - Sewerage Only	8	9
Household - Measured – Not Charged (test meters)	83	27
Household - Measured	31010	30936
Household – Site Meters	1387	1653
Household - Unmeasured - Not Charged	12	12
Total	643562	651137
Average (Apr20/Apr21)	**647350**	

The figure represents the number of unmeasured domestic properties that would have been billed had charging been introduced.

Line 4: Households Billed Measured Sewerage

Due to the deferral of domestic charging, NI Water does not bill households for measured water. Therefore any household properties that would have been included in line 4 are included in line 3.

Households Billed Measured Sewerage	End March 2020	End March 2021
	0	0
Average (Apr20/Apr21)	**0**	

Line 5: Households Billed Sewerage

Due to the deferral of domestic charging, NI Water does not bill households for sewerage.

This figure excludes void properties and is calculated as below:
(Table 13 line 2 plus line 4)

Households Billed Sewerage	Average 20/21
Households billed unmeasured sewerage	647350
Households billed measured sewerage	0
Total	**647350**

This figure represents the number of domestic properties that would have been billed had charging been introduced.

Line 6: Non-Households Billed Unmeasured Sewerage

This is the average number of non-households billed for unmeasured sewerage within the supply area, calculated from the Rapid Property Summary.

Figures are based on an average of Rapid End March 2020 and End March 2021 non-domestic unmeasured properties.

Non-Households Billed Unmeasured Sewerage	End March 2020	End March 2021
Non-Household - Unmeasured	7571	7314
Non-Household - Sewerage Only	16	14
Total	7587	7328
Average (Apr20/Apr21)	**7458**	

Line 7: Non-Households Billed Measured Sewerage

This refers to the average number of non-households billed for measured sewerage within the supply area, calculated from the Rapid Property Summary.

Figures are based on an average of Rapid End March 2020 and End March 2021 non-domestic measured properties.

Non-Households Billed Measured Sewerage	End March 2020	End March 2021
	25812	26401
Average (Apr20/Apr21)	**26107**	

Site metered properties are a subset of the overall non-domestic billed measured sewerage customer base, therefore not included in the figure above to avoid duplication (as per AIR21 Table 7). e.g. Where multiple businesses/properties are served through one site meter, only the landlord or business park management is considered as the customer.

Line 8: Non-Households Billed Sewerage

This is the total number of non-households billed for sewerage within NI Water's area, excluding void properties. It is a calculated figure of Table 13 Lines 6 and 7.

Non-Households Billed Sewerage	Average 20/21
Non-Households Billed Unmeasured Sewerage	7458
Non-Households Billed Measured Sewerage	26107
Total	**33564**

Line 9: Void Properties

This is the average number of properties, within the supply area, which are connected to the sewerage system but do not receive a charge, as there are no occupants – (void properties)

This is calculated from the Rapid Property Summary for AIR21 by calculating the gross number of properties connected to the sewerage system minus the total number occupied as calculated in lines 5 and 8.

Gross Number of Properties Connected to the Sewerage System	End March 2020	End March 2021
Household - Unmeasured	639324	646930
Household - Sewerage Only	8	10
Household – Measured - Not Charged (test meters)	88	28
Household - Measured	35281	35195
Household – Site Meters	2350	2788
Household - Unmeasured - Not Charged	14	13
Non-Household – Unmeasured	12290	12749
Non-Household – Sewerage only	21	19
Non-Household - Measured	28943	29772
Total	718319	727504
Average (Apr20/Apr21)	**722912**	

Trade Effluent customers have been excluded from the above figure as they could already be included in measured sewerage. Trade effluent is considered within other tables of the AIR21 submission.

Voids	End March 2021
Total Gross Properties (as above)	722912
Less total occupied properties (line 5+line 8) =	680914
Total	**41998**

C) Population

Line 10: Total Connected Population

This figure is a calculation of the total population multiplied by the properties connected to the sewerage system as a proportion of the properties connected for water (according to the Rapid Property Summary).

The average totals for gross occupied sewerage and water properties are obtained using the Rapid Property Summary for End March 2020 and End March 2021.

	End March 2020	End March 2021	Average 20/21		
Gross number of properties connected for sewerage	718319	727504	722912		
Gross number of properties connected for water (T7 L7 + T7 L11)	883423	892910	888167		
Calculation = Sewerage Properties / Water Properties	= (722912 / 888167) * 100		**81.39%**	**Therefore, Total Connected Population equals (Table 7 Line 17 [1,895,870] * 81.38%) + Table 17a Line 2 [9,751]**	**1,552,799**
				1,543,048+9,751	

As detailed above, the number of sewerage properties has been calculated as 81.39% of those with water; this percentage is then applied to the total water population from Table 7 Block C.

(Water population total (Source Peter Nicholl) X 81.39%) + Non-Resident Population (Source Lisa Woodman) = Table 13 line 10

(1,895,870 X 81.39%) = 1,543,048 + 9,751 = 1,552,799

T13 L10	**1552.799**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 14 NON FINANCIAL MEASURES
SEWAGE COLLECTED (TOTAL)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**SEWAGE - VOLUMES**																				
1	Volume unmeasured household sewage	Ml/d	2	243.14	B3	232.74	B3	237.61	A2	238.81	A2	244.60	B2	244.35	A2	255.21	A2	257.16	A2	277.51	A2
2	Volume unmeasured non-household sewage	Ml/d	2	5.53	B3	4.89	B3	4.69	A2	4.25	A2	4.18	B2	4.16	A2	4.46	A2	4.50	A2	3.67	A2
3	Volume unmeasured sewage	Ml/d	2	248.67	B3	237.63	B3	242.3	A2	243.06	A2	248.78	B2	248.51	A2	259.67	A2	261.66	A2	281.18	A2
4	Volume measured household domestic sewage	Ml/d	2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
5	Volume measured non - household domestic sewage	Ml/d	2	35.9	B3	36.65	B3	39.11	B3	38.72	B3	41.50	A2	39.21	A2	40.16	A2	40.88	A2	33.98	A2
6	Volume trade effluent (excluding Roads Drainage)	Ml/d	2	34.12	B2	41.73	B2	48.49	B2	49.96	B2	49.00	B2	52.19	B2	48.28	B2	52.15	B2	52.49	B2
7	Volume waste water returned	Ml/d	2	318.69	B3	316.01	B3	329.90	B3	243.06	B3	248.77	B3	339.91	B2	348.11	B2	354.69	B2	367.65	B2
8	Volume of Roads Drainage returned	Ml/d	2	175.80	CX	175.80	CX	175.80	CX	175.80	CX	175.80	CX		CX	175.80	CX	175.80	CX	175.80	CX

Table 14 – Non Financial Measures - Sewage Collected (Total)

Line 1 – Volume Unmeasured Household Sewage

This is calculated by assuming a 95% return to sewer of volume delivered to households factored by the percentage of the number of households billed for water against the number of households billed for sewerage services.

Sources

- AIR Table 10 Line 4 – Billed unmeasured household (Ml/d)
- AIR Table 13 Line 3 – Households billed unmeasured sewage
- AIR Table 7 Line 3 – Households billed unmeasured water

$$\text{Volume of unmeasured household sewage (Ml/d)} = \text{AIR Table 10 Line 4} \times 0.95 \times \frac{\text{AIR Table 13 Line 3}}{\text{AIR Table 7 Line 3}}$$

It is worth noting that water Billed unmeasured household volume includes the MLE adjustment, meter under registration and supply pipe leakage.

The Billed Unmeasured Household volumes have been calculated by multiplying the average PCC figure for NI Water by the unmeasured household population. The source of the PCC figure is the NI Water domestic consumption monitor. The household population figure is sourced from the Northern Ireland Statistics and Research Agency (NISRA).

Underground Supply Pipe leakage has been applied to the billed unmeasured household volume component of this calculation.

A meter under registration factor of 6.44% has been applied to this total volume. This percentage has been provided by WRc, as a result of a project initiated by NI Water, and is specific to NI Water's domestic consumption monitor meters.

The AIR21 volume reported for unmeasured household sewage is 27.51 Ml/d. The volume reported in AIR20 was 257.16 Ml/d.

Line 2 - Volume Unmeasured Non-Household Sewage

This is calculated by assuming a 95% return to sewer of volume delivered to non-households factored by the percentage of the number of non-households billed for water against the number of non-households billed for sewerage services.

Sources

- AIR Table 10 Line 5 – Billed unmeasured non-household (Ml/d)
- AIR Table 13 Line 6 – Non-households billed unmeasured sewage
- AIR Table 7 Line 8 – Non-households billed unmeasured water

$$\text{Volume of unmeasured Non-household sewage (Ml/d)} = \text{AIR Table 10 Line 5} \times 0.95 \times \frac{\text{AIR Table 13 Line 6}}{\text{AIR Table 7 Line 8}}$$

It is worth noting that water Billed unmeasured non-household volume includes the MLE adjustment, meter under registration and supply pipe leakage.

The reported value for Billed Unmeasured Non-Household for AIR21 is 4.52 Ml/d. The value reported in AIR20 was 5.53 Ml/d.

The AIR21 volume reported for unmeasured non-household sewage is 3.67 Ml/d. The volume reported in AIR20 was 4.50 Ml/d.

Line 5 - Volume Measured Non-Household Domestic Sewerage

The information was extracted from the revised monthly 'Actuals' Report, which no longer requires adjustment for Bad Debt Write Off and now incorporates both

- Actual billed sewerage discharge M3 as per bills.
- Actual domestic sewerage allowance M3 applied per bills.

The calculated sewerage discharge volume was 12,402,469 M3 converted to mega litres per day of 33.98 Ml/d.

Sewerage volume is 17% (2,519,813 M3 | 6.9Ml/d) less than last year.

The decrease in sewerage volume is directly attributable to the impact of the COVID19 pandemic and the subsequent social and economic restrictions.

Industry Classifications with a material year on year decrease are detailed below:

- 1.0 Million M³ / 35% reduction - Distribution/Hotel/Catering (Retail & Hospitality)
- 0.8 Million M³ / 12% reduction - Other Services (Public Sector – Local Councils / Education Library Boards etc.)
- 0.4 Million M³ / 60% reduction – Miscellaneous / Standard VAT Rated Organisations.

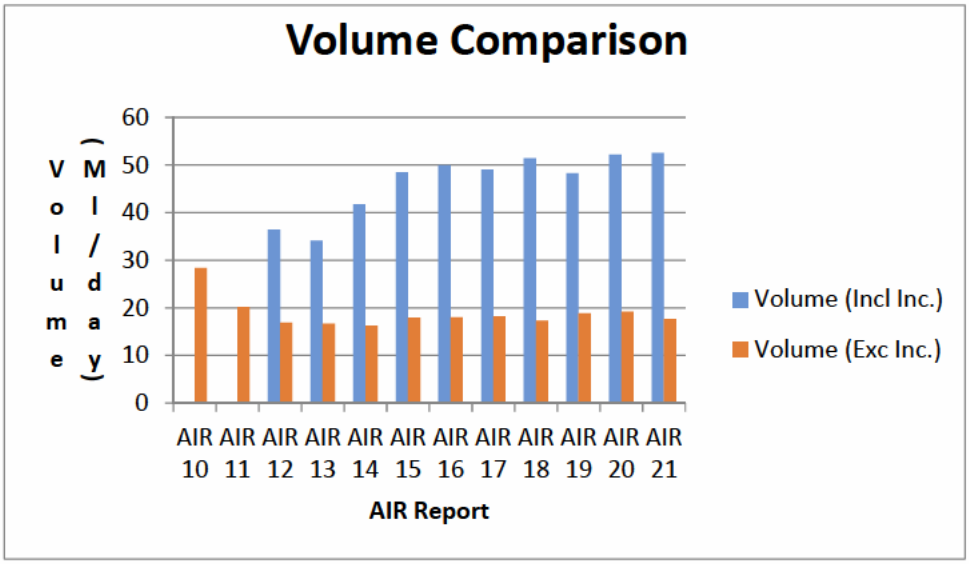
This line has been allocated a confidence grade of A2 as it has an element of manual manipulation of raw data from Rapid report to derive the full year discharge M3.

Line 6 - Volume Trade Effluent

Sources

The names of individual traders were taken from Primary Source of Trade Effluent Customers (PSTEC). This database is updated by NIW on a regular basis. The chargeable volume of each trader was supplied by our Billing Section in Metered Accounts Management. Where no volumes were available, the consented volumes were used. This applied to 57 traders out of 633 assessed. The total number of traders has increased from 620 in AIR20 to 633 in AIR21.
The total volume for AIR 20 and 21 are detailed below:
AIR 20 Volume = 52.15 Ml/day
AIR 21 Volume = 52.49 Ml/day

In order to analyse these figures it has been decided to break them down into volumes including [redacted] and volumes without, to better identify the current trends in data.



There has been a 1.88 Ml/day increase of effluent discharged from [redacted] during this period (32.97 Ml/day to 34.85 Ml/day). Comparing the total AIR 21 volume to the AIR 20 volume there has been an overall increase of 0.34 Ml/day. With the volumes for [redacted] excluded there has been a decrease of 1.54 Ml/day.

Summary of Volumes changes between AIR20 and AIR21 excluding the [redacted] are detailed below:

[redacted]

There has been a decrease in volume of 1.54 Ml/Day. This can be attributed to decreases in NIW and PPP categories with the largest decrease (0.65 Ml/Day) seen in North West Standard Charge customers. North East Standard Charge remains essentially unchanged (1.56 to 1.58 Ml/Day) between reporting periods. There has been a similar trend in the North East Sampled and charged customers which showed a decrease of 0.53Ml/Day. There has been a decrease of 0.34Ml/Day for Southern Sampled and Charged customers and a small increase of 0.10 Ml/Day for Southern Standard charge customers. North West Sampled and charged customers showed a slight decrease in volume over this period (0.13 Ml/Day) with the standard charged traders decreasing by 0.65Ml/Day.

Line 7 - Volume of Waste Water Returned

This line is a calculation of the figures from lines 3, 4, 5 and 6. The components of this calculation received confidence grades of A2, A1, A2 and B2 respectively. As B2 was the lowest confidence grade for a component, this line has been allocated a confidence grade of B2.

Line 8 - Volume of Road Drainage returned

In line with the proposed methodology, we carried out the following steps:

1. Based on information provided by Road Service, determined the surface area of all roads and footpaths in urban areas (i.e. within the 40mph speed limit) as follows:
    - Urban road surface area 39,264,486 m².
    - Urban footway surface area 17,022,987 m².
    - Total urban road & footway surface area 56,287,473 m².

2. Obtained Northern Ireland average annual rainfall data from the Met Office over the last 10 years – 1.14m.
3. Using the above, calculated the annual volume of rain falling on these surfaces and hence the run-off from roads & footpaths discharged to NIW sewers and storm drains.
    - 56,287,473 x 1.14 = 64,167,719m3 (175.80 MLD)
4. From data extracted from NIW's network information management system (NIMS) for the largest 105 urban areas in Northern Ireland (i.e. all areas with greater than 1,000 population) we determined the following:
    - Aggregate length of combined sewers = 4,378km
    - Aggregate length of stormwater sewers = 4,317 km

    Both of these figures were adjusted to allow for those stormwater sewers which –rather than discharging to a watercourse – are connected into the combined system.
    Applying the assumption that the sewer lengths represent a 'proxy' estimate of road lengths, this yields an approximate **50:50** split between areas draining to combined systems and those draining to separate systems.
5. Using points 3 and 4 the volumes of Road Drainage returned are calculated as follows:
    - Volume returned to combined sewer = 87.9 MLD
    - Volume returned to storm sewer = 87.9 MLD
    - Total Volume returned to sewer = 175.80 MLD

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES
SEWAGE TREATMENT (NIW Only)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**SEWAGE - LOADS**																				
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1	3,778.6	B2	3,880.2	B2	5,322.6	B2	5,005.0	B2	4,378.9	B2	4,595.0	B2	5,036.5	B2	4,642.8	B2	4,503.3	B2
2	Total load receiving secondary treatment (BOD/year)	tonnes	1	39,183.9	C3	39,160.6	C3	38,946.1	C3	38,977.2	C3	38,552.9	C3	39,123.7	C3	42,246.8	C3	41,918.0	C3	44,035.5	C3
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	286.6	C3	273.9	C3	210.8	C3	211.2	C3	211.0	C3	212.2	C3	212.2	C3	212.5	C3	212.9	C3
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	691.5	C3	634.4	C3	634.4	C3	669.9	C3	670.0	C3	389.7	C3	389.7	C3	389.7	C3	451.0	C3
5	Total load entering sewerage system (BOD/year)	tonnes	1	40,312.8	C5	40,213.4	C5	39,929.7	C5	39,991.8	C3	39,561.2	C3	39,850.2	C3	42,980.4	C3	42,640.2	C3	44,817.3	C3
6	Equivalent population served (resident)	000	2	1,806.82	C5	1,802.63	C5	1,789.68	C5	1,792.79	C3	1,773.11	C3	1,785.84	C3	1,928.28	C3	1,912.75	C3	1,999.45	C3
7	Equivalent population served (resident) (numerical consents)	000	2	1,742.90	C5	1,740.19	C5	1,727.76	C5	1,731.65	C3	1,712.28	C3	1,724.77	C3	1,866.95	C3	1,850.57	C3	1,933.78	C3
B	**SEWERAGE - SERVICE FACILITIES**																				
8	Number of sewage treatment works	nr	0	1,018	A2	1,015	A2	1,016	A2	1,015	A2	1,015	A2	1,015	A2	1,015	A2	1,016	A2	1,015	A2
9	Treatment capacity available (BOD5/day)	tonnes	1	132.4	D3	133.4	D3	134.2	D3	134.1	D3	134.2	D3	135.0	D3	135.6	D3	135.6	D3	136.0	D3
C	**SEWAGE - SLUDGE DISPOSAL**																				
14	Percentage unsatisfactory sludge disposal	%	2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
15	Total sewage sludge produced	ttds	1	32	B2	32.491	B2	33.5	B2	33.7	B2	37.2	B2	35.7	B2	35.4	B2	36.2	B2	35.6	B2
16	Total sewage sludge transferred to PPP	ttds	1	31.3	A2	31.7	A2	32.6	A2	32.9	A2	36.4	A2	34.9	A2	34.7	A2	35.4	A2	34.8	A2
17	Total sewage sludge disposal by NI Water	ttds	1	0.8	B2	0.8	B2	0.9	B2	0.8	B2	0.8	B2	0.8	B2	0.7	B2	0.8	B2	0.8	B2

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES
SEWAGE TREATMENT (PPP Only)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**SEWAGE - LOADS**																				
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1	1,040.6	B2	1,082.3	B2	1,117.7	B2	1,094.1	B2	1,232.3	B2	1,418.4	B2	1,710.4	B2	1,678.7	B2	1,345.8	B2
2	Total load receiving secondary treatment (BOD/year)	tonnes	1	6,594.9	B3	7,209.1	B3	7,031.9	B3	7,153.2	B3	7,360.2	B3	6,909.8	B3	7,386.2	B3	7,751.3	B3	7,366.3	B3
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1	0.0	A1
5	Total load entering sewerage system (BOD/year)	tonnes	1	6,594.9	C5	7,209.1	C5	7,031.9	B2	7,153.2	B2	7,133.2	B2	6,909.8	B2	7,386.2	C3	7,751.3	B3	7,366.2	B3
6	Equivalent population served (resident)	000	2	301.14	B2	329.18	B3	321.09	B3	326.41	B3	325.72	B3	315.51	B3	337.27	B3	353.71	B3	336.36	B3
7	Equivalent population served (resident) (numerical consents)	000	2	301.14	B2	329.18	B3	321.09	B3	326.41	B3	325.72	B3	315.51	B3	337.27	B3	353.71	B3	336.36	B3
B	**SEWERAGE - SERVICE FACILITIES**																				
8	Number of sewage treatment works	nr	0	6	A1	6	A1	6	A1	6	A1	6	A1	6	A1	6	A1	6	A1	6	A1
9	Treatment capacity available (BOD5/day)	tonnes	1	30.4	B3	30.4	A2	30.4	A2	30.4	A2	30.4	A2	30.4	A2	30.4	A2	30.4	A2	30.4	A2
C	**SEWAGE - SLUDGE DISPOSAL**																				
14	Percentage unsatisfactory sludge disposal	%	2	0.00	A2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
15	Total sewage sludge produced	ttds	1	6.3	B2	6.4	A2	6.7	B3	5.7	B3	5.9	B3	6.0	B3	6.6	B3	6.1	B3	5.9	B3
16	Total sewage sludge received from NI Water	ttds	1	31.3	A2	31.7	A2	32.6	A2	32.9	A2	36.4	A2	34.9	A2	35.5	A2	35.4	A2	35.3	A2
17	Total sewage sludge disposal	ttds	1	37.6	B2	38.1	A2	39.3	B2	38.6	B2	42.3	B2	40.9	B2	41.3	B2	41.5	B2	41.2	B2

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES
SEWAGE TREATMENT (Total)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**SEWAGE - LOADS**																				
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1	4,819.2	B2	4,962.6	B2	6,440.3	B2	6,099.1	B2	5,611.2	B2	6,013.4	B2	6,746.9	B2	6,321.5	B2	5,849.1	B2
2	Total load receiving secondary treatment (BOD/year)	tonnes	1	45,778.8	C3	46,369.7	C3	45,978.0	C3	46,130.4	C3	45,913.1	C3	46,033.5	C3	49,633.0	C3	49,669.3	B3	51,401.8	C3
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	286.6	C3	273.9	C3	210.8	C3	211.2	C3	211.0	C3	212.2	C3	212.2	C3	212.5	C3	212.9	C3
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	691.5	C3	634.4	C3	634.4	C3	669.9	C3	670.0	C3	389.7	C3	389.7	C3	389.7	C3	451.0	C3
5	Total load entering sewerage system (BOD/year)	tonnes	1	46,907.7	C5	47,422.5	C5	46,961.6	C5	47,145.0	C3	46,694.4	C3	46,759.9	C3	50,366.6	C3	50,391.5	C3	52,183.5	C3
6	Equivalent population served (resident)	000	2	2,107.96	C5	2,131.81	C5	2,110.77	C5	2,119.20	C3	2,098.83	C3	2,101.35	C3	2,265.55	C3	2,266.46	C3	2,335.81	C3
7	Equivalent population served (resident) (numerical consents)	000	2	2,044.04	C5	2,069.37	C5	2,048.85	C5	2,058.06	C3	2,038.00	C3	2,040.28	C3	2,204.22	C3	2,204.28	C3	2,270.14	C3
B	**SEWERAGE - SERVICE FACILITIES**																				
8	Number of sewage treatment works	nr	0	1,024	A2	1,021	A2	1,022	A2	1,021	A2	1,021	A2	1,021	A2	1,021	A2	1,022	A2	1,021	A2
9	Treatment capacity available (BOD5/day)	tonnes	1	162.8	D3	163.8	D3	164.6	D3	164.5	D3	164.6	D3	165.4	D3	166.0	D3	166.0	D3	166.4	D3
C	**SEWAGE - SLUDGE DISPOSAL**																				
14	Percentage unsatisfactory sludge disposal	%	2	0.00	A2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
15	Total sewage sludge produced	ttds	1	38.4	B2	38.9	A2	40.2	B2	39.4	B2	43.1	B2	41.5	B2	6.6	B3	42.3	B2	41.5	B2
16	Not used	ttds	1																		
17	Total sewage sludge disposal	ttds	1	38.4	B3	38.9	A2	40.2	B2	39.4	B2	43.1	B2	42.0	B2	41.3	B2	42.3	B2	42.0	B2

Table 15 - Sewage Treatment

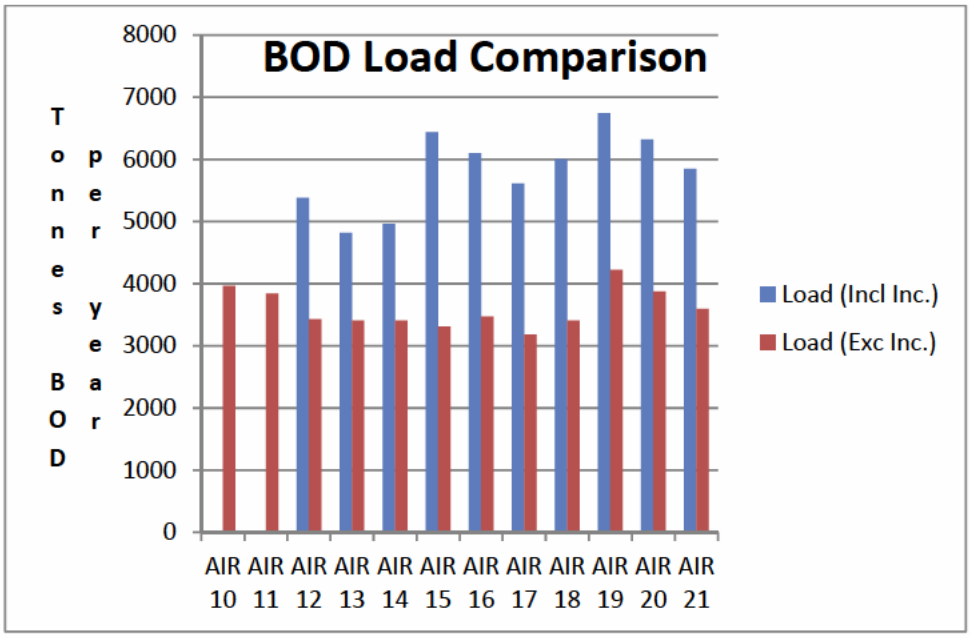
Line 1 - Trade effluent load receiving secondary treatment (BOD/year)

The names of individual traders were taken from the Primary Source of Trade Effluent Customers (PSTEC). This database is updated by NIW on a regular basis. The actual BOD strength of each sampled trader was used for the calculation of the load. Where an actual BOD strength was not available i.e. for sites that are not sampled, the discharge was assumed to be either standard strength, fixed industry strength or bespoke strength, a calculated BOD strength using the conversion factor detailed in the methodology document was used.

The loading for this year's and the previous year's reports were as follows:

AIR21 = 5849.0 tonnes BOD/year
AIR20 = 6321.4 tonnes BOD/year

In order to analyse these figures they have been separated to show loading including [redacted] and loading excluding [redacted].



The loading from [redacted] has decreased by 194.72 tonnes BOD/year from 2445.89 tonnes BOD/year (AIR20) to 2251.17 tonnes BOD/year (AIR21). Overall the loading for AIR21 decreased by 139.48 tonnes BOD/year. With the decrease from the [redacted] removed from this figure, the difference between the two reports is a decrease of 277.65 tonnes BOD/year.

As detailed in the methodology, the Fixed Strength COD's were then converted to a BOD strength. These calculated BOD strengths will be kept the same for future AIR reports unless there is a significant variation from the rolling 5 year average of the Mogden sample results. This will allow for easier comparison in BOD loading year on year. The strengths in the report are detailed below:

Industry Type	Settled COD (mg/l)	BOD (mg/l)
Vehicle Wash (Jet)	517	386
Vehicle Wash (Roller)	108	81

Industry Type	Settled COD (mg/l)	BOD (mg/l)
Vehicle Wash (Combined)	313	234
Industrial Laundry	722	539
Swimming Pool Filter Backwash	36	27
Small Brewery	2648	1976
Cattlemarts	1404	1048
Wheelie Bin Cleaners	406	303
Launderettes	478	357
Standard Strength	260	194

Summary of BOD loading changes between AIR20 and AIR21 are detailed below:

There was an increase noted for NE Standard Charge traders across NIW and PPP WwTW's which equated to 15.03 tonnes BOD/year. However there was a decrease seen amongst the NE NIW and PPP Sampled and Charged traders of 260.08 tonnes BOD/year.

In the NW region there were increases for both Sampled and charged and standard charged customers of 153.06 and 5.13 tonnes BOD/Year respectively.

There were decreases in South NIW and PPP Sampled and Charged traders of 193.44 tonnes of BOD/year and a slight increase for the South Standard charged traders of 2.65 tonnes BOD/year.

The net of these changes equates to the 277.65 tonnes BOD/year decrease in AIR loadings with the incinerator figures excluded.

Line 2 - 7 – Sewage loads

NIW Only

Update for AIR21

As part of the PC21 submission an asset management plan (NIAMP5) has been undertaken. This included a WwTW PE refresh/update. The update is a theoretical desk top exercise, primarily based on Land Property Services (LPS) Pointer data sets and average household size/non-residential multiplying factors as per Asset Standard - Wastewater Flow and Population Determination – v1.6 – January 2019. It is hoped the update will be automated so as NI Water's GIS system is updated with Land Property Services (LPS) pointer data, the WwTW PE system will be updated accordingly. The findings / approach/ assumptions/ exceptions have been presented to Northern Ireland Environment Agency (NIEA), who are content with the overall approach and agree with the PE results.

It should be noted that the banding of the WWTWs for this table is on the same basis as that used for Table 17c. It is based on the latest set of Populations Equivalents minus the allowance for the tourist population. Since AIR20, PEs for 895 WWTWs have been updated.

The allowance for the tourist population, which has been deducted for the purposes of band size determination, has been the proportion of PE allocated to hotels, and caravan and tent pitches only. No deduction has been made for commuters as such information has not been captured.

The loads reported in this table are the sums of the loads received by each WWTWs or outfall in each particular category, and hence include the proportion of PE allocated to hotels, and caravan and tent pitches therefore loads reported in this table include the non-resident population. The method for computing loads from NIW only WWTWs is the same as was implemented for AIR20, there has been no inclusion of re-circulated sludge/sludge liquors in the loads reported.

Trade effluent information was obtained from NIW's Trade Effluent Section, for each individual consented trader, which enabled easy conversion to PEs. The COD: BOD conversion factor of 2:1 was not used as more accurate flow based information was available to the Trade Effluent Section.

The Water and Sewerage Services (NI) Order 2006 designated that the discharge from hospitals, nursing homes & clinics should no longer be considered as Trade Effluent, therefore for AIR21 these have been removed from the Trade Effluent Submission. For the majority of hospitals a certain percentage of hospital discharges has been included due to discharges from x-ray departments and bathing pools. Since AIR12, the AIR11 Trade Information, for nursing homes and clinics, has been maintained as there was no other avenue available to obtain this information. Residential homes, clinics, etc. were assessed under the PC21 PE Refresh and included under non-residential, therefore this AIR11 Trade information has not been carried forward for AIR21. Similarly the PEs for the hospitals has been factored up to 100% of their total discharge to give a more accurate figure of load discharging to the sewerage network.

In AIR13 it was reported that flow & load information was validated for Belfast and a figure of 365,000 PE was agreed. Since then the only update to Belfast PE figure has been the latest trade information. As part of the Living with Water Programme, a population review for Belfast WwTW has been undertaken. The review is a theoretical approach based on the current Asset Standard – Wastewater Flow & Population Determination v1.6 and provides a PE of 484,790. Please note an element of this figure, 102,793, is made up of trade effluent information provided by NIW's Trade Effluent Section and is based on measured data. The trade figure includes returns from the sludge incinerator which is operated by a PPP concessionaire on behalf of NI Water. For previous returns the incinerator returns were excluded, the thinking being it did not form part of Belfast catchment. For this review this understanding has been challenged and, as the return from the incinerator is a significant loading and can have a major impact on the process, has been included. The PE figure of 484,790 has been adopted for AIR21.

NIW has information pertaining to septic tank imports to its WWTWs. In summary of the 17 WWTWs that are septic tank imports centres 5 receive the sludge at the head of the inlet works and the remaining 12 receive it via sludge reception centres

For AIR21 conversion factors, received from our scientific staff, were used to convert the septic tank imports to PEs for the 5 WWTWs where imports are discharged directly to the inlet works.

Allowance at the other 12 WWTWs is not being made as there is no way of computing the PE of the supernatant return as a result of the septic tank imports.

The WWTWs where this sludge was discharged at the head of the works were Belfast, Glenstall, Limavady, Lisburn (New Holland) and Strabane. A conversion was used to get an equivalent PE which was adopted for these sites for AIR13.

An assumption of 1% dry solids was made for Suspended Solid (SS) loading and an equivalent PE based on 60g of SS solids per PE was used

			PE Calculation			
NIW CAR Name	**Site Car Id**	**Total Volume m3/Yr**	**Total Volume m3/day**	**SS Loading (Assume 1% Dry Solids) m3/day**	**SS Loading kg/day**	**PE (SS/0.06)**
Belfast	S0345	6359.66	17.42	0.17	174.24	2904
Downpatrick	S0771	2704.72	7.41	0.07	74.1	1235
Glenstall	S1109	5383.803	14.75	0.15	147.50	2458
Lisburn (New Holland)	S0329	7304.397	20.01	0.20	200.12	3335
Strabane	S3213	41.11	0.11	0.00	1.13	19

NIW has also information pertaining to Sludge Imports to its WWTWs however due to the fact that the supernatant return is metered at only a small number of WWTWs, it would appear that these meters require verification and perhaps calibration. Therefore no allowance is being made for PE resulting from sludge imports at these works.

The Reporters Report on AIR09 recommended that NIW correct possible overestimation of total WWTW loads due to the inclusion of offices/commercial premises. The majority of the residential and non-residential element of PEs used to calculate tables 17c and 17d was based on Pointer information from MapInfo. However it should be noted that the non-residential element of Pointer is made up of both commercial and unknown properties. At this present time it is not known what proportion of the unknowns are actually residential and which are non-residential and therefore it has been decided to include both elements when calculating the PEs for the band sizes. It is difficult to estimate the proportion of load at a WWTW due to commuters, or the load which should be deducted from/added to a particular WWTW due to population commuting out of/into the catchments. Hence no allowance to WWTWs loads has been made either way for Table 17d.

The only allowance made for newly connected properties is where a population studies have been carried out for a drainage catchment during the reporting year and the recommendations have been considered and agreed upon. Where a population study has not been completed for a drainage catchment no allowance has been made for newly connected properties. It should be noted that some drainage catchments may not have had a population review undertaken for several years. Going forward the exercise explained under ‘Future Improvement’ above will address this shortfall.

The table below gives a breakdown of the total load received by the company in ‘000 tonnes of BOD per annum, by each component used to build up the reported data. Please note the total equates to Line 5 (minor discrepancy due to rounding up of fractions).

Components used in build-up of Total Load	**Total PE**	**000 tonnes of BOD per annum**
Residential	1,361,516	29,817.2
Non-Residential	194,267	4,254.44
Hotels	17,086	374.18

Components used in build-up of Total Load	Total PE	000 tonnes of BOD per annum
Educational (Play/Nursery/Primary/ Secondary schools)	69,402	1,519.91
Trade PE	214,601	4,699.77
Large (>7500m3) Consumers	132,552	2,902.89
Caravan Parks	29,923	655.31
Sludge Import / Export / Supernatant (Sludge Import to Inlet of Works – to 4 WWTWs 9,951 PE)	27,106	593.63
Total (Line 5)	**2,046,454**	**44,817.33**

Line 2 - Total load receiving secondary treatment

The table below shows the changes in WWTWs receiving secondary treatment since AIR20 for Line 2. NB. Change in PE (-Ve AIR21 PE Higher).

Name of Works	CAR Site ID	PE Change	Comments
Abbacy Road	S03947	2.4	NIAMP5 Actual PE Update
Acton	S02111	-10.1	NIAMP5 Actual PE Update
Aghadrumsee	S02988	-7.0	NIAMP5 Actual PE Update
Aghagallon	S02393	-129.0	NIAMP5 Actual PE Update
Aghalee	S02394	-113.4	NIAMP5 Actual PE Update
Aghanloo (1)	S02989	-28.1	NIAMP5 Actual PE Update Trade updated
Aghinlig (WWTW)	S02554	0.0	Retained
Aghnagar	S02830	0.0	
Aghnaskew	S02990	0.6	NIAMP5 Actual PE Update
Aghory	S02547	1.4	NIAMP5 Actual PE Update
Agivey Road(199-201)	S01755	-2.5	NIAMP5 Actual PE Update
Aikens Town parks	S01602	-2.2	NIAMP5 Actual PE Update
Altamuskin (WWTW)	S03998	-6.8	NIAMP5 Actual PE Update
Altishane	S02993	-2.3	NIAMP5 Actual PE Update
Altmore WTW (Septic Tank)	S02778	0.0	Retained
Altnahinch WTW (Septic Tank)	S00930	3.0	Retained
Altnamackan	S02247	-1.9	NIAMP5 Actual PE Update
Annacloy (WWTW)	S00292	-2.3	NIAMP5 Actual PE Update
Annaghhugh (WWTW)	S02602	-30.1	NIAMP5 Actual PE Update
Annaghmore (WWTW)	S02556	-62.5	NIAMP5 Actual PE Update
Annahilt (WWTW)	S00317	-47.0	NIAMP5 Actual PE Update
Annsborough	S02687	-95.6	NIAMP5 Actual PE Update Trade updated
Antrim (WWTW)	S01422	-2305.9	NIAMP5 Actual PE Update Trade updated
Anville Crescent	S02391	0.9	NIAMP5 Actual PE Update
Ardess	S02995	17.0	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Ardgarvan (WWTW)	S02987	-7.0	NIAMP5 Actual PE Update
Ardglass (WWTW)	S00268	494.5	NIAMP5 Actual PE Update Trade updated
Ardground	S02996	-6.0	NIAMP5 Actual PE Update
Ardlough Road (40-42)	S04095	-2.2	NIAMP5 Actual PE Update
Ardress (WWTW)	S02557	-42.9	NIAMP5 Actual PE Update
Ardstraw (WWTW)	S02997	20.7	NIAMP5 Actual PE Update
Armagh Road(202-206)	S02250	0.1	NIAMP5 Actual PE Update
Armoy (WWTW)	S01172	-34.0	NIAMP5 Actual PE Update
Arney (WWTW)	S02999	-15.1	NIAMP5 Actual PE Update
Arvalee	S03003	-18.0	NIAMP5 Actual PE Update
Ashfield (Dromore)	S02112	4.7	NIAMP5 Actual PE Update
Attical (WWTW)	S02688	0.0	Retained
Aughagash	S01458	-5.2	NIAMP5 Actual PE Update
Aughakillymaud	S03004	2.0	NIAMP5 Actual PE Update
Augher (WWTW)	S03005	-89.8	Actual PE based on on-site check Design PE Updated following reverse engineering exercise.
Aughnacleagh	S01428	3.2	NIAMP5 Actual PE Update
Aughnacloy	S03007	-307.5	NIAMP5 Actual PE Update
Aughnavallog	S02114	3.2	NIAMP5 Actual PE Update
Ballee Road	S03009	1.0	NIAMP5 Actual PE Update
Ballee Road (75-83)	S04091	-1.2	NIAMP5 Actual PE Update
Balleevy	S02122	1.0	NIAMP5 Actual PE Update
Ballinderry Road (45-49) Antrim	S04877	-0.1	NIAMP5 Actual PE Update
Ballinlea Road(81)	S01748	1.5	NIAMP5 Actual PE Update
Ballinmallard (WWTW)	S03010	164.6	NIAMP5 Actual PE Update
Ballinrees WTW(Septic Tank)	S00931	3.0	Retained
Ballinteer	S01131	2.6	NIAMP5 Actual PE Update
Ballyagan	S01132	2.3	NIAMP5 Actual PE Update
Ballyardel	S02727	0.2	NIAMP5 Actual PE Update
Ballybogy	S01087	577.0	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballybrick	S02115	0.0	
Ballycairn (Down)	S00336	-4.1	Actual PE Update-RWwIP PE Review
Ballycarry	S00267	0.0	Retained
Ballycassidy (WWTW)	S03012	-67.1	NIAMP5 Actual PE Update
Ballycastle (WWTW)	S01071	0.0	Retained Trade updated
Ballyclare	S01467	-3648.0	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR Site ID	PE Change	Comments
Ballycleagh	S01175	3.3	NIAMP5 Actual PE Update
Ballycorr Grove	S01468	-5.5	NIAMP5 Actual PE Update
Ballycoshone	S02689	-0.2	NIAMP5 Actual PE Update
Ballycranbeg	S00218	-76.2	NIAMP5 Actual PE Update Design PE updated
Ballygarvigan	S00228	4.9	NIAMP5 Actual PE Update
Ballygawley (WWTW)	S03013	-299.8	NIAMP5 Actual PE Update
Ballygowan	S00247	-155.6	NIAMP5 Actual PE Update Trade updated
Ballygowan Road(102-104)	S00251	0.3	NIAMP5 Actual PE Update
Ballygowan Road(41-47)	S00243	-1.6	NIAMP5 Actual PE Update
Ballygowans	S03014	0.0	
Ballygruby	S01557	-1.2	NIAMP5 Actual PE Update
Ballyhacket	S01133	0.0	
Ballyheather Road (121-123)	S04112	3.2	NIAMP5 Actual PE Update
Ballyhome (WWTW)	S01134	-34.2	NIAMP5 Actual PE Update
Ballykelly (DOWN)	S02169	1.3	NIAMP5 Actual PE Update
Ballykelly (L/Derry)	S03016	-336.3	NIAMP5 Actual PE Update Trade updated
Ballykinler (WWTW)	S00299	0.0	Retained
Ballylintagh (New)	S01135	12.7	NIAMP5 Actual PE Update Trade updated
Ballymacallion (WWTW)	S03017	0.0	
Ballymacawley	S02560	2.4	NIAMP5 Actual PE Update
Ballymacnab	S02561	-5.0	NIAMP5 Actual PE Update
Ballymacormick	S01089	2.1	NIAMP5 Actual PE Update
Ballymaderphy	S02728	-3.1	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ballymagorry (WWTW)	S03018	-89.5	NIAMP5 Actual PE Update
Ballymaguigan	S01603	7.7	NIAMP5 Actual PE Update
Ballymarlagh	S01430	4.3	NIAMP5 Actual PE Update
Ballymena (WWTW)	S01456	-15657.5	NIAMP5 Actual PE Update Trade updated
Ballymiscaw road (37-41)	S00256	-0.9	NIAMP5 Actual PE Update
Ballymoyer	S02252	-15.1	NIAMP5 Actual PE Update
Ballynadolly	S00327	1.0	NIAMP5 Actual PE Update
Ballynafie	S01431	-27.5	NIAMP5 Actual PE Update
Ballynagalliagh (Armagh)	S02562	0.3	NIAMP5 Actual PE Update
Ballynagard (Antrim)	S01173	-4.3	NIAMP5 Actual PE Update
Ballynahinch (Armagh)	S02563	1.2	NIAMP5 Actual PE Update
Ballynahinch (Down)	S00311	-166.6	NIAMP5 Actual PE Update Trade updated
Ballynamullan	S03011	0.2	NIAMP5 Actual PE Update
Ballynease	S01604	-1.0	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Ballyquinn (WWTW)	S03021	12.6	NIAMP5 Actual PE Update
Ballyrashane Road(37-39)	S01126	0.5	NIAMP5 Actual PE Update
Ballyrock	S01136	-5.0	NIAMP5 Actual PE Update
Ballyronan (WWTW)	S01558	0.0	Retained
Ballyroney Road (WWTW)	S02118	1.6	NIAMP5 Actual PE Update
Ballyrussell	S02691	-20.0	NIAMP5 Actual PE Update
Ballytrim	S00276	-0.1	NIAMP5 Actual PE Update
Ballyutoag	S01417	-0.1	NIAMP5 Actual PE Update
Ballyvarley (WWTW)	S02119	0.0	
Ballyveely	S01090	-6.6	NIAMP5 Actual PE Update
Ballyvelton Road(23)	S01734	1.2	NIAMP5 Actual PE Update
Ballyvelton Road(45-51)	S04037	1.0	NIAMP5 Actual PE Update
Ballyvoy	S01177	-7.6	NIAMP5 Actual PE Update Design PE Updated
Ballywalter(Retention Tank)	S05189	-204.1	NIAMP5 Actual PE Update
Ballyward	S02120	3.1	NIAMP5 Actual PE Update
Banbridge (WWTW)	S02102	-3493.3	NIAMP5 Actual PE Update Trade updated
Bankside Shinn	S02692	22.5	NIAMP5 Actual PE Update
Bar Hall	S00229	-1.9	NIAMP5 Actual PE Update
Beagh	S01605	-8.4	NIAMP5 Actual PE Update
Bearney Road(55-61)	S04143	0.3	NIAMP5 Actual PE Update
Beech Hill South	S05182	-0.2	NIAMP5 Actual PE Update
Belcoo (WWTW)	S03022	-37.7	NIAMP5 Actual PE Update
Belfast (WWTW)	S00345	-6172.3	Retained Septic tank imports added Trade updated
Bellaghy (WWTW)	S01606	-39.0	Actual PE updated following APT PE Review
Bellany (WWTW)	S01137	2.7	NIAMP5 Actual PE Update
Belleek (Armagh)	S02253	10.9	NIAMP5 Actual PE Update
Belleek (Fermanagh)	S03024	14.4	NIAMP5 Actual PE Update
Belleek (WTW) Septic Tank	S03494	0.0	Retained
Bells Hill	S00291	0.0	
Beltrim (WWTW)	S03025	0.0	
Benburb (WWTW)	S02831	-109.0	NIAMP5 Actual PE Update
Benvardin Road	S01093	0.8	NIAMP5 Actual PE Update
Beragh (WWTW)	S03027	-260.8	NIAMP5 Actual PE Update
Blackscull (WWTW)	S02397	64.1	NIAMP5 Actual PE Update
Blackwatertown (WWTW)	S02552	-48.9	NIAMP5 Actual PE Update
Blaney	S03028	1.5	NIAMP5 Actual PE Update
Boghill (WWTW)	S01138	1.0	NIAMP5 Actual PE Update
Boghill Road(52-54)	S01127	0.5	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Bohulkin	S03029	-4.1	NIAMP5 Actual PE Update
Bolea (WWTW)	S03030	-15.3	NIAMP5 Actual PE Update
Boleran Road (Garvagh)	S02059	-1.8	NIAMP5 Actual PE Update
Bonds Glen Road (149-151)	S04105	0.0	NIAMP5 Actual PE Update
Bonds Glen Road (65-67)	S04099	0.0	NIAMP5 Actual PE Update
Bonnanaboigh	S03031	-1.5	NIAMP5 Actual PE Update
Bovean	S02793	-5.6	NIAMP5 Actual PE Update
Boveedy	S01139	-33.4	NIAMP5 Actual PE Update
Bovevagh Road (37-41)	S04121	-2.6	NIAMP5 Actual PE Update
Brantry	S02832	-2.5	NIAMP5 Actual PE Update
Bready (WWTW)	S03971	-20.0	NIAMP5 Actual PE Update
Breaside Cottages(1-6)	S02049	-0.5	NIAMP5 Actual PE Update
Bregagh Road(56-58)	S01742	0.0	NIAMP5 Actual PE Update
Bregagh Road(60-62)	S01743	-3.0	NIAMP5 Actual PE Update
Bresagh	S00332	-4.5	NIAMP5 Actual PE Update
Brisland Road(3-5)	S04141	0.7	NIAMP5 Actual PE Update
Broagh	S01607	-30.2	NIAMP5 Actual PE Update
Brockaghboy (WWTW)	S01140	-9.3	NIAMP5 Actual PE Update
Brookeborough (WWTW)	S03032	-120.7	NIAMP5 Actual PE Update
Buckna (WWTW)	S01432	-2.0	NIAMP5 Actual PE Update Design PE updated following RWwIP Review
Burnquarter	S01094	-2.7	NIAMP5 Actual PE Update
Bushmills (WWTW)	S01178	-407.1	NIAMP5 Actual PE Update Trade updated
Cabragh (WWTW)	S02834	-73.9	NIAMP5 Actual PE Update
Caheney	S01141	0.0	
Caledon (WWTW)	S02835	-65.5	NIAMP5 Actual PE Update
Camus	S03034	-1.0	NIAMP5 Actual PE Update
Capecastle	S01179	-5.5	NIAMP5 Actual PE Update
Cappagh (WWTW)	S02857	5.2	NIAMP5 Actual PE Update
Cargan (WWTW)	S01433	163.7	NIAMP5 Actual PE Update
Carmean	S01608	-0.4	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Carnalbanagh	S01459	-2.8	NIAMP5 Actual PE Update
Carnalea Road	S03036	-0.9	NIAMP5 Actual PE Update
Carnan	S01559	9.1	NIAMP5 Actual PE Update
Carnanbane	S03037	0.0	Actual PE from RWwIP PE Review
Carnbeg	S01434	9.6	NIAMP5 Actual PE Update
Carneyhough	S02682	-0.3	NIAMP5 Actual PE Update
Carnlough Road	S01435	3.4	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Carnteel Road (122-124)	S04162	0.2	NIAMP5 Actual PE Update
Carrickfergus (WWTW)	S00261	-64.4	Retained Trade updated
Carricklongfield Road (21-23)	S04093	0.2	NIAMP5 Actual PE Update
Carrickmore (WWTW)	S03039	45.3	NIAMP5 Actual PE Update
Carricknaveagh (WWTW)	S00283	5.8	NIAMP5 Actual PE Update
Carrickrovaddy	S02257	-3.2	NIAMP5 Actual PE Update
Carrigenagh (WWTW)	S00314	0.6	NIAMP5 Actual PE Update
Carrontreemall	S03040	-1.8	NIAMP5 Actual PE Update
Carrowclare	S03300	0.0	Retained
Carrowdore	S00236	235.0	NIAMP5 Actual PE Update
Carrowreagh Road(68-70)	S04100	0.5	NIAMP5 Actual PE Update
Castle Archdale Country Park (WWTW)	S05877	20.4	NIAMP5 Actual PE Update
Castlecaulfield (WWTW)	S02836	-166.6	NIAMP5 Actual PE Update
Castlederg (WWTW)	S03042	-685.8	NIAMP5 Actual PE Update Trade updated
Castlemellan Lower	S03043	0.0	
Castlemellan Upper	S03044	0.0	
Castlenagree	S01181	2.1	NIAMP5 Actual PE Update
Castletown (WWTW)	S03046	0.0	
Castor Bay	S02380	-10.6	NIAMP5 Actual PE Update
Caugh Hill (WWTW)	S03047	-5.6	NIAMP5 Actual PE Update
Causeway Road(122)	S01723	1.2	NIAMP5 Actual PE Update
Causeway Road(15)	S01726	1.2	NIAMP5 Actual PE Update
Causeway Road(180)	S01730	1.2	NIAMP5 Actual PE Update
Cavanacaw	S03048	-1.0	NIAMP5 Actual PE Update
Cavanagrow	S02565	-2.1	NIAMP5 Actual PE Update
Charlestown	S02399	25.6	NIAMP5 Actual PE Update
Church Hill	S03050	8.3	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Churchfield Road	S01182	0.0	
Clabby (WWTW)	S03051	75.6	NIAMP5 Actual PE Update
Clady (Tyrone)	S04149	2.6	NIAMP5 Actual PE Update Trade updated
Cladymore	S02566	-28.3	NIAMP5 Actual PE Update
Clanabogan South WwTW	S05568	0.0	
Clare	S01560	-0.5	Retained
Clarehill	S01039	-118.1	NIAMP5 Actual PE Update
Claudy	S03054	-254.4	NIAMP5 Actual PE Update
Clogh (WWTW)	S01436	-28.3	NIAMP5 Actual PE Update
Clogher (WWTW)	S03056	-140.3	Actual PE updated following APT PE Review

Name of Works	CAR Site ID	PE Change	Comments
Clough (WWTW)	S00296	152.3	NIAMP5 Actual PE Update
Cloughmills (WWTW)	S01096	-116.4	NIAMP5 Actual PE Update
Cloughy (Retention Tank)	S00224	-179.6	NIAMP5 Actual PE Update
Cluntoe (Richardson)	S04872	-11.9	NIAMP5 Actual PE Update
Coagh (WWTW)	S01562	-60.0	NIAMP5 Actual PE Update
Coalisland	S02828	-753.2	NIAMP5 Actual PE Update
Commons School Road(8-10)	S02897	2.8	NIAMP5 Actual PE Update
Coneyisland (WWTW)	S00274	-5.5	NIAMP5 Actual PE Update
Conthem Rd	S04884	0.0	
Cookstown (WWTW)	S01582	-1626.8	NIAMP5 Actual PE Update Trade updated
Coole Glebe	S01143	1.2	NIAMP5 Actual PE Update
Coolkeeran	S01098	0.0	
Coolnagoppoge (WWTW)	S01176	-14.7	NIAMP5 Actual PE Update
Coragh	S03058	0.0	
Corbet	S02123	1.5	NIAMP5 Actual PE Update
Corchoney Lane (2-4)	S01563	-4.2	NIAMP5 Actual PE Update
Corcreechy Road	S02696	-0.4	NIAMP5 Actual PE Update
Corgary Cottages (New)	S02724	0.0	
Corickbeg Road(15-17)	S04136	0.2	NIAMP5 Actual PE Update
Corickmore	S03062	0.0	
Corkill (Fermanagh)	S03059	2.2	NIAMP5 Actual PE Update
Corkill (Tyrone)	S02032	-10.4	NIAMP5 Actual PE Update
Cornakessagh	S03060	-2.4	NIAMP5 Actual PE Update
Corry (WWTW)	S03063	-1.9	NIAMP5 Actual PE Update
Corvanaghan (WWTW)	S01565	-0.5	NIAMP5 Actual PE Update
Craigavole (WWTW)	S01144	-6.5	NIAMP5 Actual PE Update
Craigmore Road(139 - 145)	S01725	0.7	NIAMP5 Actual PE Update
Craignasasonagh	S00308	-0.5	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Craigywarren	S01437	2.6	NIAMP5 Actual PE Update
Cranfield(Antrim)	S01418	28.1	NIAMP5 Actual PE Update
Crankill	S01438	3.6	NIAMP5 Actual PE Update
Creagh	S01611	-215.6	NIAMP5 Actual PE Update
Creaghcor	S03066	7.6	NIAMP5 Actual PE Update
Crebarkey	S03067	1.0	NIAMP5 Actual PE Update
Crew Bridge	S03069	0.0	
Crilly	S02903	-3.7	NIAMP5 Actual PE Update
Cross Lane 9-22 ST	S05572	-54.3	NIAMP5 Actual PE Update
Crosskeys Road	S01439	3.0	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Crossmaglen	S02273	-402.5	NIAMP5 Actual PE Update
Crossnamoyle	S02568	1.6	NIAMP5 Actual PE Update
Culbane (WWTW)	S01145	0.0	
Culcrow	S01146	-44.1	NIAMP5 Actual PE Update
Cullaville	S02264	-57.7	NIAMP5 Actual PE Update
Cullion (Bready)	S03070	-0.8	NIAMP5 Actual PE Update
Cullyhanna (WWTW)	S02265	40.6	NIAMP5 Actual PE Update
Cullyramer	S01147	0.3	NIAMP5 Actual PE Update
Culmore (WWTW)	S03071	-31761.5	NIAMP5 Actual PE Update Trade updated
Curglasson	S01566	-5.1	NIAMP5 Actual PE Update
Curran	S01613	-10.2	NIAMP5 Actual PE Update
Darkley (WWTW)	S02569	-1.2	NIAMP5 Actual PE Update
Dartress	S01148	0.4	NIAMP5 Actual PE Update
Davagh Park	S02030	-0.5	NIAMP5 Actual PE Update
Deffrick	S01184	-4.0	NIAMP5 Actual PE Update
Dempsey Park	S01100	-8.3	NIAMP5 Actual PE Update
Dernaflaw	S03072	38.0	Actual PE Updated following ALP review and on-site checks
Derryaghna	S03073	0.4	NIAMP5 Actual PE Update
Derrycrin	S01567	0.0	Retained
Derrygonnelly (WWTW)	S03074	-142.6	NIAMP5 Actual PE Update
Derrygortrevy	S02837	0.9	NIAMP5 Actual PE Update
Derryhale	S02570	136.4	NIAMP5 Actual PE Update Trade updated
Derrykeighan	S01101	3.3	NIAMP5 Actual PE Update
Derrylin (WWTW)	S03075	-89.2	NIAMP5 Actual PE Update
Derrymore (WWTW)	S02401	20.6	NIAMP5 Actual PE Update
Derrynoose	S02605	0.0	
Derrytrasna	S02402	-19.7	NIAMP5 Actual PE Update
Dervock (WWTW)	S01102	-44.9	NIAMP5 Actual PE Update Trade updated
Desertmartin	S01614	-5.4	NIAMP5 Actual PE Update
Diamond Road(73-79)	S02124	0.0	
Diviny NEW ST	S05546	1.9	NIAMP5 Actual PE Update
Doan Place	S02839	0.0	
Donagh (WWTW)	S03078	0.0	Retain
Donagheady (WWTW)	S03079	2.8	NIAMP5 Actual PE Update
Donaghey (1)	S01568	0.1	NIAMP5 Actual PE Update
Donaghey (2)	S01569	-0.3	NIAMP5 Actual PE Update
Donaghmore (WWTW)	S02840	350.1	NIAMP5 Actual PE Update Trade updated
Donard View	S00280	10.8	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Donemana	S03103	2.2	SWELL-Retain Design PE updated Trade updated
Donnelly Park	S01103	-3.5	NIAMP5 Actual PE Update
Donnybrewer	S03080	-134.8	NIAMP5 Actual PE Update Trade updated
Donnybrewer Road(99)	S03277	0.4	NIAMP5 Actual PE Update
Doogary	S02573	0.0	
Dooish	S03081	-8.3	NIAMP5 Actual PE Update
Doorless	S01570	-2.8	NIAMP5 Actual PE Update
Dorsy	S02267	10.3	NIAMP5 Actual PE Update
Dougan place	S02164	-0.5	NIAMP5 Actual PE Update
Douglas Bridge	S03082	20.6	NIAMP5 Actual PE Update
Downpatrick (WWTW)	S00771	-6161.4	NIAMP5 Actual PE Update Septic tank imports added Trade updated
Drapersfield (WWTW)	S01571	-94.1	NIAMP5 Actual PE Update
Draperstown	S01615	-141.2	NIAMP5 Actual PE Update Trade updated
Drennans Road(6)	S01773	0.2	NIAMP5 Actual PE Update
Dromara (WWTW)	S00316	-116.8	NIAMP5 Actual PE Update Trade updated
Dromara Road (Lacken)	S02126	3.9	NIAMP5 Actual PE Update
Dromore (Down)	S02127	-744.2	NIAMP5 Actual PE Update Trade updated
Dromore (Tyrone)	S03083	51.3	NIAMP5 Actual PE Update Trade updated
Dromore Highlands	S03085	6.8	NIAMP5 Actual PE Update
Drones	S01104	0.0	NIAMP5 Actual PE Update
Drumagarner	S01149	1.7	NIAMP5 Actual PE Update
Drumagarner Road(212-218)	S02027	-4.1	NIAMP5 Actual PE Update
Drumane	S01150	0.0	
Drumaness (WWTW)	S00293	0.0	Retain
Drumard (Antrim)	S01616	-3.5	NIAMP5 Actual PE Update
Drumard (Tyrone)	S02860	-3.1	NIAMP5 Actual PE Update
Drumard Primate (WWTW)	S02404	-1.7	NIAMP5 Actual PE Update Design PE updated following RWwIP Upgrade
Drumaroad (WWTW)	S00312	-1.1	Actual PE Updated following an ALP PE review
Drumbeg (WWTW)	S00335	-85.9	NIAMP5 Actual PE Update
Drumcroon (WWTW)	S01151	0.3	NIAMP5 Actual PE Update
Drumenny	S03088	1.0	NIAMP5 Actual PE Update
Drumflugh Road (75-77)	S04101	-8.3	NIAMP5 Actual PE Update
Drumgay (1)	S03090	-4.7	NIAMP5 Actual PE Update
Drumgay (2)	S03091	-5.0	NIAMP5 Actual PE Update
Drumhillery	S02574	1.9	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Drumhirk	S00246	2.3	NIAMP5 Actual PE Update
Drumilly	S02268	-6.2	NIAMP5 Actual PE Update
Drumintee	S02269	-20.8	NIAMP5 Actual PE Update
Drumkee	S02841	0.0	
Drumlegagh Church Road	S03987	-32.5	Actual PE updated following APT PE Review
Drumlegagh Church Road (63-65)	S04098	0.7	NIAMP5 Actual PE Update
Drumlegagh Road South	S03093	1.4	NIAMP5 Actual PE Update
Drumlough	S00320	-0.5	NIAMP5 Actual PE Update
Drummack	S03094	0.0	
Drummond	S03095	-3.4	NIAMP5 Actual PE Update
Drumnacannon Road(20-22)	S01803	-0.1	NIAMP5 Actual PE Update
Drumnaferry	S02405	-59.4	NIAMP5 Actual PE Update
Drumnakilly	S03096	22.2	NIAMP5 Actual PE Update
Drumnascamph	S02698	2.5	NIAMP5 Actual PE Update
Drumquin (WWTW)	S03098	-98.2	NIAMP5 Actual PE Update
Drumraighland	S03099	-8.2	NIAMP5 Actual PE Update
Drumreagh	S01106	-2.9	NIAMP5 Actual PE Update
Drumshambo	S01572	-0.4	NIAMP5 Actual PE Update
Drumsurn	S03100	85.9	NIAMP5 Actual PE Update
Drumsurn Road (234-238)	S04120	0.5	NIAMP5 Actual PE Update
Drumullan	S01573	-19.6	NIAMP5 Actual PE Update
Dunboe Road(75-77)	S01747	0.6	NIAMP5 Actual PE Update
Dundrod	S00326	-17.8	NIAMP5 Actual PE Update
Dundrum (Armagh)	S02576	1.3	NIAMP5 Actual PE Update
Dundrum (Down)	S00297	-38.4	NIAMP5 Actual PE Update Design PE updated
Duneany (WWTW)	S01440	-2.4	NIAMP5 Actual PE Update
Dungannon	S02850	1730.6	Retain Trade updated
Dungiven	S03101	135.5	NIAMP5 Actual PE Update Trade updated
Dungonnell WTW (Septic Tank)	S01472	0.1	NIAMP5 Actual PE Update
Dungorbery	S01107	-3.0	NIAMP5 Actual PE Update
Dunloy	S01108	-154.1	NIAMP5 Actual PE Update
Dunmullan	S03102	-3.6	NIAMP5 Actual PE Update
Dunmurry	S00346	-3854.9	NIAMP5 Actual PE Update Trade updated
Dunnamore	S01574	-57.6	NIAMP5 Actual PE Update
Dunnyboe Road (85-93)	S04103	-5.1	NIAMP5 Actual PE Update
Dunronan Road(25-27)	S01804	-0.1	NIAMP5 Actual PE Update
Dyan	S02842	-0.7	NIAMP5 Actual PE Update
Edencrannon (WWTW)	S02858	-27.1	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Edenderry (Antrim)	S00343	0.0	Retain
Edenderry (Tyrone)	S03104	2.0	Actual PE updated following APT PE Review
Edendoit Road(107-109)	S01598	-3.3	NIAMP5 Actual PE Update
Edenmore Road	S03105	1.0	NIAMP5 Actual PE Update
Edergoole Road (87-89)	S04104	-2.9	NIAMP5 Actual PE Update
Ederney (WWTW)	S03106	-10.2	NIAMP5 Actual PE Update
Eglish (Armagh)	S02578	-62.2	Actual PE Update-RWwIP PE Review
Eglish (Tyrone)	S02843	0.0	Retain
Enniskillen	S03218	-1322.5	NIAMP5 Actual PE Update Trade updated
Eskragh	S03201	15.7	NIAMP5 Actual PE Update
Fallahogy	S01617	-4.7	NIAMP5 Actual PE Update
Farmacaffley	S02579	-0.8	NIAMP5 Actual PE Update
Farranflugh	S01420	0.2	NIAMP5 Actual PE Update
Feeny	S03110	106.1	NIAMP5 Actual PE Update
Ferris Bay (50)	S04084	-1.2	Actual PE Update-RWwIP PE Review
Feumore (WWTW)	S02406	-8.1	NIAMP5 Actual PE Update
Fincarn	S03111	-17.2	NIAMP5 Actual PE Update
Fintona (WWTW)	S03112	50.3	Retain
Fivemiletown (WWTW)	S03113	-111.2	NIAMP5 Actual PE Update Trade updated
Florencecourt	S03114	5.8	NIAMP5 Actual PE Update
Foffanybane WTW (Septic Tank)	S02678	0.0	NIAMP5 Actual PE Update
Foreglen	S03019	36.9	NIAMP5 Actual PE Update
Foreglen Road (51-53)	S04097	-2.6	NIAMP5 Actual PE Update
Forkhill	S02270	-79.8	NIAMP5 Actual PE Update
Fourmile	S02699	-0.8	NIAMP5 Actual PE Update
Galbally	S02844	39.0	NIAMP5 Actual PE Update
Gallrock	S02433	0.0	
Garrison (WWTW)	S03115	0.0	Retain
Garryduff Road(112- 122)	S01715	0.0	
Garvagh (WWTW)	S01154	783.9	NIAMP5 Actual PE Update
Garvaghy	S03116	41.4	NIAMP5 Actual PE Update
Garvetagh	S03117	-1.7	NIAMP5 Actual PE Update
Gilford (WWTW)	S02162	-275.0	NIAMP5 Actual PE Update Trade updated
Glack (WWTW)	S03118	0.0	Retained
Glarryford (WWTW)	S01441	0.8	NIAMP5 Actual PE Update
Glasmullen (WWTW)	S01187	0.8	NIAMP5 Actual PE Update
Glassdrumman (Armagh)	S02271	19.9	NIAMP5 Actual PE Update
Glassdrumman (Down)	S00302	-81.7	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Glassdrummond	S00282	-1.1	NIAMP5 Actual PE Update
Glen View (Down)	S02700	3.9	NIAMP5 Actual PE Update
Glen Villas	S02723	0.0	Retained
Glenabbey (WWTW)	S03119	-21.0	NIAMP5 Actual PE Update
Glenavy (WWTW)	S04188	-524.3	NIAMP5 Actual PE Update
Glenavy Road (Antrim)	S00324	0.0	NIAMP5 Actual PE Update
Glenbush Road(31)	S01737	-6.0	NIAMP5 Actual PE Update
Glenedra Road (109-111)	S04116	0.2	NIAMP5 Actual PE Update
Glenhead Road	S02133	1.6	NIAMP5 Actual PE Update
Glenmakeeran	S01188	-4.7	NIAMP5 Actual PE Update
Glenmornan	S03121	-24.1	NIAMP5 Actual PE Update
Glenoe	S01462	-39.2	Actual PE updated following APT PE Review
Glenstaghey Road(11)	S01787	2.5	NIAMP5 Actual PE Update
Glenstall	S01109	-1354.4	NIAMP5 Actual PE Update. Transfer of flows to Ballybogy catchment. Ballybogy PE added. Septic tank imports added Trade updated
Gorran Road(84)	S01750	0.3	NIAMP5 Actual PE Update
Gortaclady (WWTW)	S01575	-15.1	NIAMP5 Actual PE Update
Gortatray	S01576	0.2	NIAMP5 Actual PE Update
Gortereghy	S01110	0.0	Actual PE Update-ALP PE Review/on-site check
Gortin (Tyrone)	S03124	-24.0	NIAMP5 Actual PE Update
Gortin Road(12)	S01720	0.6	NIAMP5 Actual PE Update
Gortnacross	S01577	0.0	
Gortnagross Road (38-40)	S04114	0.2	NIAMP5 Actual PE Update
Gortnahey (WWTW)	S03126	33.8	NIAMP5 Actual PE Update
Gortscreagan	S03127	-10.8	NIAMP5 Actual PE Update
Gosheden (2)	S03129	-0.2	NIAMP5 Actual PE Update
Grange (Taylorstown)	S01442	-72.0	NIAMP5 Actual PE Update Trade updated
Grange Blundel	S02581	-0.3	NIAMP5 Actual PE Update
Grangemore	S02580	-6.9	NIAMP5 Actual PE Update
Greenan	S02171	-2.2	NIAMP5 Actual PE Update
Greenans	S01189	1.2	NIAMP5 Actual PE Update
Greencastle (Tyrone)	S03132	-30.4	NIAMP5 Actual PE Update
Greenhill (WWTW)	S01155	-5.0	NIAMP5 Actual PE Update
Greenisland (WWTW)	S00263	161.7	Retained Trade updated
Greenville	S03133	-4.9	NIAMP5 Actual PE Update
Greyabbey (WWTW)	S00214	-60.5	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Greysteel (WWTW)	S03123	101.3	NIAMP5 Actual PE Update Trade updated
Grove Park	S01443	1.1	NIAMP5 Actual PE Update
Gulladuff (WWTW)	S01619	-255.1	NIAMP5 Actual PE Update
Hamiltonsbawn	S02603	-277.7	NIAMP5 Actual PE Update
Hazelbank	S02134	1.0	NIAMP5 Actual PE Update
Hillside Road(7-9)	S04145	0.5	NIAMP5 Actual PE Update
Hilltown (WWTW)	S02701	-423.6	NIAMP5 Actual PE Update Trade updated
Hilltown Road	S02702	0.0	
Inishmagh	S02845	-3.6	NIAMP5 Actual PE Update
Irvinestown	S03137	-987.4	NIAMP5 Actual PE Update Trade updated
Jennys Lane	S02408	1.8	NIAMP5 Actual PE Update
Jonesborough (WWTW)	S02272	-85.5	NIAMP5 Actual PE Update
Katesbridge	S02136	-2.5	NIAMP5 Actual PE Update
Katesbridge Road(79-85)	S02110	-2.9	NIAMP5 Actual PE Update
Keady (Armagh)	S02553	-558.9	NIAMP5 Actual PE Update Trade updated
Keady (Fermanagh)	S03138	0.0	
Keenaghan (1)	S01578	0.0	
Keenaghan (2)	S01579	5.8	NIAMP5 Actual PE Update
Keenaghan (Tyrone)	S03139	0.0	
Kesh (WWTW)	S03140	200.4	NIAMP5 Actual PE Update
Kilbroney Park(1-4)	S02725	1.6	NIAMP5 Actual PE Update
Kilclean Road (80-82)	S04102	-3.9	NIAMP5 Actual PE Update
Kilcoo	S02704	-65.3	NIAMP5 Actual PE Update
Kildress Terrace	S01580	0.0	
Kilgarrett	S03141	1.4	NIAMP5 Actual PE Update
Kilkeel (WWTW)	S00313	1339.8	Retain Trade updated
Killaloo	S03142	-0.2	NIAMP5 Actual PE Update
Killeen (Armagh)	S02294	-1.7	NIAMP5 Actual PE Update
Killeen (Tyrone)	S02846	-39.0	NIAMP5 Actual PE Update
Killen	S03143	70.4	NIAMP5 Actual PE Update
Killeter (WWTW)	S03144	-28.3	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Killinchy (WWTW)	S00252	3426.2	NIAMP5 Actual PE Update Trade updated
Killinchy Road(96-100)	S04146	-3.1	NIAMP5 Actual PE Update
Killogue	S01112	-0.7	NIAMP5 Actual PE Update
Killybaskey	S01581	-6.9	NIAMP5 Actual PE Update
Killycurry Road(30-32)	S04138	0.3	NIAMP5 Actual PE Update
Killygonlan (WWTW)	S02043	159.8	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR Site ID	PE Change	Comments
Killygore	S01444	-2.0	NIAMP5 Actual PE Update
Killylane (WWTW)	S03147	16.2	NIAMP5 Actual PE Update
Killyleagh (WWTW)	S00273	504.2	NIAMP5 Actual PE Update
Killymuck	S01583	0.0	Retained
Killyrammer	S01113	32.3	Actual PE updated following APT PE Review
Killysavan	S02137	4.7	NIAMP5 Actual PE Update
Kilmachugh	S02583	5.4	NIAMP5 Actual PE Update
Kilmood	S00255	-25.4	NIAMP5 Actual PE Update
Kilmore (Armagh)	S02584	-87.0	NIAMP5 Actual PE Update
Kilrea	S01156	48.8	NIAMP5 Actual PE Update Trade updated
Kilross	S01622	-10.9	NIAMP5 Actual PE Update
Kilskeery	S03148	-24.8	NIAMP5 Actual PE Update
Kiltubbrid (WWTW)	S02588	-0.9	NIAMP5 Actual PE Update
Kinallen (WWTW)	S03981	-139.8	NIAMP5 Actual PE Update
Kinawley	S03149	26.6	NIAMP5 Actual PE Update
Kinego Cottages	S02856	0.6	NIAMP5 Actual PE Update
Kinneyglass Road(87-89)	S01751	0.3	NIAMP5 Actual PE Update
Kinturk	S01584	0.0	
Kircubbin (WWTW)	S04881	-356.5	NIAMP5 Actual PE Update
Knock Terrace	S02139	3.2	NIAMP5 Actual PE Update
Knockanroe	S01585	0.2	NIAMP5 Actual PE Update
Knockans (WWTW)	S01114	0.3	NIAMP5 Actual PE Update
Knockbrack	S03151	1.9	NIAMP5 Actual PE Update
Knockloughrim	S01623	-15.4	NIAMP5 Actual PE Update
Knockmoyle	S03152	-119.8	Actual PE updated following APT PE Review
Knocknagore (WWTW)	S02409	0.0	
Knocknarea Road	S02432	-0.3	NIAMP5 Actual PE Update
Knocknatavanna	S01190	-9.4	NIAMP5 Actual PE Update
Knockonny	S03153	0.0	
Lack	S03154	20.8	NIAMP5 Actual PE Update
Largy (WWTW)	S03155	-7.4	NIAMP5 Actual PE Update
Larne (WWTW)	S02044	-1714.4	NIAMP5 Actual PE Update Trade updated
Laurelvale Road	S02140	0.9	NIAMP5 Actual PE Update
Lawrencetown	S02142	21.4	NIAMP5 Actual PE Update
Leeke Road	S04092	5.4	NIAMP5 Actual PE Update
Legacurry (Down)	S00321	1.6	NIAMP5 Actual PE Update
Legacurry (Tyrone)	S03156	0.0	
Legaghory	S03157	1.6	NIAMP5 Actual PE Update
Legatirriff	S02430	-1.5	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Legcloghfin Road Cranagh	S05369	-35.6	NIAMP5 Actual PE Update
Leitrim (New)	S02705	-52.7	NIAMP5 Actual PE Update
Lessans	S00281	0.0	
Letterbin (WWTW)	S03158	-1.4	NIAMP5 Actual PE Update
Letterbreen	S05186	7.7	NIAMP5 Actual PE Update
Letterkeen	S03161	-1.1	NIAMP5 Actual PE Update
Limavady (WWTW)	S03162	-308.6	NIAMP5 Actual PE Update Trade updated
Lisbellaw (WWTW)	S03165	-70.2	NIAMP5 Actual PE Update
Lisburn (New Holland)	S00329	-3135.1	NIAMP5 Actual PE Update Septic tank imports added
Liscolman	S01191	-5.0	NIAMP5 Actual PE Update
Lisdoart (1)	S03166	-15.3	NIAMP5 Actual PE Update
Lisdoart (2)	S03167	1.3	NIAMP5 Actual PE Update
Lisdown	S02585	1.1	NIAMP5 Actual PE Update
Lislea (NEW)	S03980	-1.1	NIAMP5 Actual PE Update
Lislea Terrace	S01624	0.0	
Lismoyle	S01625	-6.9	NIAMP5 Actual PE Update
Lisnadill (WWTW)	S02586	-17.1	NIAMP5 Actual PE Update
Lisnagade Road(54-56)	S02161	-6.1	NIAMP5 Actual PE Update
Lisnagalt	S01157	0.5	NIAMP5 Actual PE Update
Lisnagunogue	S01192	-10.6	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnahall	S01587	-5.7	NIAMP5 Actual PE Update
Lisnakilly	S03168	-9.0	Actual PE Update-RWwIP PE Review
Lisnalea	S02274	4.2	NIAMP5 Actual PE Update
Lisnamuck (Coleraine)	S01158	2.3	Actual PE Update-RWwIP PE Review
Lisnamuck (Magherafelt)	S01626	-1.2	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnaragh	S03169	1.2	NIAMP5 Actual PE Update
Lisnarrick	S03170	-7.6	NIAMP5 Actual PE Update
Lisnaskea (WWTW)	S03171	316.6	NIAMP5 Actual PE Update Trade updated
Lisnevanagh	S01421	-10.1	NIAMP5 Actual PE Update
Lisnisk	S01159	1.2	NIAMP5 Actual PE Update
Lisowan	S00287	-2.4	NIAMP5 Actual PE Update
Locard Park	S02144	6.0	NIAMP5 Actual PE Update
Longfield (Eglinton)	S03173	-5.4	NIAMP5 Actual PE Update Trade updated
Longfield (Moorside Villas)	S01627	-6.2	NIAMP5 Actual PE Update
Longs Glebe	S01160	-25.4	NIAMP5 Actual PE Update
Lough Fea (WwTW)	S04087	-5.6	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Lough Macrory (WWTW)	S03174	7.7	NIAMP5 Actual PE Update
Lough Macrory WTW (Septic Tank)	S03509	0.0	NIAMP5 Actual PE Update
Loughan Road (Tyrone)	S03175	-1.5	NIAMP5 Actual PE Update
Loughgall (WWTW)	S02604	52.2	NIAMP5 Actual PE Update
Loughguile	S01115	-24.5	NIAMP5 Actual PE Update
Loughinisland (WWTW)	S00298	23.4	NIAMP5 Actual PE Update
Loughries	S00230	0.0	Retained
Lower Ballinderry	S02410	58.8	NIAMP5 Actual PE Update
Lower Rashee Road (15-21)	S05188	2.0	
Luney	S01628	-0.5	
Lurganare	S02298	-16.9	NIAMP5 Actual PE Update
Lurgancahone Road(35-39)	S02707	-0.3	NIAMP5 Actual PE Update
Lurganville	S02411	20.4	NIAMP5 Actual PE Update
Macfin	S01116	-2.5	NIAMP5 Actual PE Update
Macosquin	S01161	-30.6	NIAMP5 Actual PE Update
Madden (WWTW)	S02587	-4.2	NIAMP5 Actual PE Update
Maghaberry	S02412	0.0	Retained
Maghera (Down)	S00305	-17.8	NIAMP5 Actual PE Update
Maghera (L/Derry)	S01629	106.5	NIAMP5 Actual PE Update Trade updated
Magheracoltan	S03176	2.5	NIAMP5 Actual PE Update
Magherafelt (WWTW)	S01621	-1394.4	NIAMP5 Actual PE Update Trade updated
Magherafelt Road(24-28)	S01788	0.5	NIAMP5 Actual PE Update
Magherahoney	S01117	-2.0	NIAMP5 Actual PE Update
Magheramason	S03177	-62.7	NIAMP5 Actual PE Update
Magheramourne (WWTW)	S01464	-4.9	NIAMP5 Actual PE Update
Magheraveely	S03178	-0.6	NIAMP5 Actual PE Update
Maghernarhar	S01193	0.0	
Maghery (WWTW)	S02414	87.4	NIAMP5 Actual PE Update
Magilligan Point Road WWTW	S05593	0.0	Retained
Maglion Terrace	S02147	2.3	NIAMP5 Actual PE Update
Managher	S01162	0.0	
Manse Road (Antrim)	S01710	0.2	NIAMP5 Actual PE Update
Markethill	S02591	0.0	Retained
Marlacoo Road	S02149	-3.0	NIAMP5 Actual PE Update
Martinstown	S01445	59.3	NIAMP5 Actual PE Update
Mayboy	S01163	32.4	NIAMP5 Actual PE Update
Mayoghill (WWTW)	S01164	0.6	NIAMP5 Actual PE Update
Maytown Road	S02275	-0.2	NIAMP5 Actual PE Update
McCandless Terrace	S02150	-1.2	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
McCleary	S01165	0.6	
McKinley Park	S02276	-9.3	NIAMP5 Actual PE Update
McNally Park(1-6)	S04124	0.0	
Meigh (WWTW)	S02277	-58.9	NIAMP5 Actual PE Update
Middletown (WWTW)	S02592	32.3	NIAMP5 Actual PE Update
Milltown (Aghory)	S02593	-12.8	NIAMP5 Actual PE Update
Milltown (Burndennet)	S03184	-2.3	NIAMP5 Actual PE Update
Milltown (Maghera)	S01630	-32.8	NIAMP5 Actual PE Update
Milltown (Maghery)	S02416	14.5	NIAMP5 Actual PE Update
Minterburn Road(115-117)	S04134	0.1	NIAMP5 Actual PE Update
Moira	S02429	-1158.6	NIAMP5 Actual PE Update
Molenan	S03185	0.8	NIAMP5 Actual PE Update
Monea (WWTW)	S03186	-43.9	NIAMP5 Actual PE Update
Moneybrannon Road(89)	S01754	0.7	NIAMP5 Actual PE Update
Moneycanon	S03188	0.0	NIAMP5 Actual PE Update
Moneycarrie (WWTW)	S01166	-1.8	NIAMP5 Actual PE Update
Moneydig	S01167	-27.9	NIAMP5 Actual PE Update
Moneyglass	S01423	-15.6	NIAMP5 Actual PE Update
Moneymore (WWTW)	S01589	-210.6	NIAMP5 Actual PE Update Trade updated
Moneyneany (WWTW)	S01631	-19.9	NIAMP5 Actual PE Update
Moneyreagh (WWTW)	S00337	5.8	NIAMP5 Actual PE Update Design PE updated Trade updated
Moneyscalp	S02710	-0.7	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Moneyslane (WWTW)	S02151	30.9	NIAMP5 Actual PE Update
Monmurry	S03189	-1.6	NIAMP5 Actual PE Update
Monteith	S02152	0.0	Retain
Moorfield	S03190	0.0	
Moorfields	S01446	1.8	NIAMP5 Actual PE Update
Moss-side (WWTW)	S01194	27.8	NIAMP5 Actual PE Update
Mossvale Terrace	S02153	-13.9	NIAMP5 Actual PE Update
Mountain View (Drumintee)	S02278	-45.0	NIAMP5 Actual PE Update
Mountain View (Tullymurry)	S02712	-1.2	NIAMP5 Actual PE Update
Mountcastle	S03191	0.0	
Mountfield (WWTW)	S03192	0.0	Retained
Mounthill	S01465	0.0	Retained
Mountjoy (Dungannon)	S02849	50.2	NIAMP5 Actual PE Update Trade updated
Mountjoy (Omagh)	S03193	8.0	Actual PE updated following APT PE Review
Mountnorris	S02248	-95.5	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR Site ID	PE Change	Comments
Movenis Road(17)	S01728	0.6	NIAMP5 Actual PE Update
Moy (WWTW)	S02859	-830.1	NIAMP5 Actual PE Update Trade updated
Moyagall Road(115-117)	S01799	-0.1	NIAMP5 Actual PE Update
Mulderg (WWTW)	S03194	2.9	NIAMP5 Actual PE Update
Mullaghbane (Armagh)	S02594	-3.3	NIAMP5 Actual PE Update
Mullaghboy	S00259	-47.3	NIAMP5 Actual PE Update
Mullaghglass (Antrim)	S00325	-13.9	NIAMP5 Actual PE Update
Mullaghglass (Newry)	S02280	-20.6	NIAMP5 Actual PE Update
Mullaghmore	S02281	17.2	NIAMP5 Actual PE Update
Mullans (Antrim)	S01118	-39.7	NIAMP5 Actual PE Update
Mullans (Fermanagh)	S03196	-4.5	NIAMP5 Actual PE Update
Mullynaburtlan	S03197	0.0	
Mullyroddan	S02851	-3.3	NIAMP5 Actual PE Update
Munie (WWTW)	S01466	-5.3	NIAMP5 Actual PE Update
Murdocks Lane(1-6)	S00850	1.2	NIAMP5 Actual PE Update
Myroe (WWTW)	S03198	6.5	NIAMP5 Actual PE Update
Navery Road	S01119	-2.4	NIAMP5 Actual PE Update
Newcastle (WWTW)	S00303	-1053.5	NIAMP5 Actual PE Update Trade updated
Newmills (WWTW)	S02852	-97.4	NIAMP5 Actual PE Update
Newmills Road(70-72)	S01128	0.5	NIAMP5 Actual PE Update
Newry (WWTW)	S02685	-1339.0	NIAMP5 Actual PE Update Trade updated
Newry Road Rathfriland (80-83)	S02726	-3.3	NIAMP5 Actual PE Update
Newtownbreda (WWTW)	S00342	-2189.3	NIAMP5 Actual PE Update Trade updated
Newtownbutler (WWTW)	S03200	-207.9	NIAMP5 Actual PE Update Trade updated
Newtown-Crommelin	S01447	-33.9	NIAMP5 Actual PE Update
Newtownhamilton	S02282	-190.1	NIAMP5 Actual PE Update
Newtownstewart (WWTW)	S03202	-338.6	NIAMP5 Actual PE Update
Nixons Corner (WWTW)	S03203	29.0	NIAMP5 Actual PE Update
Noones Vale	S01632	-5.7	NIAMP5 Actual PE Update
North Coast (WWTWs)	S04150	-4908.2	NIAMP5 Actual PE Update Trade updated
Oakland Villas	S01711	0.0	
Old Green	S01448	75.5	NIAMP5 Actual PE Update
Oliver Plunkett Park	S02284	-13.0	NIAMP5 Actual PE Update
Omagh (WWTW)	S03999	1053.4	NIAMP5 Actual PE Update Trade updated
Orahilly Park	S02283	-20.0	NIAMP5 Actual PE Update
Orritor (WWTW)	S01591	0.4	NIAMP5 Actual PE Update
Orritor Craigs	S01592	-3.1	NIAMP5 Actual PE Update
Owenbeg (WWTW)	S03206	0.8	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Park (WWTW)	S03207	28.1	NIAMP5 Actual PE Update
Plumbridge (WWTW)	S03210	-2.1	NIAMP5 Actual PE Update
Pomeroy (WWTW)	S01593	-260.9	Actual PE updated following APT PE Review Trade updated
Pomeroy Road	S02901	1.9	NIAMP5 Actual PE Update
Portaferry (2)	S05200	126.7	NIAMP5 Actual PE Update Trade updated
Portglenone (WWTW)	S01449	-254.7	NIAMP5 Actual PE Update
Poyntzspass (WWTW)	S02156	-140.1	NIAMP5 Actual PE Update
Priestland	S01169	-41.9	NIAMP5 Actual PE Update
Procklis	S01450	0.1	NIAMP5 Actual PE Update
Racavan	S01451	0.3	Actual PE Update-RWwIP PE Review
Rasharkin	S01120	-189.5	NIAMP5 Actual PE Update
Rathfriland (WWTW)	S02713	37.8	NIAMP5 Actual PE Update Trade updated
Rathlin Island (New) WWTW	S05624	-92.9	Actual PE updated following APT PE Review
Ravarnet	S00319	-8.0	NIAMP5 Actual PE Update
Reaskmore Road	S05286	0.0	
Redford	S02853	-33.9	NIAMP5 Actual PE Update
Ringneill (WWTW)	S00237	-69.6	NIAMP5 Actual PE Update
Ringneill Road(1-5)	S00240	1.1	NIAMP5 Actual PE Update
Ringsend	S01170	2.7	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ritchies Villas	S01634	-3.5	NIAMP5 Actual PE Update
Robinsonstown	S02419	0.1	Actual PE Update following an ALP PE review and on-site check
Rock Cottages	S02172	-0.4	NIAMP5 Actual PE Update
Rocktown	S01635	0.0	Design PE updated following RWwIP upgrade
Rornashane	S01121	0.5	NIAMP5 Actual PE Update
Rosscolban	S03211	0.0	Retained
Rosscor	S03212	-2.8	NIAMP5 Actual PE Update
Rosslea (WWTW)	S03213	121.9	NIAMP5 Actual PE Update
Roughfort (WWTW)	S01470	10.6	NIAMP5 Actual PE Update Trade updated
Rousky	S03214	-7.7	NIAMP5 Actual PE Update
Saintfield (WWTW)	S00290	-328.9	NIAMP5 Actual PE Update
Saval More Cottages	S02715	0.0	
Scribbagh (WWTW)	S03216	-2.2	NIAMP5 Actual PE Update
Seacon	S01122	-6.6	NIAMP5 Actual PE Update
Seagahan	S02530	-7.9	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Seahill (WWTW)	S00774	22.1	Retained Trade updated
Seskinore	S03217	-99.6	NIAMP5 Actual PE Update
Sherrigrim	S01596	2.1	
Shinn Road	S02716	-0.6	NIAMP5 Actual PE Update
Shinny Road(20-22)	S01125	0.3	NIAMP5 Actual PE Update
Silverbridge	S02285	13.0	NIAMP5 Actual PE Update
Sion Mills	S03219	60.6	NIAMP5 Actual PE Update
Skernahergney	S01597	-0.4	NIAMP5 Actual PE Update
Skerry View	S01452	-0.8	NIAMP5 Actual PE Update
Slaght	S01453	-9.3	NIAMP5 Actual PE Update
Soldierstown	S02431	0.9	NIAMP5 Actual PE Update
Spamount	S03221	4.4	NIAMP5 Actual PE Update
Springfield	S03222	-28.8	NIAMP5 Actual PE Update
Springhill Road(1)	S01713	1.8	NIAMP5 Actual PE Update
Springwell Cresent(1-6)	S04135	2.2	NIAMP5 Actual PE Update
St Annes Terrace	S02722	0.0	
St Bridgids Villas	S02286	-3.0	NIAMP5 Actual PE Update
St James	S00322	11.9	Actual PE Update-RWwIP PE Review
St Johns Terrace (Kilcoo)	S02717	-30.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade Change in treament category from prim to sec bio
St Marys Terrace	S02718	0.2	NIAMP5 Actual PE Update
St Patricks Villas	S02719	2.1	NIAMP5 Actual PE Update
Stangmore (WWTW)	S02854	0.0	
Stewartstown	S01599	36.1	NIAMP5 Actual PE Update
Stoneyford Beeches One WwTW	S05705	2.1	NIAMP5 Actual PE Update
Stoneyford Beeches Two WwTW	S05705	0.0	Retained
Strabane	S03223	1269.5	Retained Septic tank imports added Trade updated
Stradreagh (Septic Tank)	S03131	0.9	NIAMP5 Actual PE Update
Straid (Ballymena)	S01455	-17.5	NIAMP5 Actual PE Update
Strangford	S00226	16.1	NIAMP5 Actual PE Update
Stranocum	S01123	-68.8	NIAMP5 Actual PE Update
Swatragh (WWTW)	S01637	-23.3	NIAMP5 Actual PE Update Trade updated
Tamlaght (WWTW)	S03224	-50.2	NIAMP5 Actual PE Update
Tamlaght O Crilly	S01638	-30.8	NIAMP5 Actual PE Update
Tamnaherin	S03226	33.6	NIAMP5 Actual PE Update
Tamnamore (WWTW)	S02862	-321.1	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR Site ID	PE Change	Comments
Tandragee	S02174	1601.9	NIAMP5 Actual PE Update Trade updated
Tartaraghan	S02421	-12.8	NIAMP5 Actual PE Update
Tattysallagh	S03227	-8.8	NIAMP5 Actual PE Update
Teemore (WWTW)	S03228	0.0	Retained
Teeraw	S02598	-4.0	NIAMP5 Actual PE Update
Tempo (WWTW)	S03229	-108.0	NIAMP5 Actual PE Update
The Loup (WWTW)	S01588	-19.0	NIAMP5 Actual PE Update
The Oyster Yard WWTW	S05533	5.7	Actual PE updated following APT PE Review
The Rock	S01594	-13.5	NIAMP5 Actual PE Update
The Skeagh	S02163	3.6	NIAMP5 Actual PE Update
Thorney Glen	S00284	12.4	NIAMP5 Actual PE Update
Tibaran Cottages	S04127	1.4	NIAMP5 Actual PE Update
Tirquin	S03230	4.0	Actual PE Update-RWwIP PE Review
Toberkeagh	S01195	0.9	NIAMP5 Actual PE Update
Tobermore (WWTW)	S01640	-21.6	NIAMP5 Actual PE Update
Torr Head	S01196	-10.2	NIAMP5 Actual PE Update
Trench Road (66-70)	S04118	-0.2	NIAMP5 Actual PE Update
Trillick (WWTW)	S03231	-20.0	NIAMP5 Actual PE Update
Tromra	S01197	-2.6	NIAMP5 Actual PE Update
Tully (WWTW)	S03232	-17.2	NIAMP5 Actual PE Update
Tullyard(Tyrone)	S03233	0.5	NIAMP5 Actual PE Update
Tullyelmer (WWTW)	S02599	-4.7	NIAMP5 Actual PE Update
Tullygrawley	S01457	-4.5	NIAMP5 Actual PE Update
Tullyleek	S02855	-0.2	NIAMP5 Actual PE Update
Tullymore Road (43-45)	S04119	-6.5	NIAMP5 Actual PE Update
Tullynakill Road	S05280	-18.8	NIAMP5 Actual PE Update
Tullyreavy	S01600	-0.7	
Tullyroan	S02600	-1.1	NIAMP5 Actual PE Update Trade updated
Tulnacross Road(44-46)	S01820	-0.2	NIAMP5 Actual PE Update
Tummery	S03234	-13.5	NIAMP5 Actual PE Update
Tureagh	S01198	-0.4	NIAMP5 Actual PE Update
Turraloskin	S01199	2.9	NIAMP5 Actual PE Update
Tursallagh	S03235	-1.1	
Upper Ballinderry	S02422	-0.2	NIAMP5 Actual PE Update
Upper Cranlome Road	S02893	0.1	NIAMP5 Actual PE Update
Upperlands (WWTW)	S01642	-84.4	NIAMP5 Actual PE Update
Victoria Bridge (WWTW)	S03236	-36.6	NIAMP5 Actual PE Update
Waringsford	S02166	0.0	Retained
Waringstown	S02423	312.7	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Warrenpoint (WWTW)	S02720	102.5	SWELL - Retained Design PE updated Trade updated
Waterfoot Road (WWTW)	S01643	-22.6	NIAMP5 Actual PE Update
Whitehouse	S00265	-211.6	Retained Trade updated
Woaghternerry	S03239	-3.8	NIAMP5 Actual PE Update
Ballintoy New WwTW	S05672	-28.8	NIAMP5 Actual PE Update
	TOTAL	**-96691.7**	**Change in Line 2 since AIR20**

The change in PE equates to an increase in load of 2117.6t BOD/yr (i.e. 96,691.7 x 60 (for 60g/hd/day) /1000/1000 x 365) from AIR20 to AIR21, allowing for rounding up and down and conversions.

Difference between AIR21 and AIR20 values (to 2 decimal places):

Line 2 for AIR21-	**44,035.5**
Line 2 for AIR20 -	**41,918.0**
Total Difference -	**2,117.5**

Note – The difference in the above totals are due to rounding of values.

Line 3 - Total load receiving primary treatment only

With the upgrade of St Johns Terrace (Kilcoo) under RWwIP, changing from primary to secondary biological, there has been 1 change in WwTWs receiving primary treatment only since AIR20.

Name of Works	CAR Site ID	PE Change	Comments
3 Sisters	S04027	3.9	NIAMP5 Actual PE Update
Annaghquinn Road(49)	S01718	-9.5	NIAMP5 Actual PE Update
Armagh Road(144-146)	S02249	0.1	NIAMP5 Actual PE Update
Armagh Road(189-193)	S02251	0.1	NIAMP5 Actual PE Update
Artigarvan Lower	S03001	2.2	NIAMP5 Actual PE Update
Aughanduff	S02262	-3.0	NIAMP5 Actual PE Update
Backlower Road(111-115)	S01791	-0.3	NIAMP5 Actual PE Update
Badoney	S03008	0.4	NIAMP5 Actual PE Update
Ballintemple WTW (Septic Tank)	S02243	-3.0	Retained
Ballsmill	S02258	-26.7	NIAMP5 Actual PE Update
Ballyalton Rd (20-22)	S00849	1.3	NIAMP5 Actual PE Update
Ballybarnes Road (80-82)	S00776	-1.7	NIAMP5 Actual PE Update
Ballybentragh(66-72)	S01760	-4.0	NIAMP5 Actual PE Update
Ballycreelly Road (38-40)	S00333	-1.6	NIAMP5 Actual PE Update
Ballycrochan Road	S00833	0.2	NIAMP5 Actual PE Update
Ballydonaghy Cottages (1-4)	S01763	-0.2	NIAMP5 Actual PE Update
Ballydrain Road (39-43)	S00238	4.8	NIAMP5 Actual PE Update
Ballyeastborough Road (15-17)	S00221	-4.2	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Ballyfrench Road(1-3)	S00220	0.9	NIAMP5 Actual PE Update
Ballygalget Road(1)	S00840	0.7	NIAMP5 Actual PE Update
Ballygowan Road (140-142)Banbridge	S02890	0.4	NIAMP5 Actual PE Update
Ballyhalbert Victoria	S05412	-65.9	NIAMP5 Actual PE Update
Ballykeel Cottages(1-4)	S00834	-2.9	NIAMP5 Actual PE Update
Ballylumford Cottages	S00260	-4.3	Actual PE Update-RWwIP PE Review
Ballymaconaghy Road	S02690	-0.2	NIAMP5 Actual PE Update
Ballymaguire Road(33-35)	S02031	0.1	NIAMP5 Actual PE Update
Ballymore	S02117	2.3	NIAMP5 Actual PE Update
Ballynahaye Road(3)	S04115	0.1	NIAMP5 Actual PE Update
Ballynamullan Road(32-34)	S01764	-0.4	NIAMP5 Actual PE Update
Ballynashee Road(71-77)	S01765	0.7	NIAMP5 Actual PE Update
Ballynease Road(160-164)	S01793	-0.2	NIAMP5 Actual PE Update
Ballyrainey Road (65-67)	S00847	1.3	NIAMP5 Actual PE Update
Ballyrashane Road(21)	S01731	0.5	NIAMP5 Actual PE Update
Battery Road(43-45)	S01802	0.2	NIAMP5 Actual PE Update
Belfast Road(56-58)	S04142	-12.9	NIAMP5 Actual PE Update
Bells hill(63-65)	S01795	-0.3	NIAMP5 Actual PE Update
Bellshill Road(83-85)	S01794	-0.3	NIAMP5 Actual PE Update
Blackstaff (Septic Tank)	S00219	-4.4	NIAMP5 Actual PE Update
Burren Road	S02686	0.2	NIAMP5 Actual PE Update
Cargin Road	S01322	-11.3	NIAMP5 Actual PE Update
Carmean Road(42-46)	S01796	5.9	NIAMP5 Actual PE Update
Carnally	S02255	-2.7	NIAMP5 Actual PE Update
Carran Hill (WWTW)	S02256	-8.2	NIAMP5 Actual PE Update
Carrig Place	S02254	0.2	NIAMP5 Actual PE Update
Carrowdore Road(38-40)	S00832	1.1	NIAMP5 Actual PE Update
Castlevennon Road(49-51)	S02113	0.3	NIAMP5 Actual PE Update
Causeway Road(30)	S01736	1.2	NIAMP5 Actual PE Update
Chatham Road	S02023	-6.0	NIAMP5 Actual PE Update
Cherryvalley Road(24)	S01766	0.5	NIAMP5 Actual PE Update
Clarehill Road	S02428	1.2	NIAMP5 Actual PE Update
Clattering Ford Road (12-16)	S00249	2.1	NIAMP5 Actual PE Update
Coagh Road(20-22)	S02033	-2.8	NIAMP5 Actual PE Update
Cogry Road(25-27)	S01767	1.0	NIAMP5 Actual PE Update
Comber Road(102-106)	S00848	-0.2	NIAMP5 Actual PE Update
Concession Road	S02260	-1.6	NIAMP5 Actual PE Update
Coolsythe Road(23)	S01769	-2.5	NIAMP5 Actual PE Update
Corbally Road(45)	S02021	0.5	NIAMP5 Actual PE Update
Corbrackey Road	S02392	0.2	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Cornamuck	S03061	-2.1	NIAMP5 Actual PE Update
Corrinure	S02261	-0.2	NIAMP5 Actual PE Update
Craigaroddan Road(6-8)	S00227	-2.0	NIAMP5 Actual PE Update
Craigaruskey Road (66-68)	S00254	-1.9	NIAMP5 Actual PE Update
Craigdarragh Road(85-87)	S00836	3.5	NIAMP5 Actual PE Update
Craigmore Road(18-20)	S01124	-2.2	NIAMP5 Actual PE Update
Creevangar	S03068	-3.0	NIAMP5 Actual PE Update
Creggan Road(27)	S01770	-2.5	NIAMP5 Actual PE Update
Culmore Point	S03334	-1.0	NIAMP5 Actual PE Update
Culnady Road(46-50)	S01798	2.9	NIAMP5 Actual PE Update
Culramoney Road(5)	S01740	-3.2	NIAMP5 Actual PE Update
Cushleake Road(37-39)	S01783	-5.0	NIAMP5 Actual PE Update
Derryanvil	S03911	0.2	NIAMP5 Actual PE Update
Derryhaw	S02571	-2.0	NIAMP5 Actual PE Update
Derrymagowan	S02572	0.2	NIAMP5 Actual PE Update
Derryork Road(33-35)	S04140	-5.5	NIAMP5 Actual PE Update
Diamond cottages(1)	S01772	14.1	NIAMP5 Actual PE Update
Donnybrewer Road(98)	S03278	0.4	NIAMP5 Actual PE Update
Dree Hill	S02125	6.5	NIAMP5 Actual PE Update
Dreenan Road(38-40)	S02028	-3.1	NIAMP5 Actual PE Update
Dronehill Road	S02128	6.5	NIAMP5 Actual PE Update
Drumagarner Road(148-150)	S02026	-6.3	NIAMP5 Actual PE Update
Drumalig Road (62-64)	S04161	0.4	NIAMP5 Actual PE Update
Drumaran Road	S02129	1.3	NIAMP5 Actual PE Update
Drumavoley Road(39-41)	S02022	-5.0	NIAMP5 Actual PE Update
Drumavoley Road(83)	S01749	0.5	NIAMP5 Actual PE Update
Drumbolg Road(98-100)	S01800	-0.1	NIAMP5 Actual PE Update
Drumconvis Road 58-62 WwTW	S05767	1.2	NIAMP5 Actual PE Update
Drumconvis Road(16-18)	S01801	0.2	NIAMP5 Actual PE Update
Drumenny Road(120-128)	S02034	-0.3	NIAMP5 Actual PE Update
Drumgooland	S02131	-2.6	NIAMP5 Actual PE Update
Drumgrevagh	S02697	-0.2	NIAMP5 Actual PE Update
Drumneechy	S03097	-3.0	Actual PE Update-RWwIP PE Review
Drumreagh Road(9-11)	S00248	0.8	NIAMP5 Actual PE Update
Edendoit Road(22-32)	S01805	-0.7	
Edenreagh Road(39-41)	S04094	1.3	NIAMP5 Actual PE Update
Edentirooory	S02132	-1.0	NIAMP5 Actual PE Update
Faughan	S03109	-3.2	NIAMP5 Actual PE Update
Garryduff Church	S02024	-5.4	NIAMP5 Actual PE Update
Glascar Road(28-30)	S02887	3.2	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Glen Cottages (1-6)	S00835	1.7	NIAMP5 Actual PE Update
Glenagoorland	S03120	3.8	NIAMP5 Actual PE Update
Glenanne	S02259	1.0	NIAMP5 Actual PE Update
Glenhordial WTW (Septic Tank)	S03504	0.0	NIAMP5 Actual PE Update
Glenleary Road(22)	S01733	-14.0	NIAMP5 Actual PE Update
Glenshesk Road(127)	S01724	-2.5	NIAMP5 Actual PE Update
Gortnagallon Cottages(1-4)	S01777	-2.5	NIAMP5 Actual PE Update
Gortnaskea Road(45-47)	S01807	0.1	NIAMP5 Actual PE Update
Gransha Park(25-27)	S03130	0.5	NIAMP5 Actual PE Update
Gransha Road(26-28)	S00829	-2.2	NIAMP5 Actual PE Update
Grove Road(21-23)	S04873	0.3	NIAMP5 Actual PE Update
Hillhead Road (Down)	S02135	0.3	NIAMP5 Actual PE Update
Hillhead Road(127-131)	S01808	-3.6	NIAMP5 Actual PE Update
Hollybank Road(10)	S01774	0.4	NIAMP5 Actual PE Update
Hollybank Road(54)	S01775	-0.1	
Horse Park (5-7)	S04086	-0.1	NIAMP5 Actual PE Update
Inishargy Road(10-12)	S00210	1.3	NIAMP5 Actual PE Update
Inishargy Road(2-8)	S00212	0.3	NIAMP5 Actual PE Update
Inishargy Road(36-48)	S00211	-3.3	NIAMP5 Actual PE Update
Jerrettspass (WWTW)	S02297	-0.2	NIAMP5 Actual PE Update
Killaughey Road(252-254)	S00837	1.0	NIAMP5 Actual PE Update
Killough (Retention Tank)	S00275	228.1	NIAMP5 Actual PE Update
Killylane WTW(Septic Tank)	S01317	0.1	NIAMP5 Actual PE Update
Killyneese Road(14-16)	S01809	-0.3	NIAMP5 Actual PE Update
Largy Cottages(1)	S01776	11.2	NIAMP5 Actual PE Update
Limestone (1)	S03164	-3.5	NIAMP5 Actual PE Update
Limestone (2)	S03163	-0.5	NIAMP5 Actual PE Update
Lisbane Road(38-40)	S00839	0.7	NIAMP5 Actual PE Update
Lisbarnet Road (47-53)	S00245	2.4	NIAMP5 Actual PE Update
Lisnagat Road(34)	S01738	-9.1	NIAMP5 Actual PE Update
Lisnagat Road(64)	S01745	-6.1	NIAMP5 Actual PE Update
Lough Bradan WTW (Septic Tank)	S03507	-2.8	NIAMP5 Actual PE Update
Lough Road(29-31)	S04139	0.3	NIAMP5 Actual PE Update
Lower Grange Road(20-26)	S01811	1.4	NIAMP5 Actual PE Update
Lurgancahone Road(57-59)	S02708	-3.3	NIAMP5 Actual PE Update
Magheramore Road(89)	S01753	1.5	NIAMP5 Actual PE Update
Magheraville	S02589	-5.9	NIAMP5 Actual PE Update
Main Road Cloughy (103-111)	S00223	1.9	NIAMP5 Actual PE Update
Manse Road (Down)	S02148	-2.3	NIAMP5 Actual PE Update
Middle Braniel Road(80-90)	S00857	6.0	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Milltown(Artigarvan)	S03183	1.1	NIAMP5 Actual PE Update
Moneynick Road(118)	S01757	-3.9	
Moneynick Road(94)	S01761	2.5	NIAMP5 Actual PE Update
Moneyreagh Road (51-55)	S00338	1.2	NIAMP5 Actual PE Update
Moneyreagh Road(139-141)	S00852	0.6	NIAMP5 Actual PE Update
Moss Road(76-78)	S00244	-55.6	NIAMP5 Actual PE Update
Mount Ida	S02154	1.1	NIAMP5 Actual PE Update
Movilla Road(136-140)	S00232	1.4	NIAMP5 Actual PE Update
Moyarget Road(178)	S01729	1.0	NIAMP5 Actual PE Update
Mullaghboy Road(136-138)	S01812	-0.3	NIAMP5 Actual PE Update
Mullahead Road (WWTW)	S02418	1.5	NIAMP5 Actual PE Update
Mullan Road(35)	S01739	0.3	NIAMP5 Actual PE Update
New Road(37-39)	S00830	3.5	NIAMP5 Actual PE Update
Newcastle Road(18-20)	S00841	-4.6	NIAMP5 Actual PE Update
Old Holywood Road(190-196)	S00340	2.9	NIAMP5 Actual PE Update
Oldstone Terrace(8)	S01779	0.9	NIAMP5 Actual PE Update
Orritor Road(182)	S02017	2.1	
Parsonage Road(110-120)	S00831	2.2	NIAMP5 Actual PE Update
Point Road(29-33)	S01813	5.5	NIAMP5 Actual PE Update
Pomeroy Road(47-49)	S01814	-0.2	NIAMP5 Actual PE Update
Portadown Road (Tandragee)	S02175	4.4	NIAMP5 Actual PE Update
Portaferry Road(96-100)	S00231	4.0	NIAMP5 Actual PE Update
Priestland Road (51-53)	S04096	-0.2	NIAMP5 Actual PE Update
Quarter Road	S00222	1.1	NIAMP5 Actual PE Update
Railway view(3)	S01785	-12.3	NIAMP5 Actual PE Update
Ravara Road (9-19)	S00242	1.7	NIAMP5 Actual PE Update
Rehaghy Road(64-66)	S04144	0.2	NIAMP5 Actual PE Update
Rickamore Road(36-38)	S01780	-1.5	NIAMP5 Actual PE Update
Ringsend Road	S02158	-2.6	NIAMP5 Actual PE Update
Rosevale Road	S02176	1.8	NIAMP5 Actual PE Update
Scotstown Road (7-9)	S04117	3.1	NIAMP5 Actual PE Update
Sentry Box Road (20-22)	S02165	3.4	NIAMP5 Actual PE Update
Seven Mile Straight(177)	S01781	-0.2	NIAMP5 Actual PE Update
Seven Mile Straight(78)	S02018	0.2	NIAMP5 Actual PE Update
Seven Mile Straight(82)	S02019	0.2	NIAMP5 Actual PE Update
Seven Mile Straight(86)	S02020	0.2	NIAMP5 Actual PE Update
Shaneoguestown Road(38)	S01782	-3.8	NIAMP5 Actual PE Update
Shore Road (Castle View)	S01797	-0.2	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 1)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 2)	S00174	-3.8	NIAMP5 Actual PE Update

Name of Works	CAR Site ID	PE Change	Comments
Silent Valley (Septic Tank 3)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 4)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 5)	S00174	-3.8	NIAMP5 Actual PE Update
Spelga Dam ST	S02676	1.0	NIAMP5 Actual PE Update
St Johns Terrace (Kilcoo)	S02717	30.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade Change in treament category from prim to sec bio
Staffordstown Road	S01426	0.4	NIAMP5 Actual PE Update
Station Road(155-157)	S00854	0.6	NIAMP5 Actual PE Update
Straid Road(111)	S01719	-8.0	NIAMP5 Actual PE Update
Straid Road(12)	S01721	-1.5	NIAMP5 Actual PE Update
Stranagard	S01815	0.2	NIAMP5 Actual PE Update
The Demesne	S00289	0.8	NIAMP5 Actual PE Update
Tobermore Road(144-146)	S01817	0.2	NIAMP5 Actual PE Update
Tubber Road (10-16)	S00207	1.5	NIAMP5 Actual PE Update
Tullaghmore Road(41-43)	S01818	0.1	NIAMP5 Actual PE Update
Tullyhubbert Road(75-81)	S00258	1.1	NIAMP5 Actual PE Update
Upper Ballygelagh Road(12-18)	S00845	-6.4	NIAMP5 Actual PE Update
Upper Malone Road	S04026	-25.5	NIAMP5 Actual PE Update
Victoria Road (277-279)	S04111	-5.2	NIAMP5 Actual PE Update
When Road (21-23)	S04122	0.3	NIAMP5 Actual PE Update
Whitechurch Road (45-53)	S00213	3.3	NIAMP5 Actual PE Update
Whitegate Road	S02167	-1.8	NIAMP5 Actual PE Update
Whitelough Road(29-31)	S04137	0.2	NIAMP5 Actual PE Update
Whitepark Road(211)	S01732	1.2	NIAMP5 Actual PE Update
Whitepark Road(56)	S01741	2.0	NIAMP5 Actual PE Update
Whitepark Road(71)	S01746	1.0	NIAMP5 Actual PE Update
Windmill Road(24-32)	S00235	2.4	NIAMP5 Actual PE Update
Windmill Road(71-73)	S04159	3.5	NIAMP5 Actual PE Update
Woodburn/Dorisland WTW (Septic Tank)	S00011	0.3	NIAMP5 Actual PE Update
	TOTAL	**-17.6**	**Change in Line 3 since AIR20**

The change in PE equates to an increase in load of 0.4t BOD/yr (i.e. 17.6 x 60 (for 60g/hd/day) /1000/1000 x 365) from AIR20 to AIR21, allowing for rounding up and down and conversions.

Difference between AIR21 and AIR20:

Line 3 for AIR21 -	**212.9**
Line 3 for AIR20 -	**212.5**
Total Difference -	**0.4**

Line 4 - Total load receiving preliminary treatment only

The table below shows the changes in WWTWs since AIR20 that affects load entering the system for Line 4. NB. Change in PE (-ve AIR21 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Ballystrudder (Retention Tank)	S00264	-1879.2	NIAMP5 Actual PE Update
Cranfield (Down)	S02721	-250.1	NIAMP5 Actual PE Update
Cushendall	S01183	-314.2	NIAMP5 Actual PE Update Trade updated
Cushendun (WWTW)	S03929	-33.7	NIAMP5 Actual PE Update
Tully Road Headworks	S03975	-320.7	NIAMP5 Actual PE Update
	TOTAL	**-2797.9**	**Change in Line 4 since AIR20**

The change in PE equates to an increase in load of 61.3t BOD/yr (i.e. 2797.9 x 60 (for 60g/hd/day) /1000/1000 x 365) from AIR20 to AIR21, allowing for rounding up and down and conversions.

Difference between AIR21 and AIR20:

Line 4 for AIR21-	**451.0.**
Line 4 for AIR20 -	**389.7**
Total Difference -	**61.3**

Line 5 - Total load entering sewerage system

The table below shows the changes in WWTWs since AIR20 that affects load entering the system for Line 5. NB. Change in PE (-Ve AIR21 PE Higher).

Name of Works	CAR ID	PE Change	Comments
3 Sisters	S04027	3.9	NIAMP5 Actual PE Update
Abbacy Road	S03947	2.4	NIAMP5 Actual PE Update
Acton	S02111	-10.1	NIAMP5 Actual PE Update
Aghadrumsee	S02988	-7.0	NIAMP5 Actual PE Update
Aghagallon	S02393	-129.0	NIAMP5 Actual PE Update
Aghalee	S02394	-113.4	NIAMP5 Actual PE Update
Aghanloo (1)	S02989	-28.1	NIAMP5 Actual PE Update Trade updated
Aghnaskew	S02990	0.6	NIAMP5 Actual PE Update
Aghory	S02547	1.4	NIAMP5 Actual PE Update
Agivey Road(199-201)	S01755	-2.5	NIAMP5 Actual PE Update
Aikens Town parks	S01602	-2.2	NIAMP5 Actual PE Update
Altamuskin (WWTW)	S03998	-6.8	NIAMP5 Actual PE Update
Altishane	S02993	-2.3	NIAMP5 Actual PE Update
Altnahinch WTW (Septic Tank)	S00930	3.0	Retained
Altnamackan	S02247	-1.9	NIAMP5 Actual PE Update
Annacloy (WWTW)	S00292	-2.3	NIAMP5 Actual PE Update
Annaghhugh (WWTW)	S02602	-30.1	NIAMP5 Actual PE Update
Annaghmore (WWTW)	S02556	-62.5	NIAMP5 Actual PE Update
Annaghquinn Road(49)	S01718	-9.5	NIAMP5 Actual PE Update
Annahilt (WWTW)	S00317	-47.0	NIAMP5 Actual PE Update
Annalong (WWTW)	S00300	-76.6	NIAMP5 Actual PE Update Trade updated
Annsborough	S02687	-95.6	NIAMP5 Actual PE Update Trade updated
Antrim (WWTW)	S01422	-2305.9	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR ID	PE Change	Comments
Anville Crescent	S02391	0.9	NIAMP5 Actual PE Update
Ardess	S02995	17.0	NIAMP5 Actual PE Update
Ardgarvan (WWTW)	S02987	-7.0	NIAMP5 Actual PE Update
Ardglass (WWTW)	S00268	494.5	NIAMP5 Actual PE Update Trade updated
Ardground	S02996	-6.0	NIAMP5 Actual PE Update
Ardlough Road (40-42)	S04095	-2.2	NIAMP5 Actual PE Update
Ardress (WWTW)	S02557	-42.9	NIAMP5 Actual PE Update
Ardstraw (WWTW)	S02997	20.7	NIAMP5 Actual PE Update
Armagh Road(144-146)	S02249	0.1	NIAMP5 Actual PE Update
Armagh Road(189-193)	S02251	0.1	NIAMP5 Actual PE Update
Armagh Road(202-206)	S02250	0.1	NIAMP5 Actual PE Update
Armoy (WWTW)	S01172	-34.0	NIAMP5 Actual PE Update
Arney (WWTW)	S02999	-15.1	NIAMP5 Actual PE Update
Artigarvan Lower	S03001	2.2	NIAMP5 Actual PE Update
Arvalee	S03003	-18.0	NIAMP5 Actual PE Update
Ashfield (Dromore)	S02112	4.7	NIAMP5 Actual PE Update
Attical (WWTW)	S02688	0.0	Retained
Aughagash	S01458	-5.2	NIAMP5 Actual PE Update
Aughakillymaud	S03004	2.0	NIAMP5 Actual PE Update
Aughanduff	S02262	-3.0	NIAMP5 Actual PE Update
Augher (WWTW)	S03005	-89.8	Actual PE based on on-site check Design PE Updated following reverse engineering exercise.
Aughnacleagh	S01428	3.2	NIAMP5 Actual PE Update
Aughnacloy	S03007	-307.5	NIAMP5 Actual PE Update
Aughnavallog	S02114	3.2	NIAMP5 Actual PE Update
Backlower Road(111-115)	S01791	-0.3	NIAMP5 Actual PE Update
Badoney	S03008	0.4	NIAMP5 Actual PE Update
Ballee Road	S03009	1.0	NIAMP5 Actual PE Update
Ballee Road (75-83)	S04091	-1.2	NIAMP5 Actual PE Update
Balleevy	S02122	1.0	NIAMP5 Actual PE Update
Ballinderry Road (45-49) Antrim	S04877	-0.1	NIAMP5 Actual PE Update
Ballinlea Road(81)	S01748	1.5	NIAMP5 Actual PE Update
Ballinmallard (WWTW)	S03010	164.6	NIAMP5 Actual PE Update
Ballinrees WTW(Septic Tank)	S00931	3.0	Retained
Ballinteer	S01131	2.6	NIAMP5 Actual PE Update
Ballintemple WTW (Septic Tank)	S02243	-3.0	Retained
Ballsmill	S02258	-26.7	NIAMP5 Actual PE Update
Ballyagan	S01132	2.3	NIAMP5 Actual PE Update
Ballyalton Rd (20-22)	S00849	1.3	NIAMP5 Actual PE Update
Ballyardel	S02727	0.2	NIAMP5 Actual PE Update
Ballybarnes Road (80-82)	S00776	-1.7	NIAMP5 Actual PE Update
Ballybentragh(66-72)	S01760	-4.0	NIAMP5 Actual PE Update
Ballybogy	S01087	577.0	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballycairn (Down)	S00336	-4.1	Actual PE Update-RWwIP PE Review
Ballycassidy (WWTW)	S03012	-67.1	NIAMP5 Actual PE Update
Ballyclare	S01467	-3648.0	NIAMP5 Actual PE Update Trade updated
Ballycleagh	S01175	3.3	NIAMP5 Actual PE Update
Ballycorr Grove	S01468	-5.5	NIAMP5 Actual PE Update
Ballycoshone	S02689	-0.2	NIAMP5 Actual PE Update
Ballycranbeg	S00218	-76.2	NIAMP5 Actual PE Update Design PE updated

Name of Works	CAR ID	PE Change	Comments
Ballycreelly Road (38-40)	S00333	-1.6	NIAMP5 Actual PE Update
Ballycrochan Road	S00833	0.2	NIAMP5 Actual PE Update
Ballydonaghy Cottages (1-4)	S01763	-0.2	NIAMP5 Actual PE Update
Ballydrain Road (39-43)	S00238	4.8	NIAMP5 Actual PE Update
Ballyeastborough Road (15-17)	S00221	-4.2	NIAMP5 Actual PE Update
Ballyfrench Road(1-3)	S00220	0.9	NIAMP5 Actual PE Update
Ballygalget Road(1)	S00840	0.7	NIAMP5 Actual PE Update
Ballygarvigan	S00228	4.9	NIAMP5 Actual PE Update
Ballygawley (WWTW)	S03013	-299.8	NIAMP5 Actual PE Update
Ballygowan	S00247	-155.6	NIAMP5 Actual PE Update Trade updated
Ballygowan Road (140-142)Banbridge	S02890	0.4	NIAMP5 Actual PE Update
Ballygowan Road(102-104)	S00251	0.3	NIAMP5 Actual PE Update
Ballygowan Road(41-47)	S00243	-1.6	NIAMP5 Actual PE Update
Ballygruby	S01557	-1.2	NIAMP5 Actual PE Update
Ballyhalbert Victoria	S05412	-65.9	NIAMP5 Actual PE Update
Ballyheather Road (121-123)	S04112	3.2	NIAMP5 Actual PE Update
Ballyhome (WWTW)	S01134	-34.2	NIAMP5 Actual PE Update
Ballyhornan Outfall	S04090	221.3	NIAMP5 Actual PE Update Trade updated
Ballykeel Cottages(1-4)	S00834	-2.9	NIAMP5 Actual PE Update
Ballykelly (DOWN)	S02169	1.3	NIAMP5 Actual PE Update
Ballykelly (L/Derry)	S03016	-336.3	NIAMP5 Actual PE Update Trade updated
Ballylintagh (New)	S01135	12.7	NIAMP5 Actual PE Update Trade updated
Ballylumford Cottages	S00260	-4.3	Actual PE Update-RWwIP PE Review
Ballymacawley	S02560	2.4	NIAMP5 Actual PE Update
Ballymacnab	S02561	-5.0	NIAMP5 Actual PE Update
Ballymaconaghy Road	S02690	-0.2	NIAMP5 Actual PE Update
Ballymacormick	S01089	2.1	NIAMP5 Actual PE Update
Ballymaderphy	S02728	-3.1	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ballymagorry (WWTW)	S03018	-89.5	NIAMP5 Actual PE Update
Ballymaguigan	S01603	7.7	NIAMP5 Actual PE Update
Ballymaguire Road(33-35)	S02031	0.1	NIAMP5 Actual PE Update
Ballymarlagh	S01430	4.3	NIAMP5 Actual PE Update
Ballymena (WWTW)	S01456	-15657.5	NIAMP5 Actual PE Update Trade updated
Ballymiscaw road (37-41)	S00256	-0.9	NIAMP5 Actual PE Update
Ballymore	S02117	2.3	NIAMP5 Actual PE Update
Ballymoyer	S02252	-15.1	NIAMP5 Actual PE Update
Ballynadolly	S00327	1.0	NIAMP5 Actual PE Update
Ballynafie	S01431	-27.5	NIAMP5 Actual PE Update
Ballynagalliagh (Armagh)	S02562	0.3	NIAMP5 Actual PE Update
Ballynagard (Antrim)	S01173	-4.3	NIAMP5 Actual PE Update
Ballynahaye Road(3)	S04115	0.1	NIAMP5 Actual PE Update
Ballynahinch (Armagh)	S02563	1.2	NIAMP5 Actual PE Update
Ballynahinch (Down)	S00311	-166.6	NIAMP5 Actual PE Update Trade updated
Ballynamullan	S03011	0.2	NIAMP5 Actual PE Update
Ballynamullan Road(32-34)	S01764	-0.4	NIAMP5 Actual PE Update
Ballynashee Road(71-77)	S01765	0.7	NIAMP5 Actual PE Update
Ballynease	S01604	-1.0	NIAMP5 Actual PE Update
Ballynease Road(160-164)	S01793	-0.2	NIAMP5 Actual PE Update
Ballyquinn (WWTW)	S03021	12.6	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Ballyrainey Road (65-67)	S00847	1.3	NIAMP5 Actual PE Update
Ballyrashane Road(21)	S01731	0.5	NIAMP5 Actual PE Update
Ballyrashane Road(37-39)	S01126	0.5	NIAMP5 Actual PE Update
Ballyrock	S01136	-5.0	NIAMP5 Actual PE Update
Ballyroney Road (WWTW)	S02118	1.6	NIAMP5 Actual PE Update
Ballyrussell	S02691	-20.0	NIAMP5 Actual PE Update
Ballystrudder (Retention Tank)	S00264	-1879.2	NIAMP5 Actual PE Update
Ballytrim	S00276	-0.1	NIAMP5 Actual PE Update
Ballyutoag	S01417	-0.1	NIAMP5 Actual PE Update
Ballyveely	S01090	-6.6	NIAMP5 Actual PE Update
Ballyvelton Road(23)	S01734	1.2	NIAMP5 Actual PE Update
Ballyvelton Road(45-51)	S04037	1.0	NIAMP5 Actual PE Update
Ballyvoy	S01177	-7.6	NIAMP5 Actual PE Update Design PE Updated
Ballywalter(Retention Tank)	S05189	-204.1	NIAMP5 Actual PE Update
Ballyward	S02120	3.1	NIAMP5 Actual PE Update
Ballywhiskin (Retention Tank)	S00827	-0.2	NIAMP5 Actual PE Update
Banbridge (WWTW)	S02102	-3493.3	NIAMP5 Actual PE Update Trade updated
Bankside Shinn	S02692	22.5	NIAMP5 Actual PE Update
Bar Hall	S00229	-1.9	NIAMP5 Actual PE Update
Battery Road(43-45)	S01802	0.2	NIAMP5 Actual PE Update
Beagh	S01605	-8.4	NIAMP5 Actual PE Update
Bearney Road(55-61)	S04143	0.3	NIAMP5 Actual PE Update
Beech Hill South	S05182	-0.2	NIAMP5 Actual PE Update
Belcoo (WWTW)	S03022	-37.7	NIAMP5 Actual PE Update
Belfast (WWTW)	S00345	-6172.3	Retained Septic tank imports added Trade updated
Belfast Road(56-58)	S04142	-12.9	NIAMP5 Actual PE Update
Bellaghy (WWTW)	S01606	-39.0	Actual PE updated following APT PE Review
Bellany (WWTW)	S01137	2.7	NIAMP5 Actual PE Update
Belleek (Armagh)	S02253	10.9	NIAMP5 Actual PE Update
Belleek (Fermanagh)	S03024	14.4	NIAMP5 Actual PE Update
Bells hill(63-65)	S01795	-0.3	NIAMP5 Actual PE Update
Bellshill Road(83-85)	S01794	-0.3	NIAMP5 Actual PE Update
Benburb (WWTW)	S02831	-109.0	NIAMP5 Actual PE Update
Benvardin Road	S01093	0.8	NIAMP5 Actual PE Update
Beragh (WWTW)	S03027	-260.8	NIAMP5 Actual PE Update
Blackscull (WWTW)	S02397	64.1	NIAMP5 Actual PE Update
Blackstaff (Septic Tank)	S00219	-4.4	NIAMP5 Actual PE Update
Blackwatertown (WWTW)	S02552	-48.9	NIAMP5 Actual PE Update
Blaney	S03028	1.5	NIAMP5 Actual PE Update
Boghill (WWTW)	S01138	1.0	NIAMP5 Actual PE Update
Boghill Road(52-54)	S01127	0.5	NIAMP5 Actual PE Update
Bohulkin	S03029	-4.1	NIAMP5 Actual PE Update
Bolea (WWTW)	S03030	-15.3	NIAMP5 Actual PE Update
Boleran Road (Garvagh)	S02059	-1.8	NIAMP5 Actual PE Update
Bonnanaboigh	S03031	-1.5	NIAMP5 Actual PE Update
Bovean	S02793	-5.6	NIAMP5 Actual PE Update
Boveedy	S01139	-33.4	NIAMP5 Actual PE Update
Bovevagh Road (37-41)	S04121	-2.6	NIAMP5 Actual PE Update
Brantry	S02832	-2.5	NIAMP5 Actual PE Update
Bready (WWTW)	S03971	-20.0	NIAMP5 Actual PE Update
Breaside Cottages(1-6)	S02049	-0.5	NIAMP5 Actual PE Update
Bregagh Road(60-62)	S01743	-3.0	NIAMP5 Actual PE Update
Bresagh	S00332	-4.5	NIAMP5 Actual PE Update
Brisland Road(3-5)	S04141	0.7	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Broagh	S01607	-30.2	NIAMP5 Actual PE Update
Brockaghboy (WWTW)	S01140	-9.3	NIAMP5 Actual PE Update
Brookeborough (WWTW)	S03032	-120.7	NIAMP5 Actual PE Update
Buckna (WWTW)	S01432	-2.0	NIAMP5 Actual PE Update Design PE updated following RWwIP Review
Burnquarter	S01094	-2.7	NIAMP5 Actual PE Update
Burren Road	S02686	0.2	NIAMP5 Actual PE Update
Bushmills (WWTW)	S01178	-407.1	NIAMP5 Actual PE Update Trade updated
Cabragh (WWTW)	S02834	-73.9	NIAMP5 Actual PE Update
Caledon (WWTW)	S02835	-65.5	NIAMP5 Actual PE Update
Camus	S03034	-1.0	NIAMP5 Actual PE Update
Capecastle	S01179	-5.5	NIAMP5 Actual PE Update
Cappagh (WWTW)	S02857	5.2	NIAMP5 Actual PE Update
Cargan (WWTW)	S01433	163.7	NIAMP5 Actual PE Update
Cargin Road	S01322	-11.3	NIAMP5 Actual PE Update
Carmean	S01608	-0.4	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Carmean Road(42-46)	S01796	5.9	NIAMP5 Actual PE Update
Carnalbanagh	S01459	-2.8	NIAMP5 Actual PE Update
Carnalea Road	S03036	-0.9	NIAMP5 Actual PE Update
Carnally	S02255	-2.7	NIAMP5 Actual PE Update
Carnan	S01559	9.1	NIAMP5 Actual PE Update
Carnbeg	S01434	9.6	NIAMP5 Actual PE Update
Carnduff (Retention Tank)	S01180	-20.3	NIAMP5 Actual PE Update
Carneyhough	S02682	-0.3	NIAMP5 Actual PE Update
Carnlough Road	S01435	3.4	NIAMP5 Actual PE Update
Carnteel Road (122-124)	S04162	0.2	NIAMP5 Actual PE Update
Carran Hill (WWTW)	S02256	-8.2	NIAMP5 Actual PE Update
Carrickfergus (WWTW)	S00261	-64.4	Retained Trade updated
Carricklongfield Road (21-23)	S04093	0.2	NIAMP5 Actual PE Update
Carrickmore (WWTW)	S03039	45.3	NIAMP5 Actual PE Update
Carricknaveagh (WWTW)	S00283	5.8	NIAMP5 Actual PE Update
Carrickrovaddy	S02257	-3.2	NIAMP5 Actual PE Update
Carrig Place	S02254	0.2	NIAMP5 Actual PE Update
Carrigenagh (WWTW)	S00314	0.6	NIAMP5 Actual PE Update
Carrontreemall	S03040	-1.8	NIAMP5 Actual PE Update
Carrowdore	S00236	235.0	NIAMP5 Actual PE Update
Carrowdore Road(38-40)	S00832	1.1	NIAMP5 Actual PE Update
Carrowreagh Road(68-70)	S04100	0.5	NIAMP5 Actual PE Update
Castle Archdale Country Park (WWTW)	S05877	20.4	NIAMP5 Actual PE Update
Castlecaulfield (WWTW)	S02836	-166.6	NIAMP5 Actual PE Update
Castlederg (WWTW)	S03042	-685.8	NIAMP5 Actual PE Update Trade updated
Castlenagree	S01181	2.1	NIAMP5 Actual PE Update
Castlevennon Road(49-51)	S02113	0.3	NIAMP5 Actual PE Update
Castor Bay	S02380	-10.6	NIAMP5 Actual PE Update
Caugh Hill (WWTW)	S03047	-5.6	NIAMP5 Actual PE Update
Causeway Road(122)	S01723	1.2	NIAMP5 Actual PE Update
Causeway Road(15)	S01726	1.2	NIAMP5 Actual PE Update
Causeway Road(180)	S01730	1.2	NIAMP5 Actual PE Update
Causeway Road(30)	S01736	1.2	NIAMP5 Actual PE Update
Cavanacaw	S03048	-1.0	NIAMP5 Actual PE Update
Cavanagrow	S02565	-2.1	NIAMP5 Actual PE Update
Charlestown	S02399	25.6	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Chatham Road	S02023	-6.0	NIAMP5 Actual PE Update
Cherryvalley Road(24)	S01766	0.5	NIAMP5 Actual PE Update
Church Hill	S03050	8.3	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Clabby (WWTW)	S03051	75.6	NIAMP5 Actual PE Update
Clady (Tyrone)	S04149	2.6	NIAMP5 Actual PE Update Trade updated
Cladymore	S02566	-28.3	NIAMP5 Actual PE Update
Clare	S01560	-0.5	Retained
Clarehill	S01039	-118.1	NIAMP5 Actual PE Update
Clarehill Road	S02428	1.2	NIAMP5 Actual PE Update
Clattering Ford Road (12-16)	S00249	2.1	NIAMP5 Actual PE Update
Claudy	S03054	-254.4	NIAMP5 Actual PE Update
Clogh (WWTW)	S01436	-28.3	NIAMP5 Actual PE Update
Clogher (WWTW)	S03056	-140.3	Actual PE updated following APT PE Review
Clough (WWTW)	S00296	152.3	NIAMP5 Actual PE Update
Cloughmills (WWTW)	S01096	-116.4	NIAMP5 Actual PE Update
Cloughy (Retention Tank)	S00224	-179.6	NIAMP5 Actual PE Update
Cluntoe (Richardson)	S04872	-11.9	NIAMP5 Actual PE Update
Coagh (WWTW)	S01562	-60.0	NIAMP5 Actual PE Update
Coagh Road(20-22)	S02033	-2.8	NIAMP5 Actual PE Update
Coalisland	S02828	-753.2	NIAMP5 Actual PE Update
Cogry Road(25-27)	S01767	1.0	NIAMP5 Actual PE Update
Comber Road(102-106)	S00848	-0.2	NIAMP5 Actual PE Update
Commons School Road(8-10)	S02897	2.8	NIAMP5 Actual PE Update
Concession Road	S02260	-1.6	NIAMP5 Actual PE Update
Coneyisland (WWTW)	S00274	-5.5	NIAMP5 Actual PE Update
Cookstown (WWTW)	S01582	-1626.8	NIAMP5 Actual PE Update Trade updated
Coole Glebe	S01143	1.2	NIAMP5 Actual PE Update
Coolnagoppoge (WWTW)	S01176	-14.7	NIAMP5 Actual PE Update
Coolsythe Road(23)	S01769	-2.5	NIAMP5 Actual PE Update
Corbally Road(45)	S02021	0.5	NIAMP5 Actual PE Update
Corbet	S02123	1.5	NIAMP5 Actual PE Update
Corbrackey Road	S02392	0.2	NIAMP5 Actual PE Update
Corchoney Lane (2-4)	S01563	-4.2	NIAMP5 Actual PE Update
Corcreechy Road	S02696	-0.4	NIAMP5 Actual PE Update
Corickbeg Road(15-17)	S04136	0.2	NIAMP5 Actual PE Update
Corkill (Fermanagh)	S03059	2.2	NIAMP5 Actual PE Update
Corkill (Tyrone)	S02032	-10.4	NIAMP5 Actual PE Update
Cornakessagh	S03060	-2.4	NIAMP5 Actual PE Update
Cornamuck	S03061	-2.1	NIAMP5 Actual PE Update
Corrinure	S02261	-0.2	NIAMP5 Actual PE Update
Corry (WWTW)	S03063	-1.9	NIAMP5 Actual PE Update
Corvanaghan (WWTW)	S01565	-0.5	NIAMP5 Actual PE Update
Craigaroddan Road(6-8)	S00227	-2.0	NIAMP5 Actual PE Update
Craigaruskey Road (66-68)	S00254	-1.9	NIAMP5 Actual PE Update
Craigavole (WWTW)	S01144	-6.5	NIAMP5 Actual PE Update
Craigdarragh Road(85-87)	S00836	3.5	NIAMP5 Actual PE Update
Craigmore Road(139 - 145)	S01725	0.7	NIAMP5 Actual PE Update
Craigmore Road(18-20)	S01124	-2.2	NIAMP5 Actual PE Update
Craignasasonagh	S00308	-0.5	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Craigywarren	S01437	2.6	NIAMP5 Actual PE Update
Cranfield (Down)	S02721	-250.1	NIAMP5 Actual PE Update
Cranfield(Antrim)	S01418	28.1	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Crankill	S01438	3.6	NIAMP5 Actual PE Update
Creagh	S01611	-215.6	NIAMP5 Actual PE Update
Creaghcor	S03066	7.6	NIAMP5 Actual PE Update
Crebarkey	S03067	1.0	NIAMP5 Actual PE Update
Creevangar	S03068	-3.0	NIAMP5 Actual PE Update
Creggan Road(27)	S01770	-2.5	NIAMP5 Actual PE Update
Crilly	S02903	-3.7	NIAMP5 Actual PE Update
Cross Lane 9-22 ST	S05572	-54.3	NIAMP5 Actual PE Update
Crosskeys Road	S01439	3.0	NIAMP5 Actual PE Update
Crossmaglen	S02273	-402.5	NIAMP5 Actual PE Update
Crossnamoyle	S02568	1.6	NIAMP5 Actual PE Update
Culcrow	S01146	-44.1	NIAMP5 Actual PE Update
Cullaville	S02264	-57.7	NIAMP5 Actual PE Update
Cullion (Bready)	S03070	-0.8	NIAMP5 Actual PE Update
Cullyhanna (WWTW)	S02265	40.6	NIAMP5 Actual PE Update
Cullyramer	S01147	0.3	NIAMP5 Actual PE Update
Culmore (WWTW)	S03071	-31761.5	NIAMP5 Actual PE Update Trade updated
Culmore Point	S03334	-1.0	
Culnady Road(46-50)	S01798	2.9	NIAMP5 Actual PE Update
Culramoney Road(5)	S01740	-3.2	NIAMP5 Actual PE Update
Curglasson	S01566	-5.1	NIAMP5 Actual PE Update
Curran	S01613	-10.2	NIAMP5 Actual PE Update
Cushendall	S01183	-314.2	NIAMP5 Actual PE Update Trade updated
Cushendun (WWTW)	S03929	-33.7	NIAMP5 Actual PE Update
Cushleake Road(37-39)	S01783	-5.0	NIAMP5 Actual PE Update
Darkley (WWTW)	S02569	-1.2	NIAMP5 Actual PE Update
Dartress	S01148	0.4	NIAMP5 Actual PE Update
Davagh Park	S02030	-0.5	NIAMP5 Actual PE Update
Deffrick	S01184	-4.0	NIAMP5 Actual PE Update
Dempsey Park	S01100	-8.3	NIAMP5 Actual PE Update
Dernaflaw	S03072	38.0	Actual PE Updated following ALP review and on-site checks
Derryaghna	S03073	0.4	NIAMP5 Actual PE Update
Derryanvil	S03911	0.2	NIAMP5 Actual PE Update
Derrygonnelly (WWTW)	S03074	-142.6	NIAMP5 Actual PE Update
Derrygortrevy	S02837	0.9	NIAMP5 Actual PE Update
Derryhale	S02570	136.4	NIAMP5 Actual PE Update Trade updated
Derryhaw	S02571	-2.0	NIAMP5 Actual PE Update
Derrykeighan	S01101	3.3	NIAMP5 Actual PE Update
Derrylin (WWTW)	S03075	-89.2	NIAMP5 Actual PE Update
Derrymagowan	S02572	0.2	NIAMP5 Actual PE Update
Derrymore (WWTW)	S02401	20.6	NIAMP5 Actual PE Update
Derryork Road(33-35)	S04140	-5.5	NIAMP5 Actual PE Update
Derrytrasna	S02402	-19.7	NIAMP5 Actual PE Update
Dervock (WWTW)	S01102	-44.9	NIAMP5 Actual PE Update Trade updated
Desertmartin	S01614	-5.4	NIAMP5 Actual PE Update
Diamond cottages(1)	S01772	14.1	NIAMP5 Actual PE Update
Diviny NEW ST	S05546	1.9	NIAMP5 Actual PE Update
Donagheady (WWTW)	S03079	2.8	NIAMP5 Actual PE Update
Donaghey (1)	S01568	0.1	NIAMP5 Actual PE Update
Donaghey (2)	S01569	-0.3	NIAMP5 Actual PE Update
Donaghmore (WWTW)	S02840	350.1	NIAMP5 Actual PE Update Trade updated
Donard View	S00280	10.8	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Donemana	S03103	2.2	SWELL-Retain Design PE updated Trade updated
Donnelly Park	S01103	-3.5	NIAMP5 Actual PE Update
Donnybrewer	S03080	-134.8	NIAMP5 Actual PE Update Trade updated
Donnybrewer Road(98)	S03278	0.4	NIAMP5 Actual PE Update
Donnybrewer Road(99)	S03277	0.4	NIAMP5 Actual PE Update
Dooish	S03081	-8.3	NIAMP5 Actual PE Update
Doorless	S01570	-2.8	NIAMP5 Actual PE Update
Dorsy	S02267	10.3	NIAMP5 Actual PE Update
Dougan place	S02164	-0.5	NIAMP5 Actual PE Update
Douglas Bridge	S03082	20.6	NIAMP5 Actual PE Update
Downpatrick (WWTW)	S00771	-6161.4	NIAMP5 Actual PE Update Septic tank imports added Trade updated
Drapersfield (WWTW)	S01571	-94.1	NIAMP5 Actual PE Update
Draperstown	S01615	-141.2	NIAMP5 Actual PE Update Trade updated
Dree Hill	S02125	6.5	NIAMP5 Actual PE Update
Dreenan Road(38-40)	S02028	-3.1	NIAMP5 Actual PE Update
Drennans Road(6)	S01773	0.2	NIAMP5 Actual PE Update
Dromara (WWTW)	S00316	-116.8	NIAMP5 Actual PE Update Trade updated
Dromara Road (Lacken)	S02126	3.9	NIAMP5 Actual PE Update
Dromore (Down)	S02127	-744.2	NIAMP5 Actual PE Update Trade updated
Dromore (Tyrone)	S03083	51.3	NIAMP5 Actual PE Update Trade updated
Dromore Highlands	S03085	6.8	NIAMP5 Actual PE Update
Dronehill Road	S02128	6.5	NIAMP5 Actual PE Update
Drumagarner	S01149	1.7	NIAMP5 Actual PE Update
Drumagarner Road(148-150)	S02026	-6.3	NIAMP5 Actual PE Update
Drumagarner Road(212-218)	S02027	-4.1	NIAMP5 Actual PE Update
Drumalig Road (62-64)	S04161	0.4	NIAMP5 Actual PE Update
Drumaran Road	S02129	1.3	NIAMP5 Actual PE Update
Drumard (Antrim)	S01616	-3.5	NIAMP5 Actual PE Update
Drumard (Tyrone)	S02860	-3.1	NIAMP5 Actual PE Update
Drumard Primate (WWTW)	S02404	-1.7	NIAMP5 Actual PE Update Design PE updated following RWwIP Upgrade
Drumaroad (WWTW)	S00312	-1.1	Actual PE Updated following an ALP PE review
Drumavoley Road(39-41)	S02022	-5.0	NIAMP5 Actual PE Update
Drumavoley Road(83)	S01749	0.5	NIAMP5 Actual PE Update
Drumbeg (WWTW)	S00335	-85.9	NIAMP5 Actual PE Update
Drumbolg Road(98-100)	S01800	-0.1	NIAMP5 Actual PE Update
Drumconvis Road 58-62 WwTW	S05767	1.2	NIAMP5 Actual PE Update
Drumconvis Road(16-18)	S01801	0.2	NIAMP5 Actual PE Update
Drumcroon (WWTW)	S01151	0.3	NIAMP5 Actual PE Update
Drumenny	S03088	1.0	NIAMP5 Actual PE Update
Drumenny Road(120-128)	S02034	-0.3	NIAMP5 Actual PE Update
Drumflugh Road (75-77)	S04101	-8.3	NIAMP5 Actual PE Update
Drumgay (1)	S03090	-4.7	NIAMP5 Actual PE Update
Drumgay (2)	S03091	-5.0	NIAMP5 Actual PE Update
Drumgooland	S02131	-2.6	NIAMP5 Actual PE Update
Drumgrevagh	S02697	-0.2	NIAMP5 Actual PE Update
Drumhillery	S02574	1.9	NIAMP5 Actual PE Update
Drumhirk	S00246	2.3	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Drumilly	S02268	-6.2	NIAMP5 Actual PE Update
Drumintee	S02269	-20.8	NIAMP5 Actual PE Update
Drumlegagh Church Road	S03987	-32.5	Actual PE updated following APT PE Review
Drumlegagh Church Road (63-65)	S04098	0.7	NIAMP5 Actual PE Update
Drumlegagh Road South	S03093	1.4	NIAMP5 Actual PE Update
Drumlough	S00320	-0.5	NIAMP5 Actual PE Update
Drummond	S03095	-3.4	NIAMP5 Actual PE Update
Drumnacannon Road(20-22)	S01803	-0.1	NIAMP5 Actual PE Update
Drumnaferry	S02405	-59.4	NIAMP5 Actual PE Update
Drumnakilly	S03096	22.2	NIAMP5 Actual PE Update
Drumnascamph	S02698	2.5	NIAMP5 Actual PE Update
Drumneechy	S03097	-3.0	Actual PE Update-RWwIP PE Review
Drumquin (WWTW)	S03098	-98.2	NIAMP5 Actual PE Update
Drumraighland	S03099	-8.2	NIAMP5 Actual PE Update
Drumreagh	S01106	-2.9	NIAMP5 Actual PE Update
Drumreagh Road(9-11)	S00248	0.8	NIAMP5 Actual PE Update
Drumshambo	S01572	-0.4	NIAMP5 Actual PE Update
Drumsurn	S03100	85.9	NIAMP5 Actual PE Update
Drumsurn Road (234-238)	S04120	0.5	NIAMP5 Actual PE Update
Drumullan	S01573	-19.6	NIAMP5 Actual PE Update
Dunboe Road(75-77)	S01747	0.6	NIAMP5 Actual PE Update
Dundrod	S00326	-17.8	NIAMP5 Actual PE Update
Dundrum (Armagh)	S02576	1.3	NIAMP5 Actual PE Update
Dundrum (Down)	S00297	-38.4	NIAMP5 Actual PE Update Design PE updated
Duneany (WWTW)	S01440	-2.4	NIAMP5 Actual PE Update
Dungannon	S02850	1730.6	Retain Trade updated
Dungiven	S03101	135.5	NIAMP5 Actual PE Update Trade updated
Dungonnell WTW (Septic Tank)	S01472	0.1	NIAMP5 Actual PE Update
Dungorbery	S01107	-3.0	NIAMP5 Actual PE Update
Dunloy	S01108	-154.1	NIAMP5 Actual PE Update
Dunmullan	S03102	-3.6	NIAMP5 Actual PE Update
Dunmurry	S00346	-3854.9	NIAMP5 Actual PE Update Trade updated
Dunnamore	S01574	-57.6	NIAMP5 Actual PE Update
Dunnyboe Road (85-93)	S04103	-5.1	NIAMP5 Actual PE Update
Dunronan Road(25-27)	S01804	-0.1	NIAMP5 Actual PE Update
Dunserverick (Retention Tank)	S01185	-39.9	NIAMP5 Actual PE Update
Dyan	S02842	-0.7	NIAMP5 Actual PE Update
Edencrannon (WWTW)	S02858	-27.1	NIAMP5 Actual PE Update
Edenderry (Tyrone)	S03104	2.0	Actual PE updated following APT PE Review
Edendoit Road(107-109)	S01598	-3.3	NIAMP5 Actual PE Update
Edendoit Road(22-32)	S01805	-0.7	
Edenmore Road	S03105	1.0	NIAMP5 Actual PE Update
Edenreagh Road(39-41)	S04094	1.3	NIAMP5 Actual PE Update
Edentirooory	S02132	-1.0	NIAMP5 Actual PE Update
Edergoole Road (87-89)	S04104	-2.9	NIAMP5 Actual PE Update
Ederney (WWTW)	S03106	-10.2	NIAMP5 Actual PE Update
Eglish (Armagh)	S02578	-62.2	Actual PE Update-RWwIP PE Review
Enniskillen	S03218	-1322.5	NIAMP5 Actual PE Update Trade updated
Eskragh	S03201	15.7	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Fallahogy	S01617	-4.7	NIAMP5 Actual PE Update
Farmacaffley	S02579	-0.8	NIAMP5 Actual PE Update
Farranflugh	S01420	0.2	NIAMP5 Actual PE Update
Faughan	S03109	-3.2	NIAMP5 Actual PE Update
Feeny	S03110	106.1	NIAMP5 Actual PE Update
Ferris Bay (50)	S04084	-1.2	Actual PE Update-RWwIP PE Review
Feumore (WWTW)	S02406	-8.1	NIAMP5 Actual PE Update
Fincarn	S03111	-17.2	NIAMP5 Actual PE Update
Fintona (WWTW)	S03112	50.3	Retain
Fivemiletown (WWTW)	S03113	-111.2	NIAMP5 Actual PE Update Trade updated
Florencecourt	S03114	5.8	NIAMP5 Actual PE Update
Foffanybane WTW (Septic Tank)	S02678	0.0	NIAMP5 Actual PE Update
Foreglen	S03019	36.9	NIAMP5 Actual PE Update
Foreglen Road (51-53)	S04097	-2.6	NIAMP5 Actual PE Update
Forkhill	S02270	-79.8	NIAMP5 Actual PE Update
Fourmile	S02699	-0.8	NIAMP5 Actual PE Update
Galbally	S02844	39.0	NIAMP5 Actual PE Update
Garryduff Church	S02024	-5.4	NIAMP5 Actual PE Update
Garvagh (WWTW)	S01154	783.9	NIAMP5 Actual PE Update
Garvaghy	S03116	41.4	NIAMP5 Actual PE Update
Garvetagh	S03117	-1.7	NIAMP5 Actual PE Update
Gilford (WWTW)	S02162	-275.0	NIAMP5 Actual PE Update Trade updated
Glarryford (WWTW)	S01441	0.8	NIAMP5 Actual PE Update
Glascar Road(28-30)	S02887	3.2	NIAMP5 Actual PE Update
Glasmullen (WWTW)	S01187	0.8	NIAMP5 Actual PE Update
Glassdrumman (Armagh)	S02271	19.9	NIAMP5 Actual PE Update
Glassdrumman (Down)	S00302	-81.7	NIAMP5 Actual PE Update
Glassdrummond	S00282	-1.1	NIAMP5 Actual PE Update
Glen Cottages (1-6)	S00835	1.7	NIAMP5 Actual PE Update
Glen View (Down)	S02700	3.9	NIAMP5 Actual PE Update
Glen Villas	S02723	0.0	Retained
Glenabbey (WWTW)	S03119	-21.0	NIAMP5 Actual PE Update
Glenagoorland	S03120	3.8	NIAMP5 Actual PE Update
Glenanne	S02259	1.0	NIAMP5 Actual PE Update
Glenavy (WWTW)	S04188	-524.3	NIAMP5 Actual PE Update
Glenavy Road (Antrim)	S00324	0.0	NIAMP5 Actual PE Update
Glenbush Road(31)	S01737	-6.0	NIAMP5 Actual PE Update
Glenedra Road (109-111)	S04116	0.2	NIAMP5 Actual PE Update
Glenhead Road	S02133	1.6	NIAMP5 Actual PE Update
Glenhordial WTW (Septic Tank)	S03504	0.0	NIAMP5 Actual PE Update
Glenleary Road(22)	S01733	-14.0	NIAMP5 Actual PE Update
Glenmakeeran	S01188	-4.7	NIAMP5 Actual PE Update
Glenmornan	S03121	-24.1	NIAMP5 Actual PE Update
Glenoe	S01462	-39.2	Actual PE updated following APT PE Review
Glenshesk Road(127)	S01724	-2.5	NIAMP5 Actual PE Update
Glenstaghey Road(11)	S01787	2.5	NIAMP5 Actual PE Update
Glenstall	S01109	-1354.4	NIAMP5 Actual PE Update. Transfer of flows to Ballybogy catchment. Ballybogy PE added. Septic tank imports added Trade updated
Gorran Road(84)	S01750	0.3	NIAMP5 Actual PE Update
Gortaclady (WWTW)	S01575	-15.1	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Gortatray	S01576	0.2	NIAMP5 Actual PE Update
Gortin (Tyrone)	S03124	-24.0	NIAMP5 Actual PE Update
Gortin Road(12)	S01720	0.6	NIAMP5 Actual PE Update
Gortnagallon Cottages(1-4)	S01777	-2.5	NIAMP5 Actual PE Update
Gortnagross Road (38-40)	S04114	0.2	NIAMP5 Actual PE Update
Gortnahey (WWTW)	S03126	33.8	NIAMP5 Actual PE Update
Gortnaskea Road(45-47)	S01807	0.1	NIAMP5 Actual PE Update
Gortscreagan	S03127	-10.8	NIAMP5 Actual PE Update
Gosheden (2)	S03129	-0.2	NIAMP5 Actual PE Update
Grange (Taylorstown)	S01442	-72.0	NIAMP5 Actual PE Update Trade updated
Grange Blundel	S02581	-0.3	NIAMP5 Actual PE Update
Grangemore	S02580	-6.9	NIAMP5 Actual PE Update
Gransha Park(25-27)	S03130	0.5	NIAMP5 Actual PE Update
Gransha Road(26-28)	S00829	-2.2	NIAMP5 Actual PE Update
Greenan	S02171	-2.2	NIAMP5 Actual PE Update
Greenans	S01189	1.2	NIAMP5 Actual PE Update
Greencastle (Tyrone)	S03132	-30.4	NIAMP5 Actual PE Update
Greenhill (WWTW)	S01155	-5.0	NIAMP5 Actual PE Update
Greenisland (WWTW)	S00263	161.7	Retained Trade updated
Greenville	S03133	-4.9	NIAMP5 Actual PE Update
Greyabbey (WWTW)	S00214	-60.5	NIAMP5 Actual PE Update
Greysteel (WWTW)	S03123	101.3	NIAMP5 Actual PE Update Trade updated
Grove Park	S01443	1.1	NIAMP5 Actual PE Update
Grove Road(21-23)	S04873	0.3	NIAMP5 Actual PE Update
Gulladuff (WWTW)	S01619	-255.1	NIAMP5 Actual PE Update
Hamiltonsbawn	S02603	-277.7	NIAMP5 Actual PE Update
Hazelbank	S02134	1.0	NIAMP5 Actual PE Update
Hillhead Road (Down)	S02135	0.3	NIAMP5 Actual PE Update
Hillhead Road(127-131)	S01808	-3.6	NIAMP5 Actual PE Update
Hillside Road(7-9)	S04145	0.5	NIAMP5 Actual PE Update
Hilltown (WWTW)	S02701	-423.6	NIAMP5 Actual PE Update Trade updated
Hollybank Road(10)	S01774	0.4	NIAMP5 Actual PE Update
Hollybank Road(54)	S01775	-0.1	
Horse Park (5-7)	S04086	-0.1	NIAMP5 Actual PE Update
Inishargy Road(10-12)	S00210	1.3	NIAMP5 Actual PE Update
Inishargy Road(2-8)	S00212	0.3	NIAMP5 Actual PE Update
Inishargy Road(36-48)	S00211	-3.3	NIAMP5 Actual PE Update
Inishmagh	S02845	-3.6	NIAMP5 Actual PE Update
Irvinestown	S03137	-987.4	NIAMP5 Actual PE Update Trade updated
Jennys Lane	S02408	1.8	NIAMP5 Actual PE Update
Jerrettspass (WWTW)	S02297	-0.2	NIAMP5 Actual PE Update
Jonesborough (WWTW)	S02272	-85.5	NIAMP5 Actual PE Update
Katesbridge	S02136	-2.5	NIAMP5 Actual PE Update
Katesbridge Road(79-85)	S02110	-2.9	NIAMP5 Actual PE Update
Keady (Armagh)	S02553	-558.9	NIAMP5 Actual PE Update Trade updated
Kearney(Retention Tank)	S00225	11.2	NIAMP5 Actual PE Update
Keenaghan (2)	S01579	5.8	NIAMP5 Actual PE Update
Kesh (WWTW)	S03140	200.4	NIAMP5 Actual PE Update
Kilbroney Park(1-4)	S02725	1.6	NIAMP5 Actual PE Update
Kilclean Road (80-82)	S04102	-3.9	NIAMP5 Actual PE Update
Kilcoo	S02704	-65.3	NIAMP5 Actual PE Update
Kilgarrett	S03141	1.4	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Kilkeel (WWTW)	S00313	1339.8	Retain Trade updated
Killaloo	S03142	-0.2	NIAMP5 Actual PE Update
Killaughey Road(252-254)	S00837	1.0	NIAMP5 Actual PE Update
Killeen (Armagh)	S02294	-1.7	NIAMP5 Actual PE Update
Killeen (Tyrone)	S02846	-39.0	NIAMP5 Actual PE Update
Killen	S03143	70.4	NIAMP5 Actual PE Update
Killeter (WWTW)	S03144	-28.3	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Killinchy (WWTW)	S00252	3426.2	NIAMP5 Actual PE Update Trade updated
Killinchy Road(96-100)	S04146	-3.1	NIAMP5 Actual PE Update
Killogue	S01112	-0.7	NIAMP5 Actual PE Update
Killough (Retention Tank)	S00275	228.1	NIAMP5 Actual PE Update
Killybaskey	S01581	-6.9	NIAMP5 Actual PE Update
Killycurry Road(30-32)	S04138	0.3	NIAMP5 Actual PE Update
Killygonlan (WWTW)	S02043	159.8	NIAMP5 Actual PE Update Trade updated
Killygore	S01444	-2.0	NIAMP5 Actual PE Update
Killylane (WWTW)	S03147	16.2	NIAMP5 Actual PE Update
Killylane WTW(Septic Tank)	S01317	0.1	NIAMP5 Actual PE Update
Killyleagh (WWTW)	S00273	504.2	NIAMP5 Actual PE Update
Killyneese Road(14-16)	S01809	-0.3	NIAMP5 Actual PE Update
Killyrammer	S01113	32.3	Actual PE updated following APT PE Review
Killysavan	S02137	4.7	NIAMP5 Actual PE Update
Kilmachugh	S02583	5.4	NIAMP5 Actual PE Update
Kilmood	S00255	-25.4	NIAMP5 Actual PE Update
Kilmore (Armagh)	S02584	-87.0	NIAMP5 Actual PE Update
Kilrea	S01156	48.8	NIAMP5 Actual PE Update Trade updated
Kilross	S01622	-10.9	NIAMP5 Actual PE Update
Kilskeery	S03148	-24.8	NIAMP5 Actual PE Update
Kiltubbrid (WWTW)	S02588	-0.9	NIAMP5 Actual PE Update
Kinallen (WWTW)	S03981	-139.8	NIAMP5 Actual PE Update
Kinawley	S03149	26.6	NIAMP5 Actual PE Update
Kinego Cottages	S02856	0.6	NIAMP5 Actual PE Update
Kinneyglass Road(87-89)	S01751	0.3	NIAMP5 Actual PE Update
Kircubbin (WWTW)	S04881	-356.5	NIAMP5 Actual PE Update
Knock Terrace	S02139	3.2	NIAMP5 Actual PE Update
Knockanroe	S01585	0.2	NIAMP5 Actual PE Update
Knockans (WWTW)	S01114	0.3	NIAMP5 Actual PE Update
Knockbrack	S03151	1.9	NIAMP5 Actual PE Update
Knockloughrim	S01623	-15.4	NIAMP5 Actual PE Update
Knockmoyle	S03152	-119.8	Actual PE updated following APT PE Review
Knocknarea Road	S02432	-0.3	NIAMP5 Actual PE Update
Knocknatavanna	S01190	-9.4	NIAMP5 Actual PE Update
Lack	S03154	20.8	NIAMP5 Actual PE Update
Largy (WWTW)	S03155	-7.4	NIAMP5 Actual PE Update
Largy Cottages(1)	S01776	11.2	NIAMP5 Actual PE Update
Larne (WWTW)	S02044	-1714.4	NIAMP5 Actual PE Update Trade updated
Laurelvale Road	S02140	0.9	NIAMP5 Actual PE Update
Lawrencetown	S02142	21.4	NIAMP5 Actual PE Update
Leeke Road	S04092	5.4	NIAMP5 Actual PE Update
Legacurry (Down)	S00321	1.6	NIAMP5 Actual PE Update
Legaghory	S03157	1.6	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Legatirriff	S02430	-1.5	NIAMP5 Actual PE Update
Legcloghfin Road Cranagh	S05369	-35.6	NIAMP5 Actual PE Update
Leitrim (New)	S02705	-52.7	NIAMP5 Actual PE Update
Letterbin (WWTW)	S03158	-1.4	NIAMP5 Actual PE Update
Letterbreen	S05186	7.7	NIAMP5 Actual PE Update
Letterkeen	S03161	-1.1	NIAMP5 Actual PE Update
Limavady (WWTW)	S03162	-308.6	NIAMP5 Actual PE Update Trade updated
Limestone (1)	S03164	-3.5	NIAMP5 Actual PE Update
Limestone (2)	S03163	-0.5	NIAMP5 Actual PE Update
Lisbane Road(38-40)	S00839	0.7	NIAMP5 Actual PE Update
Lisbarnet Road (47-53)	S00245	2.4	NIAMP5 Actual PE Update
Lisbellaw (WWTW)	S03165	-70.2	NIAMP5 Actual PE Update
Lisburn (New Holland)	S00329	-3135.1	NIAMP5 Actual PE Update Septic tank imports added
Liscolman	S01191	-5.0	NIAMP5 Actual PE Update
Lisdoart (1)	S03166	-15.3	NIAMP5 Actual PE Update
Lisdoart (2)	S03167	1.3	NIAMP5 Actual PE Update
Lisdown	S02585	1.1	NIAMP5 Actual PE Update
Lislea (NEW)	S03980	-1.1	NIAMP5 Actual PE Update
Lismoyle	S01625	-6.9	NIAMP5 Actual PE Update
Lisnadill (WWTW)	S02586	-17.1	NIAMP5 Actual PE Update
Lisnagade Road(54-56)	S02161	-6.1	NIAMP5 Actual PE Update
Lisnagalt	S01157	0.5	NIAMP5 Actual PE Update
Lisnagat Road(34)	S01738	-9.1	NIAMP5 Actual PE Update
Lisnagat Road(64)	S01745	-6.1	NIAMP5 Actual PE Update
Lisnagunogue	S01192	-10.6	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnahall	S01587	-5.7	NIAMP5 Actual PE Update
Lisnakilly	S03168	-9.0	Actual PE Update-RWwIP PE Review
Lisnalea	S02274	4.2	NIAMP5 Actual PE Update
Lisnamuck (Coleraine)	S01158	2.3	Actual PE Update-RWwIP PE Review
Lisnamuck (Magherafelt)	S01626	-1.2	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnaragh	S03169	1.2	NIAMP5 Actual PE Update
Lisnarrick	S03170	-7.6	NIAMP5 Actual PE Update
Lisnaskea (WWTW)	S03171	316.6	NIAMP5 Actual PE Update Trade updated
Lisnevanagh	S01421	-10.1	NIAMP5 Actual PE Update
Lisnisk	S01159	1.2	NIAMP5 Actual PE Update
Lisowan	S00287	-2.4	NIAMP5 Actual PE Update
Locard Park	S02144	6.0	NIAMP5 Actual PE Update
Longfield (Eglinton)	S03173	-5.4	NIAMP5 Actual PE Update Trade updated
Longfield (Moorside Villas)	S01627	-6.2	NIAMP5 Actual PE Update
Longs Glebe	S01160	-25.4	NIAMP5 Actual PE Update
Lough Bradan WTW (Septic Tank)	S03507	-2.8	NIAMP5 Actual PE Update
Lough Fea (WwTW)	S04087	-5.6	NIAMP5 Actual PE Update
Lough Macrory (WWTW)	S03174	7.7	NIAMP5 Actual PE Update
Lough Macrory WTW (Septic Tank)	S03509	0.0	NIAMP5 Actual PE Update
Lough Road(29-31)	S04139	0.3	NIAMP5 Actual PE Update
Loughan Road (Tyrone)	S03175	-1.5	NIAMP5 Actual PE Update
Loughgall (WWTW)	S02604	52.2	NIAMP5 Actual PE Update
Loughguile	S01115	-24.5	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Loughinisland (WWTW)	S00298	23.4	NIAMP5 Actual PE Update
Lower Ballinderry	S02410	58.8	NIAMP5 Actual PE Update
Lower Grange Road(20-26)	S01811	1.4	NIAMP5 Actual PE Update
Lower Rashee Road (15-21)	S05188	2.0	
Luney	S01628	-0.5	
Lurganare	S02298	-16.9	NIAMP5 Actual PE Update
Lurgancahone Road(35-39)	S02707	-0.3	NIAMP5 Actual PE Update
Lurgancahone Road(57-59)	S02708	-3.3	NIAMP5 Actual PE Update
Lurganville	S02411	20.4	NIAMP5 Actual PE Update
Macfin	S01116	-2.5	NIAMP5 Actual PE Update
Macosquin	S01161	-30.6	NIAMP5 Actual PE Update
Madden (WWTW)	S02587	-4.2	NIAMP5 Actual PE Update
Maghera (Down)	S00305	-17.8	NIAMP5 Actual PE Update
Maghera (L/Derry)	S01629	106.5	NIAMP5 Actual PE Update Trade updated
Magheracoltan	S03176	2.5	NIAMP5 Actual PE Update
Magherafelt (WWTW)	S01621	-1394.4	NIAMP5 Actual PE Update Trade updated
Magherafelt Road(24-28)	S01788	0.5	NIAMP5 Actual PE Update
Magherahoney	S01117	-2.0	NIAMP5 Actual PE Update
Magheramason	S03177	-62.7	NIAMP5 Actual PE Update
Magheramore Road(89)	S01753	1.5	NIAMP5 Actual PE Update
Magheramourne (WWTW)	S01464	-4.9	NIAMP5 Actual PE Update
Magheraveely	S03178	-0.6	NIAMP5 Actual PE Update
Magheraville	S02589	-5.9	NIAMP5 Actual PE Update
Maghery (WWTW)	S02414	87.4	NIAMP5 Actual PE Update
Maglion Terrace	S02147	2.3	NIAMP5 Actual PE Update
Main Road Cloughy (103-111)	S00223	1.9	NIAMP5 Actual PE Update
Manse Road (Antrim)	S01710	0.2	NIAMP5 Actual PE Update
Manse Road (Down)	S02148	-2.3	NIAMP5 Actual PE Update
Marlacoo Road	S02149	-3.0	NIAMP5 Actual PE Update
Martinstown	S01445	59.3	NIAMP5 Actual PE Update
Mayboy	S01163	32.4	NIAMP5 Actual PE Update
Mayoghill (WWTW)	S01164	0.6	NIAMP5 Actual PE Update
Maytown Road	S02275	-0.2	NIAMP5 Actual PE Update
McCandless Terrace	S02150	-1.2	NIAMP5 Actual PE Update
McCleary	S01165	0.6	
McKinley Park	S02276	-9.3	NIAMP5 Actual PE Update
Meigh (WWTW)	S02277	-58.9	NIAMP5 Actual PE Update
Middle Braniel Road(80-90)	S00857	6.0	NIAMP5 Actual PE Update
Middletown (WWTW)	S02592	32.3	NIAMP5 Actual PE Update
Milltown (Aghory)	S02593	-12.8	NIAMP5 Actual PE Update
Milltown (Burndennet)	S03184	-2.3	NIAMP5 Actual PE Update
Milltown (Maghera)	S01630	-32.8	NIAMP5 Actual PE Update
Milltown (Maghery)	S02416	14.5	NIAMP5 Actual PE Update
Milltown(Artigarvan)	S03183	1.1	NIAMP5 Actual PE Update
Minterburn Road(115-117)	S04134	0.1	NIAMP5 Actual PE Update
Moira	S02429	-1158.6	NIAMP5 Actual PE Update
Molenan	S03185	0.8	NIAMP5 Actual PE Update
Monea (WWTW)	S03186	-43.9	NIAMP5 Actual PE Update
Moneybrannon Road(89)	S01754	0.7	NIAMP5 Actual PE Update
Moneycanon	S03188	0.0	NIAMP5 Actual PE Update
Moneycarrie (WWTW)	S01166	-1.8	NIAMP5 Actual PE Update
Moneydig	S01167	-27.9	NIAMP5 Actual PE Update
Moneyglass	S01423	-15.6	NIAMP5 Actual PE Update
Moneymore (WWTW)	S01589	-210.6	NIAMP5 Actual PE Update Trade updated
Moneyneany (WWTW)	S01631	-19.9	NIAMP5 Actual PE Update
Moneynick Road(118)	S01757	-3.9	

Name of Works	CAR ID	PE Change	Comments
Moneynick Road(94)	S01761	2.5	NIAMP5 Actual PE Update
Moneyreagh (WWTW)	S00337	5.8	NIAMP5 Actual PE Update Design PE updated Trade updated
Moneyreagh Road (51-55)	S00338	1.2	NIAMP5 Actual PE Update
Moneyreagh Road(139-141)	S00852	0.6	NIAMP5 Actual PE Update
Moneyscalp	S02710	-0.7	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Moneyslane (WWTW)	S02151	30.9	NIAMP5 Actual PE Update
Monmurry	S03189	-1.6	NIAMP5 Actual PE Update
Moorfields	S01446	1.8	NIAMP5 Actual PE Update
Moss Road(76-78)	S00244	-55.6	NIAMP5 Actual PE Update
Moss-side (WWTW)	S01194	27.8	NIAMP5 Actual PE Update
Mossvale Terrace	S02153	-13.9	NIAMP5 Actual PE Update
Mount Ida	S02154	1.1	NIAMP5 Actual PE Update
Mountain View (Drumintee)	S02278	-45.0	NIAMP5 Actual PE Update
Mountain View (Tullymurry)	S02712	-1.2	NIAMP5 Actual PE Update
Mounthill	S01465	0.0	Retained
Mountjoy (Dungannon)	S02849	50.2	NIAMP5 Actual PE Update Trade updated
Mountjoy (Omagh)	S03193	8.0	Actual PE updated following APT PE Review
Mountnorris	S02248	-95.5	NIAMP5 Actual PE Update Trade updated
Movenis Road(17)	S01728	0.6	NIAMP5 Actual PE Update
Movilla Road(136-140)	S00232	1.4	NIAMP5 Actual PE Update
Moy (WWTW)	S02859	-830.1	NIAMP5 Actual PE Update Trade updated
Moyagall Road(115-117)	S01799	-0.1	NIAMP5 Actual PE Update
Moyarget Road(178)	S01729	1.0	NIAMP5 Actual PE Update
Mulderg (WWTW)	S03194	2.9	NIAMP5 Actual PE Update
Mullaghbane (Armagh)	S02594	-3.3	NIAMP5 Actual PE Update
Mullaghboy	S00259	-47.3	NIAMP5 Actual PE Update
Mullaghboy Road(136-138)	S01812	-0.3	NIAMP5 Actual PE Update
Mullaghglass (Antrim)	S00325	-13.9	NIAMP5 Actual PE Update
Mullaghglass (Newry)	S02280	-20.6	NIAMP5 Actual PE Update
Mullaghmore	S02281	17.2	NIAMP5 Actual PE Update
Mullahead Road (WWTW)	S02418	1.5	NIAMP5 Actual PE Update
Mullan Road(35)	S01739	0.3	NIAMP5 Actual PE Update
Mullans (Antrim)	S01118	-39.7	NIAMP5 Actual PE Update
Mullans (Fermanagh)	S03196	-4.5	NIAMP5 Actual PE Update
Mullyroddan	S02851	-3.3	NIAMP5 Actual PE Update
Munie (WWTW)	S01466	-5.3	NIAMP5 Actual PE Update
Murdocks Lane(1-6)	S00850	1.2	NIAMP5 Actual PE Update
Myroe (WWTW)	S03198	6.5	NIAMP5 Actual PE Update
Navery Road	S01119	-2.4	NIAMP5 Actual PE Update
New Road(37-39)	S00830	3.5	NIAMP5 Actual PE Update
Newcastle (WWTW)	S00303	-1053.5	NIAMP5 Actual PE Update Trade updated
Newcastle Road(18-20)	S00841	-4.6	NIAMP5 Actual PE Update
Newmills (WWTW)	S02852	-97.4	NIAMP5 Actual PE Update
Newmills Road(70-72)	S01128	0.5	NIAMP5 Actual PE Update
Newry (WWTW)	S02685	-1339.0	NIAMP5 Actual PE Update Trade updated
Newry Road Rathfriland (80-83)	S02726	-3.3	NIAMP5 Actual PE Update
Newtownbreda (WWTW)	S00342	-2189.3	NIAMP5 Actual PE Update Trade updated
Newtownbutler (WWTW)	S03200	-207.9	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR ID	PE Change	Comments
Newtown-Crommelin	S01447	-33.9	NIAMP5 Actual PE Update
Newtownhamilton	S02282	-190.1	NIAMP5 Actual PE Update
Newtownstewart (WWTW)	S03202	-338.6	NIAMP5 Actual PE Update
Nixons Corner (WWTW)	S03203	29.0	NIAMP5 Actual PE Update
Noones Vale	S01632	-5.7	NIAMP5 Actual PE Update
North Coast (WWTWs)	S04150	-4908.2	NIAMP5 Actual PE Update Trade updated
Old Green	S01448	75.5	NIAMP5 Actual PE Update
Old Holywood Road(190-196)	S00340	2.9	NIAMP5 Actual PE Update
Oldstone Terrace(8)	S01779	0.9	NIAMP5 Actual PE Update
Oliver Plunkett Park	S02284	-13.0	NIAMP5 Actual PE Update
Omagh (WWTW)	S03999	1053.4	NIAMP5 Actual PE Update Trade updated
Orahilly Park	S02283	-20.0	NIAMP5 Actual PE Update
Orritor (WWTW)	S01591	0.4	NIAMP5 Actual PE Update
Orritor Craigs	S01592	-3.1	NIAMP5 Actual PE Update
Orritor Road(182)	S02017	2.1	
Owenbeg (WWTW)	S03206	0.8	NIAMP5 Actual PE Update
Park (WWTW)	S03207	28.1	NIAMP5 Actual PE Update
Parsonage Road(110-120)	S00831	2.2	NIAMP5 Actual PE Update
Plumbridge (WWTW)	S03210	-2.1	NIAMP5 Actual PE Update
Point Road(29-33)	S01813	5.5	NIAMP5 Actual PE Update
Pomeroy (WWTW)	S01593	-260.9	Actual PE updated following APT PE Review Trade updated
Pomeroy Road	S02901	1.9	NIAMP5 Actual PE Update
Pomeroy Road(47-49)	S01814	-0.2	NIAMP5 Actual PE Update
Portadown Road (Tandragee)	S02175	4.4	NIAMP5 Actual PE Update
Portaferry (2)	S05200	126.7	NIAMP5 Actual PE Update Trade updated
Portaferry Road(96-100)	S00231	4.0	NIAMP5 Actual PE Update
Portglenone (WWTW)	S01449	-254.7	NIAMP5 Actual PE Update
Poyntzspass (WWTW)	S02156	-140.1	NIAMP5 Actual PE Update
Priestland	S01169	-41.9	NIAMP5 Actual PE Update
Priestland Road (51-53)	S04096	-0.2	NIAMP5 Actual PE Update
Procklis	S01450	0.1	NIAMP5 Actual PE Update
Quarter Road	S00222	1.1	NIAMP5 Actual PE Update
Racavan	S01451	0.3	Actual PE Update-RWwIP PE Review
Railway view(3)	S01785	-12.3	NIAMP5 Actual PE Update
Rasharkin	S01120	-189.5	NIAMP5 Actual PE Update
Rathfriland (WWTW)	S02713	37.8	NIAMP5 Actual PE Update Trade updated
Rathlin Island (New) WWTW	S05624	-92.9	Actual PE updated following APT PE Review
Ravara Road (9-19)	S00242	1.7	NIAMP5 Actual PE Update
Ravarnet	S00319	-8.0	NIAMP5 Actual PE Update
Redford	S02853	-33.9	NIAMP5 Actual PE Update
Rehaghy Road(64-66)	S04144	0.2	NIAMP5 Actual PE Update
Rickamore Road(36-38)	S01780	-1.5	NIAMP5 Actual PE Update
Ringneill (WWTW)	S00237	-69.6	NIAMP5 Actual PE Update
Ringneill Road(1-5)	S00240	1.1	NIAMP5 Actual PE Update
Ringsend	S01170	2.7	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ringsend Road	S02158	-2.6	NIAMP5 Actual PE Update
Ritchies Villas	S01634	-3.5	NIAMP5 Actual PE Update
Robinsonstown	S02419	0.1	Actual PE Update following an ALP PE review and on-site check

Name of Works	CAR ID	PE Change	Comments
Rock Cottages	S02172	-0.4	NIAMP5 Actual PE Update
Rornashane	S01121	0.5	NIAMP5 Actual PE Update
Rosevale Road	S02176	1.8	NIAMP5 Actual PE Update
Rosscolban	S03211	0.0	Retained
Rosscor	S03212	-2.8	NIAMP5 Actual PE Update
Rosslea (WWTW)	S03213	121.9	NIAMP5 Actual PE Update
Roughfort (WWTW)	S01470	10.6	NIAMP5 Actual PE Update Trade updated
Rousky	S03214	-7.7	NIAMP5 Actual PE Update
Saintfield (WWTW)	S00290	-328.9	NIAMP5 Actual PE Update
Scotstown Road (7-9)	S04117	3.1	NIAMP5 Actual PE Update
Scribbagh (WWTW)	S03216	-2.2	NIAMP5 Actual PE Update
Seacon	S01122	-6.6	NIAMP5 Actual PE Update
Seagahan	S02530	-7.9	NIAMP5 Actual PE Update
Seahill (WWTW)	S00774	22.1	Retained Trade updated
Sentry Box Road (20-22)	S02165	3.4	NIAMP5 Actual PE Update
Seskinore	S03217	-99.6	NIAMP5 Actual PE Update
Seven Mile Straight(177)	S01781	-0.2	NIAMP5 Actual PE Update
Seven Mile Straight(78)	S02018	0.2	NIAMP5 Actual PE Update
Seven Mile Straight(82)	S02019	0.2	NIAMP5 Actual PE Update
Seven Mile Straight(86)	S02020	0.2	NIAMP5 Actual PE Update
Shaneoguestown Road(38)	S01782	-3.8	NIAMP5 Actual PE Update
Sherrigrim	S01596	2.1	
Shinn Road	S02716	-0.6	NIAMP5 Actual PE Update
Shinny Road(20-22)	S01125	0.3	NIAMP5 Actual PE Update
Shore Road (Castle View)	S01797	-0.2	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 1)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 2)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 3)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 4)	S00174	-3.8	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 5)	S00174	-3.8	NIAMP5 Actual PE Update
Silverbridge	S02285	13.0	NIAMP5 Actual PE Update
Sion Mills	S03219	60.6	NIAMP5 Actual PE Update
Skernahergney	S01597	-0.4	NIAMP5 Actual PE Update
Skerry View	S01452	-0.8	NIAMP5 Actual PE Update
Slaght	S01453	-9.3	NIAMP5 Actual PE Update
Soldierstown	S02431	0.9	NIAMP5 Actual PE Update
Spamount	S03221	4.4	NIAMP5 Actual PE Update
Spelga Dam ST	S02676	1.0	NIAMP5 Actual PE Update
Springfield	S03222	-28.8	NIAMP5 Actual PE Update
Springhill Road(1)	S01713	1.8	NIAMP5 Actual PE Update
Springwell Cresent(1-6)	S04135	2.2	NIAMP5 Actual PE Update
St Bridgids Villas	S02286	-3.0	NIAMP5 Actual PE Update
St James	S00322	11.9	Actual PE Update-RWwIP PE Review
St Johns Terrace (Kilcoo)	S02717	-0.6	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade Change in treament category from prim to sec bio
St Marys Terrace	S02718	0.2	NIAMP5 Actual PE Update
St Patricks Villas	S02719	2.1	NIAMP5 Actual PE Update
Staffordstown Road	S01426	0.4	NIAMP5 Actual PE Update
Station Road(155-157)	S00854	0.6	NIAMP5 Actual PE Update
Stewartstown	S01599	36.1	NIAMP5 Actual PE Update
Stoneyford Beeches One WwTW	S05705	2.1	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Strabane	S03223	1269.5	Retained Septic tank imports added Trade updated
Stradreagh (Septic Tank)	S03131	0.9	NIAMP5 Actual PE Update
Straid (Ballymena)	S01455	-17.5	NIAMP5 Actual PE Update
Straid Road(111)	S01719	-8.0	NIAMP5 Actual PE Update
Straid Road(12)	S01721	-1.5	NIAMP5 Actual PE Update
Stranagard	S01815	0.2	NIAMP5 Actual PE Update
Strangford	S00226	16.1	NIAMP5 Actual PE Update
Stranocum	S01123	-68.8	NIAMP5 Actual PE Update
Swatragh (WWTW)	S01637	-23.3	NIAMP5 Actual PE Update Trade updated
Tamlaght (WWTW)	S03224	-50.2	NIAMP5 Actual PE Update
Tamlaght O Crilly	S01638	-30.8	NIAMP5 Actual PE Update
Tamnaherin	S03226	33.6	NIAMP5 Actual PE Update
Tamnamore (WWTW)	S02862	-321.1	NIAMP5 Actual PE Update Trade updated
Tandragee	S02174	1601.9	NIAMP5 Actual PE Update Trade updated
Tartaraghan	S02421	-12.8	NIAMP5 Actual PE Update
Tattysallagh	S03227	-8.8	NIAMP5 Actual PE Update
Teeraw	S02598	-4.0	NIAMP5 Actual PE Update
Tempo (WWTW)	S03229	-108.0	NIAMP5 Actual PE Update
The Demesne	S00289	0.8	NIAMP5 Actual PE Update
The Loup (WWTW)	S01588	-19.0	NIAMP5 Actual PE Update
The Oyster Yard WWTW	S05533	5.7	Actual PE updated following APT PE Review
The Rock	S01594	-13.5	NIAMP5 Actual PE Update
The Skeagh	S02163	3.6	NIAMP5 Actual PE Update
Thorney Glen	S00284	12.4	NIAMP5 Actual PE Update
Tibaran Cottages	S04127	1.4	NIAMP5 Actual PE Update
Tirquin	S03230	4.0	Actual PE Update-RWwIP PE Review
Toberkeagh	S01195	0.9	NIAMP5 Actual PE Update
Tobermore (WWTW)	S01640	-21.6	NIAMP5 Actual PE Update
Tobermore Road(144-146)	S01817	0.2	NIAMP5 Actual PE Update
Torr Head	S01196	-10.2	NIAMP5 Actual PE Update
Trench Road (66-70)	S04118	-0.2	NIAMP5 Actual PE Update
Trillick (WWTW)	S03231	-20.0	NIAMP5 Actual PE Update
Tromra	S01197	-2.6	NIAMP5 Actual PE Update
Tubber Road (10-16)	S00207	1.5	NIAMP5 Actual PE Update
Tullaghmore Road(41-43)	S01818	0.1	NIAMP5 Actual PE Update
Tully (WWTW)	S03232	-17.2	NIAMP5 Actual PE Update
Tully Road Headworks	S03975	-320.7	NIAMP5 Actual PE Update
Tullyard(Tyrone)	S03233	0.5	NIAMP5 Actual PE Update
Tullyelmer (WWTW)	S02599	-4.7	NIAMP5 Actual PE Update
Tullygrawley	S01457	-4.5	NIAMP5 Actual PE Update
Tullyhubbert Road(75-81)	S00258	1.1	NIAMP5 Actual PE Update
Tullyleek	S02855	-0.2	NIAMP5 Actual PE Update
Tullymore Road (43-45)	S04119	-6.5	NIAMP5 Actual PE Update
Tullynakill Road	S05280	-18.8	NIAMP5 Actual PE Update
Tullyreavy	S01600	-0.7	
Tullyroan	S02600	-1.1	NIAMP5 Actual PE Update Trade updated
Tulnacross Road(44-46)	S01820	-0.2	NIAMP5 Actual PE Update
Tummery	S03234	-13.5	NIAMP5 Actual PE Update
Tureagh	S01198	-0.4	NIAMP5 Actual PE Update
Turraloskin	S01199	2.9	NIAMP5 Actual PE Update
Tursallagh	S03235	-1.1	

Name of Works	CAR ID	PE Change	Comments
Upper Ballinderry	S02422	-0.2	NIAMP5 Actual PE Update
Upper Ballygelagh Road(12-18)	S00845	-6.4	NIAMP5 Actual PE Update
Upper Cranlome Road	S02893	0.1	NIAMP5 Actual PE Update
Upper Malone Road	S04026	-25.5	NIAMP5 Actual PE Update
Upperlands (WWTW)	S01642	-84.4	NIAMP5 Actual PE Update
Victoria Bridge (WWTW)	S03236	-36.6	NIAMP5 Actual PE Update
Victoria Road (277-279)	S04111	-5.2	NIAMP5 Actual PE Update
Waringstown	S02423	312.7	NIAMP5 Actual PE Update
Warrenpoint (WWTW)	S02720	102.5	SWELL - Retained Design PE updated Trade updated
Waterfoot Road (WWTW)	S01643	-22.6	NIAMP5 Actual PE Update
When Road (21-23)	S04122	0.3	NIAMP5 Actual PE Update
Whitechurch Road (45-53)	S00213	3.3	NIAMP5 Actual PE Update
Whitegate Road	S02167	-1.8	NIAMP5 Actual PE Update
Whitehouse	S00265	-211.6	Retained Trade updated
Whitelough Road(29-31)	S04137	0.2	NIAMP5 Actual PE Update
Whitepark Road(211)	S01732	1.2	NIAMP5 Actual PE Update
Whitepark Road(56)	S01741	2.0	NIAMP5 Actual PE Update
Whitepark Road(71)	S01746	1.0	NIAMP5 Actual PE Update
Windmill Road(24-32)	S00235	2.4	NIAMP5 Actual PE Update
Windmill Road(71-73)	S04159	3.5	NIAMP5 Actual PE Update
Woaghternerry	S03239	-3.8	NIAMP5 Actual PE Update
Woodburn/Dorisland WTW (Septic Tank)	S00011	0.3	NIAMP5 Actual PE Update
Ballintoy New WwTW	S05672	-28.8	NIAMP5 Actual PE Update
	Total	**-99412.3**	**Change in Line 5 PE since AIR20**

The change in PE equates to an increase in load of 2,177.1t BOD/yr (i.e. 99,412.3 x 60 (for 60g/hd/day) /1000/1000 x 365) from AIR20 to AIR21, allowing for rounding up and down and conversions.

Difference between AIR21 and AIR20:

Line 5 for AIR21 -	**44,817.3**
Line 5 for AIR20 -	**42,640.2**
Total Difference -	**2,177.1**

Note – The difference in the above totals are due to rounding of values.

Line 6 - Equivalent population served (resident)

The table below shows the changes in WWTWs since AIR21 that affects equivalent population served (resident) for Line 6.

Name of Works	CAR ID	PE Change	Comments
3 Sisters	S04027	3.90	NIAMP5 Actual PE Update
Abbacy Road	S03947	2.44	NIAMP5 Actual PE Update
Acton	S02111	-10.09	NIAMP5 Actual PE Update
Aghadrumsee	S02988	-6.98	NIAMP5 Actual PE Update
Aghagallon	S02393	-129.00	NIAMP5 Actual PE Update
Aghalee	S02394	-113.36	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Aghanloo (1)	S02989	-28.08	NIAMP5 Actual PE Update Trade updated
Aghnaskew	S02990	0.64	NIAMP5 Actual PE Update
Aghory	S02547	1.40	NIAMP5 Actual PE Update
Agivey Road(199-201)	S01755	-2.49	NIAMP5 Actual PE Update
Aikens Town parks	S01602	-2.23	NIAMP5 Actual PE Update
Altamuskin (WWTW)	S03998	-6.80	NIAMP5 Actual PE Update
Altishane	S02993	-2.25	NIAMP5 Actual PE Update
Altnahinch WTW (Septic Tank)	S00930	3.00	Retained
Altnamackan	S02247	-1.89	NIAMP5 Actual PE Update
Annacloy (WWTW)	S00292	-2.25	NIAMP5 Actual PE Update
Annaghhugh (WWTW)	S02602	-30.08	NIAMP5 Actual PE Update
Annaghmore (WWTW)	S02556	-62.52	NIAMP5 Actual PE Update
Annaghquinn Road(49)	S01718	-9.47	NIAMP5 Actual PE Update
Annahilt (WWTW)	S00317	-47.00	NIAMP5 Actual PE Update
Annalong (WWTW)	S00300	77.88	NIAMP5 Actual PE Update Trade updated
Annsborough	S02687	58.91	NIAMP5 Actual PE Update Trade updated
Antrim (WWTW)	S01422	-905.87	NIAMP5 Actual PE Update Trade updated
Anville Crescent	S02391	0.95	NIAMP5 Actual PE Update
Ardess	S02995	16.98	NIAMP5 Actual PE Update
Ardgarvan (WWTW)	S02987	-7.04	NIAMP5 Actual PE Update
Ardglass (WWTW)	S00268	494.54	NIAMP5 Actual PE Update Trade updated
Ardground	S02996	-6.00	NIAMP5 Actual PE Update
Ardlough Road (40-42)	S04095	-2.22	NIAMP5 Actual PE Update
Ardress (WWTW)	S02557	-42.92	NIAMP5 Actual PE Update
Ardstraw (WWTW)	S02997	20.72	NIAMP5 Actual PE Update
Armagh Road(144-146)	S02249	0.09	NIAMP5 Actual PE Update
Armagh Road(189-193)	S02251	0.13	NIAMP5 Actual PE Update
Armagh Road(202-206)	S02250	0.13	NIAMP5 Actual PE Update
Armoy (WWTW)	S01172	-34.04	NIAMP5 Actual PE Update
Arney (WWTW)	S02999	-15.07	NIAMP5 Actual PE Update
Artigarvan Lower	S03001	2.16	NIAMP5 Actual PE Update
Arvalee	S03003	-18.00	NIAMP5 Actual PE Update
Ashfield (Dromore)	S02112	4.74	NIAMP5 Actual PE Update
Attical (WWTW)	S02688	-0.04	Retained
Aughagash	S01458	-5.20	NIAMP5 Actual PE Update
Aughakillymaud	S03004	2.00	NIAMP5 Actual PE Update
Aughanduff	S02262	-3.00	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Augher (WWTW)	S03005	-89.84	Actual PE based on on-site check Design PE Updated following reverse engineering exercise.
Aughnacleagh	S01428	3.16	NIAMP5 Actual PE Update
Aughnacloy	S03007	-307.53	NIAMP5 Actual PE Update
Aughnavallog	S02114	3.19	NIAMP5 Actual PE Update
Backlower Road(111-115)	S01791	-0.27	NIAMP5 Actual PE Update
Badoney	S03008	0.37	NIAMP5 Actual PE Update
Ballee Road	S03009	1.01	NIAMP5 Actual PE Update
Ballee Road (75-83)	S04091	-1.19	NIAMP5 Actual PE Update
Balleevy	S02122	1.00	NIAMP5 Actual PE Update
Ballinderry Road (45-49) Antrim	S04877	-0.15	NIAMP5 Actual PE Update
Ballinlea Road(81)	S01748	1.47	NIAMP5 Actual PE Update
Ballinmallard (WWTW)	S03010	164.60	NIAMP5 Actual PE Update
Ballinrees WTW(Septic Tank)	S00931	3.00	Retained
Ballinteer	S01131	2.56	NIAMP5 Actual PE Update
Ballintemple WTW (Septic Tank)	S02243	-3.00	Retained
Ballsmill	S02258	-26.75	NIAMP5 Actual PE Update
Ballyagan	S01132	2.32	NIAMP5 Actual PE Update
Ballyalton Rd (20-22)	S00849	1.34	NIAMP5 Actual PE Update
Ballyardel	S02727	0.16	NIAMP5 Actual PE Update
Ballybarnes Road (80-82)	S00776	-1.66	NIAMP5 Actual PE Update
Ballybentragh(66-72)	S01760	-4.00	NIAMP5 Actual PE Update
Ballybogy	S01087	577.00	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballycairn (Down)	S00336	-4.14	Actual PE Update-RWwIP PE Review
Ballycassidy (WWTW)	S03012	-67.12	NIAMP5 Actual PE Update
Ballyclare	S01467	-3647.99	NIAMP5 Actual PE Update Trade updated
Ballycleagh	S01175	3.26	NIAMP5 Actual PE Update
Ballycorr Grove	S01468	-5.45	NIAMP5 Actual PE Update
Ballycoshone	S02689	-0.20	NIAMP5 Actual PE Update
Ballycranbeg	S00218	-76.16	NIAMP5 Actual PE Update Design PE updated
Ballycreelly Road (38-40)	S00333	-1.60	NIAMP5 Actual PE Update
Ballycrochan Road	S00833	0.17	NIAMP5 Actual PE Update
Ballydonaghy Cottages (1-4)	S01763	-0.20	NIAMP5 Actual PE Update
Ballydrain Road (39-43)	S00238	4.77	NIAMP5 Actual PE Update
Ballyeastborough Road (15-17)	S00221	-4.24	NIAMP5 Actual PE Update
Ballyfrench Road(1-3)	S00220	0.88	NIAMP5 Actual PE Update
Ballygalget Road(1)	S00840	0.70	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Ballygarvigan	S00228	4.90	NIAMP5 Actual PE Update
Ballygawley (WWTW)	S03013	-299.82	NIAMP5 Actual PE Update
Ballygowan	S00247	-25.06	NIAMP5 Actual PE Update Trade updated
Ballygowan Road (140-142) Banbridge	S02890	0.38	NIAMP5 Actual PE Update
Ballygowan Road(102-104)	S00251	0.33	NIAMP5 Actual PE Update
Ballygowan Road(41-47)	S00243	-1.60	NIAMP5 Actual PE Update
Ballygruby	S01557	-1.24	NIAMP5 Actual PE Update
Ballyhalbert Victoria	S05412	-65.94	NIAMP5 Actual PE Update
Ballyheather Road (121-123)	S04112	3.15	NIAMP5 Actual PE Update
Ballyhome (WWTW)	S01134	-34.20	NIAMP5 Actual PE Update
Ballyhornan Outfall	S04090	221.34	NIAMP5 Actual PE Update Trade updated
Ballykeel Cottages(1-4)	S00834	-2.93	NIAMP5 Actual PE Update
Ballykelly (DOWN)	S02169	1.33	
Ballykelly (L/Derry)	S03016	-190.75	NIAMP5 Actual PE Update Trade updated
Ballylintagh (New)	S01135	12.71	NIAMP5 Actual PE Update Trade updated
Ballylumford Cottages	S00260	-4.32	Actual PE Update-RWwIP PE Review
Ballymacawley	S02560	2.40	NIAMP5 Actual PE Update
Ballymacnab	S02561	-5.00	NIAMP5 Actual PE Update
Ballymaconaghy Road	S02690	-0.16	NIAMP5 Actual PE Update
Ballymacormick	S01089	2.10	NIAMP5 Actual PE Update
Ballymaderphy	S02728	-3.12	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ballymagorry (WWTW)	S03018	-89.49	NIAMP5 Actual PE Update
Ballymaguigan	S01603	7.68	NIAMP5 Actual PE Update
Ballymaguire Road(33-35)	S02031	0.10	NIAMP5 Actual PE Update
Ballymarlagh	S01430	4.32	NIAMP5 Actual PE Update
Ballymena (WWTW)	S01456	-15161.48	NIAMP5 Actual PE Update Trade updated
Ballymiscaw road (37-41)	S00256	-0.88	NIAMP5 Actual PE Update
Ballymore	S02117	2.30	NIAMP5 Actual PE Update
Ballymoyer	S02252	-15.07	NIAMP5 Actual PE Update
Ballynadolly	S00327	0.97	NIAMP5 Actual PE Update
Ballynafie	S01431	-27.51	NIAMP5 Actual PE Update
Ballynagalliagh (Armagh)	S02562	0.34	NIAMP5 Actual PE Update
Ballynagard (Antrim)	S01173	-4.31	NIAMP5 Actual PE Update
Ballynahaye Road(3)	S04115	0.14	NIAMP5 Actual PE Update
Ballynahinch (Armagh)	S02563	1.17	NIAMP5 Actual PE Update
Ballynahinch (Down)	S00311	-24.06	NIAMP5 Actual PE Update Trade updated
Ballynamullan	S03011	0.16	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Ballynamullan Road(32-34)	S01764	-0.36	NIAMP5 Actual PE Update
Ballynashee Road(71-77)	S01765	0.72	NIAMP5 Actual PE Update
Ballynease	S01604	-0.96	NIAMP5 Actual PE Update
Ballynease Road(160-164)	S01793	-0.24	NIAMP5 Actual PE Update
Ballyquinn (WWTW)	S03021	12.55	NIAMP5 Actual PE Update
Ballyrainey Road (65-67)	S00847	1.34	NIAMP5 Actual PE Update
Ballyrashane Road(21)	S01731	0.48	NIAMP5 Actual PE Update
Ballyrashane Road(37-39)	S01126	0.48	NIAMP5 Actual PE Update
Ballyrock	S01136	-4.98	NIAMP5 Actual PE Update
Ballyroney Road (WWTW)	S02118	1.60	NIAMP5 Actual PE Update
Ballyrussell	S02691	-20.04	NIAMP5 Actual PE Update
Ballystrudder (Retention Tank)	S00264	-1879.20	NIAMP5 Actual PE Update
Ballytrim	S00276	-0.11	NIAMP5 Actual PE Update
Ballyutoag	S01417	-0.10	NIAMP5 Actual PE Update
Ballyveely	S01090	-6.61	NIAMP5 Actual PE Update
Ballyvelton Road(23)	S01734	1.20	NIAMP5 Actual PE Update
Ballyvelton Road(45-51)	S04037	0.96	NIAMP5 Actual PE Update
Ballyvoy	S01177	-7.56	NIAMP5 Actual PE Update Design PE Updated
Ballywalter(Retention Tank)	S05189	-204.10	NIAMP5 Actual PE Update
Ballyward	S02120	3.07	NIAMP5 Actual PE Update
Ballywhiskin (Retention Tank)	S00827	-0.17	NIAMP5 Actual PE Update
Banbridge (WWTW)	S02102	-3389.51	NIAMP5 Actual PE Update Trade updated
Bankside Shinn	S02692	22.53	NIAMP5 Actual PE Update
Bar Hall	S00229	-1.85	NIAMP5 Actual PE Update
Battery Road(43-45)	S01802	0.16	NIAMP5 Actual PE Update
Beagh	S01605	-8.39	NIAMP5 Actual PE Update
Bearney Road(55-61)	S04143	0.32	NIAMP5 Actual PE Update
Beech Hill South	S05182	-0.19	NIAMP5 Actual PE Update
Belcoo (WWTW)	S03022	-37.68	NIAMP5 Actual PE Update
Belfast (WWTW)	S00345	-6172.32	Retained Septic tank imports added Trade updated
Belfast Road(56-58)	S04142	-12.90	NIAMP5 Actual PE Update
Bellaghy (WWTW)	S01606	-39.04	Actual PE updated following APT PE Review
Bellany (WWTW)	S01137	2.75	NIAMP5 Actual PE Update
Belleek (Armagh)	S02253	10.90	NIAMP5 Actual PE Update
Belleek (Fermanagh)	S03024	118.35	NIAMP5 Actual PE Update
Bells hill(63-65)	S01795	-0.32	NIAMP5 Actual PE Update
Bellshill Road(83-85)	S01794	-0.32	NIAMP5 Actual PE Update
Benburb (WWTW)	S02831	-109.05	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Benvardin Road	S01093	0.82	NIAMP5 Actual PE Update
Beragh (WWTW)	S03027	-260.75	NIAMP5 Actual PE Update
Blackscull (WWTW)	S02397	64.09	NIAMP5 Actual PE Update
Blackstaff (Septic Tank)	S00219	-4.42	NIAMP5 Actual PE Update
Blackwatertown (WWTW)	S02552	-48.91	NIAMP5 Actual PE Update
Blaney	S03028	1.53	NIAMP5 Actual PE Update
Boghill (WWTW)	S01138	0.96	NIAMP5 Actual PE Update
Boghill Road(52-54)	S01127	0.48	NIAMP5 Actual PE Update
Bohulkin	S03029	-4.08	NIAMP5 Actual PE Update
Bolea (WWTW)	S03030	-15.26	NIAMP5 Actual PE Update
Boleran Road (Garvagh)	S02059	-1.75	NIAMP5 Actual PE Update
Bonnanaboigh	S03031	-1.48	NIAMP5 Actual PE Update
Bovean	S02793	-5.56	NIAMP5 Actual PE Update
Boveedy	S01139	-33.40	NIAMP5 Actual PE Update
Bovevagh Road (37-41)	S04121	-2.64	NIAMP5 Actual PE Update
Brantry	S02832	-2.51	NIAMP5 Actual PE Update
Bready (WWTW)	S03971	-20.00	NIAMP5 Actual PE Update
Breaside Cottages(1-6)	S02049	-0.54	NIAMP5 Actual PE Update
Bregagh Road(60-62)	S01743	-3.00	NIAMP5 Actual PE Update
Bresagh	S00332	-4.48	NIAMP5 Actual PE Update
Brisland Road(3-5)	S04141	0.66	NIAMP5 Actual PE Update
Broagh	S01607	-30.20	NIAMP5 Actual PE Update
Brockaghboy (WWTW)	S01140	-9.25	NIAMP5 Actual PE Update
Brookeborough (WWTW)	S03032	-120.71	NIAMP5 Actual PE Update
Buckna (WWTW)	S01432	-2.02	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Burnquarter	S01094	-2.66	NIAMP5 Actual PE Update
Burren Road	S02686	0.16	NIAMP5 Actual PE Update
Bushmills (WWTW)	S01178	114.91	NIAMP5 Actual PE Update Trade updated
Cabragh (WWTW)	S02834	-73.87	NIAMP5 Actual PE Update
Caledon (WWTW)	S02835	-65.49	NIAMP5 Actual PE Update
Camus	S03034	-0.99	NIAMP5 Actual PE Update
Capecastle	S01179	-5.51	NIAMP5 Actual PE Update
Cappagh (WWTW)	S02857	5.22	NIAMP5 Actual PE Update
Cargan (WWTW)	S01433	163.74	NIAMP5 Actual PE Update
Cargin Road	S01322	-11.34	NIAMP5 Actual PE Update
Carmean	S01608	-0.40	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Carmean Road(42-46)	S01796	5.90	NIAMP5 Actual PE Update
Carnalbanagh	S01459	-2.79	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Carnalea Road	S03036	-0.88	NIAMP5 Actual PE Update
Carnally	S02255	-2.72	NIAMP5 Actual PE Update
Carnan	S01559	9.11	NIAMP5 Actual PE Update
Carnbeg	S01434	9.64	NIAMP5 Actual PE Update
Carnduff (Retention Tank)	S01180	-20.32	NIAMP5 Actual PE Update
Carneyhough	S02682	-0.32	NIAMP5 Actual PE Update
Carnlough Road	S01435	3.36	NIAMP5 Actual PE Update
Carnteel Road (122-124)	S04162	0.18	NIAMP5 Actual PE Update
Carran Hill (WWTW)	S02256	-8.16	NIAMP5 Actual PE Update
Carrickfergus (WWTW)	S00261	-64.39	Retained Trade updated
Carricklongfield Road (21-23)	S04093	0.18	NIAMP5 Actual PE Update
Carrickmore (WWTW)	S03039	45.34	NIAMP5 Actual PE Update
Carricknaveagh (WWTW)	S00283	5.84	NIAMP5 Actual PE Update
Carrickrovaddy	S02257	-3.24	NIAMP5 Actual PE Update
Carrig Place	S02254	0.16	NIAMP5 Actual PE Update
Carrigenagh (WWTW)	S00314	0.64	NIAMP5 Actual PE Update
Carrontreemall	S03040	-1.85	NIAMP5 Actual PE Update
Carrowdore	S00236	235.05	NIAMP5 Actual PE Update
Carrowdore Road(38-40)	S00832	1.06	NIAMP5 Actual PE Update
Carrowreagh Road(68-70)	S04100	0.52	NIAMP5 Actual PE Update
Castle Archdale Country Park (WWTW)	S05877	20.40	NIAMP5 Actual PE Update
Castlecaulfield (WWTW)	S02836	-166.56	NIAMP5 Actual PE Update
Castlederg (WWTW)	S03042	-685.84	NIAMP5 Actual PE Update Trade updated
Castlenagree	S01181	2.12	NIAMP5 Actual PE Update
Castlevennon Road(49-51)	S02113	0.25	NIAMP5 Actual PE Update
Castor Bay	S02380	-10.55	NIAMP5 Actual PE Update
Caugh Hill (WWTW)	S03047	-5.60	NIAMP5 Actual PE Update
Causeway Road(122)	S01723	1.18	NIAMP5 Actual PE Update
Causeway Road(15)	S01726	1.18	NIAMP5 Actual PE Update
Causeway Road(180)	S01730	1.18	NIAMP5 Actual PE Update
Causeway Road(30)	S01736	1.18	NIAMP5 Actual PE Update
Cavanacaw	S03048	-1.00	NIAMP5 Actual PE Update
Cavanagrow	S02565	-2.08	NIAMP5 Actual PE Update
Charlestown	S02399	25.58	NIAMP5 Actual PE Update
Chatham Road	S02023	-6.00	NIAMP5 Actual PE Update
Cherryvalley Road(24)	S01766	0.51	NIAMP5 Actual PE Update
Church Hill	S03050	8.35	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Clabby (WWTW)	S03051	75.61	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Clady (Tyrone)	S04149	2.60	NIAMP5 Actual PE Update Trade updated
Cladymore	S02566	-28.30	NIAMP5 Actual PE Update
Clare	S01560	-0.47	Retained
Clarehill	S01039	27.43	NIAMP5 Actual PE Update
Clarehill Road	S02428	1.16	NIAMP5 Actual PE Update
Clattering Ford Road (12-16)	S00249	2.10	NIAMP5 Actual PE Update
Claudy	S03054	-56.42	NIAMP5 Actual PE Update
Clogh (WWTW)	S01436	-28.25	NIAMP5 Actual PE Update
Clogher (WWTW)	S03056	-140.28	Actual PE updated following APT PE Review
Clough (WWTW)	S00296	152.30	NIAMP5 Actual PE Update
Cloughmills (WWTW)	S01096	-116.43	NIAMP5 Actual PE Update
Cloughy (Retention Tank)	S00224	-179.57	NIAMP5 Actual PE Update
Cluntoe (Richardson)	S04872	-11.88	NIAMP5 Actual PE Update
Coagh (WWTW)	S01562	37.54	NIAMP5 Actual PE Update
Coagh Road(20-22)	S02033	-2.76	NIAMP5 Actual PE Update
Coalisland	S02828	-753.21	NIAMP5 Actual PE Update
Cogry Road(25-27)	S01767	0.98	NIAMP5 Actual PE Update
Comber Road(102-106)	S00848	-0.24	NIAMP5 Actual PE Update
Commons School Road(8-10)	S02897	2.84	NIAMP5 Actual PE Update
Concession Road	S02260	-1.61	NIAMP5 Actual PE Update
Coneyisland (WWTW)	S00274	-5.45	NIAMP5 Actual PE Update
Cookstown (WWTW)	S01582	-1392.34	NIAMP5 Actual PE Update Trade updated
Coole Glebe	S01143	1.24	NIAMP5 Actual PE Update
Coolnagoppoge (WWTW)	S01176	-14.67	NIAMP5 Actual PE Update
Coolsythe Road(23)	S01769	-2.46	NIAMP5 Actual PE Update
Corbally Road(45)	S02021	0.48	NIAMP5 Actual PE Update
Corbet	S02123	1.50	NIAMP5 Actual PE Update
Corbrackey Road	S02392	0.17	NIAMP5 Actual PE Update
Corchoney Lane (2-4)	S01563	-4.18	NIAMP5 Actual PE Update
Corcreechy Road	S02696	-0.39	NIAMP5 Actual PE Update
Corickbeg Road(15-17)	S04136	0.16	NIAMP5 Actual PE Update
Corkill (Fermanagh)	S03059	2.17	NIAMP5 Actual PE Update
Corkill (Tyrone)	S02032	-10.36	NIAMP5 Actual PE Update
Cornakessagh	S03060	-2.36	NIAMP5 Actual PE Update
Cornamuck	S03061	-2.12	NIAMP5 Actual PE Update
Corrinure	S02261	-0.16	NIAMP5 Actual PE Update
Corry (WWTW)	S03063	-1.86	NIAMP5 Actual PE Update
Corvanaghan (WWTW)	S01565	-0.54	NIAMP5 Actual PE Update
Craigaroddan Road(6-8)	S00227	-1.95	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Craigaruskey Road (66-68)	S00254	-1.86	NIAMP5 Actual PE Update
Craigavole (WWTW)	S01144	-6.50	NIAMP5 Actual PE Update
Craigdarragh Road(85-87)	S00836	3.46	NIAMP5 Actual PE Update
Craigmore Road(139 - 145)	S01725	0.68	NIAMP5 Actual PE Update
Craigmore Road(18-20)	S01124	-2.17	NIAMP5 Actual PE Update
Craignasasonagh	S00308	-0.48	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Craigywarren	S01437	2.57	NIAMP5 Actual PE Update
Cranfield (Down)	S02721	-250.12	NIAMP5 Actual PE Update
Cranfield(Antrim)	S01418	28.10	NIAMP5 Actual PE Update
Crankill	S01438	3.64	NIAMP5 Actual PE Update
Creagh	S01611	-26.62	NIAMP5 Actual PE Update
Creaghcor	S03066	7.60	NIAMP5 Actual PE Update
Crebarkey	S03067	1.04	NIAMP5 Actual PE Update
Creevangar	S03068	-3.00	NIAMP5 Actual PE Update
Creggan Road(27)	S01770	-2.46	NIAMP5 Actual PE Update
Crilly	S02903	-3.73	NIAMP5 Actual PE Update
Cross Lane 9-22 ST	S05572	-54.28	NIAMP5 Actual PE Update
Crosskeys Road	S01439	3.04	NIAMP5 Actual PE Update
Crossmaglen	S02273	-414.48	NIAMP5 Actual PE Update
Crossnamoyle	S02568	1.62	NIAMP5 Actual PE Update
Culcrow	S01146	-44.06	NIAMP5 Actual PE Update
Cullaville	S02264	-57.69	NIAMP5 Actual PE Update
Cullion (Bready)	S03070	-0.80	NIAMP5 Actual PE Update
Cullyhanna (WWTW)	S02265	40.56	NIAMP5 Actual PE Update
Cullyramer	S01147	0.34	NIAMP5 Actual PE Update
Culmore (WWTW)	S03071	-30134.47	NIAMP5 Actual PE Update Trade updated
Culmore Point	S03334	-1.02	Actual PE updated following APT PE Review
Culnady Road(46-50)	S01798	2.94	NIAMP5 Actual PE Update
Culramoney Road(5)	S01740	-3.18	NIAMP5 Actual PE Update
Curglasson	S01566	-5.05	NIAMP5 Actual PE Update
Curran	S01613	-10.20	NIAMP5 Actual PE Update
Cushendall	S01183	-177.68	NIAMP5 Actual PE Update Trade updated
Cushendun (WWTW)	S03929	-33.66	NIAMP5 Actual PE Update
Cushleake Road(37-39)	S01783	-4.96	NIAMP5 Actual PE Update
Darkley (WWTW)	S02569	-1.20	NIAMP5 Actual PE Update
Dartress	S01148	0.40	NIAMP5 Actual PE Update
Davagh Park	S02030	-0.54	NIAMP5 Actual PE Update
Deffrick	S01184	-4.02	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Dempsey Park	S01100	-8.28	NIAMP5 Actual PE Update
Dernaflaw	S03072	38.00	Actual PE Updated following ALP review and on-site checks
Derryaghna	S03073	0.43	NIAMP5 Actual PE Update
Derryanvil	S03911	0.17	NIAMP5 Actual PE Update
Derrygonnelly (WWTW)	S03074	-142.60	NIAMP5 Actual PE Update
Derrygortrevy	S02837	0.93	NIAMP5 Actual PE Update
Derryhale	S02570	136.45	NIAMP5 Actual PE Update Trade updated
Derryhaw	S02571	-2.00	NIAMP5 Actual PE Update
Derrykeighan	S01101	3.27	NIAMP5 Actual PE Update
Derrylin (WWTW)	S03075	-89.19	NIAMP5 Actual PE Update
Derrymagowan	S02572	0.22	NIAMP5 Actual PE Update
Derrymore (WWTW)	S02401	20.60	NIAMP5 Actual PE Update
Derryork Road(33-35)	S04140	-5.52	NIAMP5 Actual PE Update
Derrytrasna	S02402	-19.67	NIAMP5 Actual PE Update
Dervock (WWTW)	S01102	-44.89	NIAMP5 Actual PE Update Trade updated
Desertmartin	S01614	-5.43	NIAMP5 Actual PE Update
Diamond cottages(1)	S01772	14.10	NIAMP5 Actual PE Update
Diviny NEW ST	S05546	1.90	NIAMP5 Actual PE Update
Donagheady (WWTW)	S03079	2.80	NIAMP5 Actual PE Update
Donaghey (1)	S01568	0.10	NIAMP5 Actual PE Update
Donaghey (2)	S01569	-0.30	NIAMP5 Actual PE Update
Donaghmore (WWTW)	S02840	350.05	NIAMP5 Actual PE Update Trade updated
Donard View	S00280	10.76	NIAMP5 Actual PE Update
Donemana	S03103	2.23	SWELL-Retain Design PE updated Trade updated
Donnelly Park	S01103	-3.55	NIAMP5 Actual PE Update
Donnybrewer	S03080	25.17	NIAMP5 Actual PE Update Trade updated
Donnybrewer Road(98)	S03278	0.41	NIAMP5 Actual PE Update
Donnybrewer Road(99)	S03277	0.41	NIAMP5 Actual PE Update
Dooish	S03081	-8.27	NIAMP5 Actual PE Update
Doorless	S01570	-2.75	NIAMP5 Actual PE Update
Dorsy	S02267	10.26	NIAMP5 Actual PE Update
Dougan place	S02164	-0.52	NIAMP5 Actual PE Update
Douglas Bridge	S03082	20.64	NIAMP5 Actual PE Update
Downpatrick (WWTW)	S00771	-6006.93	NIAMP5 Actual PE Update Septic tank imports added Trade updated
Drapersfield (WWTW)	S01571	-94.06	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Draperstown	S01615	-141.15	NIAMP5 Actual PE Update Trade updated
Dree Hill	S02125	6.54	NIAMP5 Actual PE Update
Dreenan Road(38-40)	S02028	-3.09	NIAMP5 Actual PE Update
Drennans Road(6)	S01773	0.22	NIAMP5 Actual PE Update
Dromara (WWTW)	S00316	-116.78	NIAMP5 Actual PE Update Trade updated
Dromara Road (Lacken)	S02126	3.87	NIAMP5 Actual PE Update
Dromore (Down)	S02127	-744.15	NIAMP5 Actual PE Update Trade updated
Dromore (Tyrone)	S03083	51.30	NIAMP5 Actual PE Update Trade updated
Dromore Highlands	S03085	6.80	NIAMP5 Actual PE Update
Dronehill Road	S02128	6.50	NIAMP5 Actual PE Update
Drumagarner	S01149	1.74	NIAMP5 Actual PE Update
Drumagarner Road(148-150)	S02026	-6.32	NIAMP5 Actual PE Update
Drumagarner Road(212-218)	S02027	-4.12	NIAMP5 Actual PE Update
Drumalig Road (62-64)	S04161	0.42	NIAMP5 Actual PE Update
Drumaran Road	S02129	1.32	NIAMP5 Actual PE Update
Drumard (Antrim)	S01616	-3.48	NIAMP5 Actual PE Update
Drumard (Tyrone)	S02860	-3.10	NIAMP5 Actual PE Update
Drumard Primate (WWTW)	S02404	-1.68	NIAMP5 Actual PE Update Design PE updated following RWwIP Upgrade
Drumaroad (WWTW)	S00312	-1.12	Actual PE Updated following an ALP PE review
Drumavoley Road(39-41)	S02022	-4.96	NIAMP5 Actual PE Update
Drumavoley Road(83)	S01749	0.52	NIAMP5 Actual PE Update
Drumbeg (WWTW)	S00335	-85.87	NIAMP5 Actual PE Update
Drumbolg Road(98-100)	S01800	-0.06	NIAMP5 Actual PE Update
Drumconvis Road 58-62 WwTW	S05767	1.24	NIAMP5 Actual PE Update
Drumconvis Road(16-18)	S01801	0.16	NIAMP5 Actual PE Update
Drumcroon (WWTW)	S01151	0.27	NIAMP5 Actual PE Update
Drumenny	S03088	1.00	NIAMP5 Actual PE Update
Drumenny Road(120-128)	S02034	-0.27	NIAMP5 Actual PE Update
Drumflugh Road (75-77)	S04101	-8.30	NIAMP5 Actual PE Update
Drumgay (1)	S03090	-4.66	NIAMP5 Actual PE Update
Drumgay (2)	S03091	-5.00	NIAMP5 Actual PE Update
Drumgooland	S02131	-2.55	NIAMP5 Actual PE Update
Drumgrevagh	S02697	-0.16	NIAMP5 Actual PE Update
Drumhillery	S02574	1.86	NIAMP5 Actual PE Update
Drumhirk	S00246	2.31	NIAMP5 Actual PE Update
Drumilly	S02268	-6.20	NIAMP5 Actual PE Update
Drumintee	S02269	-20.76	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Drumlegagh Church Road	S03987	-32.52	Actual PE updated following APT PE Review
Drumlegagh Church Road (63-65)	S04098	0.72	NIAMP5 Actual PE Update
Drumlegagh Road South	S03093	1.44	NIAMP5 Actual PE Update
Drumlough	S00320	-0.45	NIAMP5 Actual PE Update
Drummond	S03095	-3.38	NIAMP5 Actual PE Update
Drumnacannon Road(20-22)	S01803	-0.06	NIAMP5 Actual PE Update
Drumnaferry	S02405	-59.39	NIAMP5 Actual PE Update
Drumnakilly	S03096	22.21	NIAMP5 Actual PE Update
Drumnascamph	S02698	2.54	NIAMP5 Actual PE Update
Drumneechy	S03097	-3.04	Actual PE Update-RWwIP PE Review
Drumquin (WWTW)	S03098	-98.24	NIAMP5 Actual PE Update
Drumraighland	S03099	-8.20	NIAMP5 Actual PE Update
Drumreagh	S01106	-2.91	NIAMP5 Actual PE Update
Drumreagh Road(9-11)	S00248	0.76	NIAMP5 Actual PE Update
Drumshambo	S01572	-0.36	NIAMP5 Actual PE Update
Drumsurn	S03100	85.94	NIAMP5 Actual PE Update
Drumsurn Road (234-238)	S04120	0.54	NIAMP5 Actual PE Update
Drumullan	S01573	-19.64	NIAMP5 Actual PE Update
Dunboe Road(75-77)	S01747	0.64	NIAMP5 Actual PE Update
Dundrod	S00326	-17.76	NIAMP5 Actual PE Update
Dundrum (Armagh)	S02576	1.30	NIAMP5 Actual PE Update
Dundrum (Down)	S00297	-58.44	NIAMP5 Actual PE Update Design PE updated
Duneany (WWTW)	S01440	-2.36	NIAMP5 Actual PE Update
Dungannon	S02850	1730.58	Retain Trade updated
Dungiven	S03101	135.47	NIAMP5 Actual PE Update Trade updated
Dungonnell WTW (Septic Tank)	S01472	0.11	NIAMP5 Actual PE Update
Dungorbery	S01107	-3.03	NIAMP5 Actual PE Update
Dunloy	S01108	-154.14	NIAMP5 Actual PE Update
Dunmullan	S03102	-3.64	NIAMP5 Actual PE Update
Dunmurry	S00346	-2623.92	NIAMP5 Actual PE Update Trade updated
Dunnamore	S01574	-57.55	NIAMP5 Actual PE Update
Dunnyboe Road (85-93)	S04103	-5.10	NIAMP5 Actual PE Update
Dunronan Road(25-27)	S01804	-0.08	NIAMP5 Actual PE Update
Dunserverick (Retention Tank)	S01185	-39.94	NIAMP5 Actual PE Update
Dyan	S02842	-0.74	NIAMP5 Actual PE Update
Edencrannon (WWTW)	S02858	-27.11	NIAMP5 Actual PE Update
Edenderry (Tyrone)	S03104	2.00	Actual PE updated following APT PE Review
Edendoit Road(107-109)	S01598	-3.33	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Edendoit Road(22-32)	S01805	-0.66	Actual PE updated following APT PE Review
Edenmore Road	S03105	0.95	NIAMP5 Actual PE Update
Edenreagh Road(39-41)	S04094	1.32	NIAMP5 Actual PE Update
Edentirooory	S02132	-0.96	NIAMP5 Actual PE Update
Edergoole Road (87-89)	S04104	-2.91	NIAMP5 Actual PE Update
Ederney (WWTW)	S03106	-10.21	NIAMP5 Actual PE Update
Eglish (Armagh)	S02578	-62.18	Actual PE Update-RWwIP PE Review
Enniskillen	S03218	-536.54	NIAMP5 Actual PE Update Trade updated
Eskragh	S03201	15.68	NIAMP5 Actual PE Update
Fallahogy	S01617	-4.72	NIAMP5 Actual PE Update
Farmacaffley	S02579	-0.79	NIAMP5 Actual PE Update
Farranflugh	S01420	0.16	NIAMP5 Actual PE Update
Faughan	S03109	-3.22	NIAMP5 Actual PE Update
Feeny	S03110	106.12	NIAMP5 Actual PE Update
Ferris Bay (50)	S04084	-1.15	Actual PE Update-RWwIP PE Review
Feumore (WWTW)	S02406	-8.07	NIAMP5 Actual PE Update
Fincarn	S03111	-17.20	NIAMP5 Actual PE Update
Fintona (WWTW)	S03112	50.25	Retained
Fivemiletown (WWTW)	S03113	-111.16	NIAMP5 Actual PE Update Trade updated
Florencecourt	S03114	5.84	NIAMP5 Actual PE Update
Foffanybane WTW (Septic Tank)	S02678	0.04	NIAMP5 Actual PE Update
Foreglen	S03019	36.88	NIAMP5 Actual PE Update
Foreglen Road (51-53)	S04097	-2.64	NIAMP5 Actual PE Update
Forkhill	S02270	-79.76	NIAMP5 Actual PE Update
Fourmile	S02699	-0.78	NIAMP5 Actual PE Update
Galbally	S02844	39.00	NIAMP5 Actual PE Update
Garryduff Church	S02024	-5.38	NIAMP5 Actual PE Update
Garvagh (WWTW)	S01154	777.91	NIAMP5 Actual PE Update
Garvaghy	S03116	6.38	NIAMP5 Actual PE Update
Garvetagh	S03117	-1.67	NIAMP5 Actual PE Update
Gilford (WWTW)	S02162	-275.01	NIAMP5 Actual PE Update Trade updated
Glarryford (WWTW)	S01441	0.76	NIAMP5 Actual PE Update
Glascar Road(28-30)	S02887	3.19	NIAMP5 Actual PE Update
Glasmullen (WWTW)	S01187	0.84	NIAMP5 Actual PE Update
Glassdrumman (Armagh)	S02271	19.88	NIAMP5 Actual PE Update
Glassdrumman (Down)	S00302	-81.70	NIAMP5 Actual PE Update
Glassdrummond	S00282	-1.10	NIAMP5 Actual PE Update
Glen Cottages (1-6)	S00835	1.70	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Glen View (Down)	S02700	3.87	NIAMP5 Actual PE Update
Glen Villas	S02723	-0.01	Retained
Glenabbey (WWTW)	S03119	-20.95	NIAMP5 Actual PE Update
Glenagoorland	S03120	3.75	NIAMP5 Actual PE Update
Glenanne	S02259	0.99	NIAMP5 Actual PE Update
Glenavy (WWTW)	S04188	-524.28	NIAMP5 Actual PE Update
Glenavy Road (Antrim)	S00324	0.02	NIAMP5 Actual PE Update
Glenbush Road(31)	S01737	-6.00	NIAMP5 Actual PE Update
Glenedra Road (109-111)	S04116	0.16	NIAMP5 Actual PE Update
Glenhead Road	S02133	1.56	NIAMP5 Actual PE Update
Glenhordial WTW (Septic Tank)	S03504	0.04	NIAMP5 Actual PE Update
Glenleary Road(22)	S01733	-13.98	NIAMP5 Actual PE Update
Glenmakeeran	S01188	-4.70	NIAMP5 Actual PE Update
Glenmornan	S03121	-24.13	NIAMP5 Actual PE Update
Glenoe	S01462	-39.22	Actual PE updated following APT PE Review
Glenshesk Road(127)	S01724	-2.48	NIAMP5 Actual PE Update
Glenstaghey Road(11)	S01787	2.47	NIAMP5 Actual PE Update
Glenstall	S01109	-1213.90	NIAMP5 Actual PE Update. Transfer of flows to Ballybogy catchment. Ballybogy PE added. Septic tank imports added Trade updated
Gorran Road(84)	S01750	0.34	NIAMP5 Actual PE Update
Gortaclady (WWTW)	S01575	-15.09	NIAMP5 Actual PE Update
Gortatray	S01576	0.20	NIAMP5 Actual PE Update
Gortin (Tyrone)	S03124	-35.96	NIAMP5 Actual PE Update
Gortin Road(12)	S01720	0.58	NIAMP5 Actual PE Update
Gortnagallon Cottages(1-4)	S01777	-2.45	NIAMP5 Actual PE Update
Gortnagross Road (38-40)	S04114	0.16	NIAMP5 Actual PE Update
Gortnahey (WWTW)	S03126	9.80	NIAMP5 Actual PE Update
Gortnaskea Road(45-47)	S01807	0.10	NIAMP5 Actual PE Update
Gortscreagan	S03127	-10.75	NIAMP5 Actual PE Update
Gosheden (2)	S03129	-0.16	NIAMP5 Actual PE Update
Grange (Taylorstown)	S01442	-72.03	NIAMP5 Actual PE Update Trade updated
Grange Blundel	S02581	-0.34	NIAMP5 Actual PE Update
Grangemore	S02580	-6.85	NIAMP5 Actual PE Update
Gransha Park(25-27)	S03130	0.46	NIAMP5 Actual PE Update
Gransha Road(26-28)	S00829	-2.22	NIAMP5 Actual PE Update
Greenan	S02171	-2.16	NIAMP5 Actual PE Update
Greenans	S01189	1.17	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Greencastle (Tyrone)	S03132	-30.41	NIAMP5 Actual PE Update
Greenhill (WWTW)	S01155	-4.98	NIAMP5 Actual PE Update
Greenisland (WWTW)	S00263	161.73	Retained Trade updated
Greenville	S03133	-4.87	NIAMP5 Actual PE Update
Greyabbey (WWTW)	S00214	-60.51	NIAMP5 Actual PE Update
Greysteel (WWTW)	S03123	101.34	NIAMP5 Actual PE Update Trade updated
Grove Park	S01443	1.08	NIAMP5 Actual PE Update
Grove Road(21-23)	S04873	0.30	NIAMP5 Actual PE Update
Gulladuff (WWTW)	S01619	-255.09	NIAMP5 Actual PE Update
Hamiltonsbawn	S02603	-277.74	NIAMP5 Actual PE Update
Hazelbank	S02134	0.96	NIAMP5 Actual PE Update
Hillhead Road (Down)	S02135	0.25	NIAMP5 Actual PE Update
Hillhead Road(127-131)	S01808	-3.64	NIAMP5 Actual PE Update
Hillside Road(7-9)	S04145	0.50	NIAMP5 Actual PE Update
Hilltown (WWTW)	S02701	-279.62	NIAMP5 Actual PE Update Trade updated
Hollybank Road(10)	S01774	0.36	NIAMP5 Actual PE Update
Hollybank Road(54)	S01775	-0.10	
Horse Park (5-7)	S04086	-0.10	NIAMP5 Actual PE Update
Inishargy Road(10-12)	S00210	1.30	NIAMP5 Actual PE Update
Inishargy Road(2-8)	S00212	0.29	NIAMP5 Actual PE Update
Inishargy Road(36-48)	S00211	-3.30	NIAMP5 Actual PE Update
Inishmagh	S02845	-3.55	NIAMP5 Actual PE Update
Irvinestown	S03137	-877.35	NIAMP5 Actual PE Update Trade updated
Jennys Lane	S02408	1.75	NIAMP5 Actual PE Update
Jerrettspass (WWTW)	S02297	-0.23	NIAMP5 Actual PE Update
Jonesborough (WWTW)	S02272	-85.49	NIAMP5 Actual PE Update
Katesbridge	S02136	-2.55	NIAMP5 Actual PE Update
Katesbridge Road(79-85)	S02110	-2.94	NIAMP5 Actual PE Update
Keady (Armagh)	S02553	-558.89	NIAMP5 Actual PE Update Trade updated
Kearney(Retention Tank)	S00225	11.20	NIAMP5 Actual PE Update
Keenaghan (2)	S01579	5.78	NIAMP5 Actual PE Update
Kesh (WWTW)	S03140	189.36	NIAMP5 Actual PE Update
Kilbroney Park(1-4)	S02725	1.56	NIAMP5 Actual PE Update
Kilclean Road (80-82)	S04102	-3.92	NIAMP5 Actual PE Update
Kilcoo	S02704	-65.32	NIAMP5 Actual PE Update
Kilgarrett	S03141	1.40	NIAMP5 Actual PE Update
Kilkeel (WWTW)	S00313	1339.78	Retain Trade updated
Killaloo	S03142	-0.16	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Killaughey Road(252-254)	S00837	0.96	NIAMP5 Actual PE Update
Killeen (Armagh)	S02294	-1.70	NIAMP5 Actual PE Update
Killeen (Tyrone)	S02846	-38.98	NIAMP5 Actual PE Update
Killen	S03143	70.36	NIAMP5 Actual PE Update
Killeter (WWTW)	S03144	-28.33	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Killinchy (WWTW)	S00252	3426.24	NIAMP5 Actual PE Update Trade updated
Killinchy Road(96-100)	S04146	-3.05	NIAMP5 Actual PE Update
Killogue	S01112	-0.68	NIAMP5 Actual PE Update
Killough (Retention Tank)	S00275	228.10	NIAMP5 Actual PE Update
Killybaskey	S01581	-6.86	NIAMP5 Actual PE Update
Killycurry Road(30-32)	S04138	0.30	NIAMP5 Actual PE Update
Killygonlan (WWTW)	S02043	159.81	NIAMP5 Actual PE Update Trade updated
Killygore	S01444	-2.02	NIAMP5 Actual PE Update
Killylane (WWTW)	S03147	16.23	NIAMP5 Actual PE Update
Killylane WTW(Septic Tank)	S01317	0.12	NIAMP5 Actual PE Update
Killyleagh (WWTW)	S00273	504.15	NIAMP5 Actual PE Update
Killyneese Road(14-16)	S01809	-0.32	NIAMP5 Actual PE Update
Killyrammer	S01113	32.30	Actual PE updated following APT PE Review
Killysavan	S02137	4.71	NIAMP5 Actual PE Update
Kilmachugh	S02583	5.36	NIAMP5 Actual PE Update
Kilmood	S00255	-25.41	NIAMP5 Actual PE Update
Kilmore (Armagh)	S02584	-87.00	NIAMP5 Actual PE Update
Kilrea	S01156	48.84	NIAMP5 Actual PE Update Trade updated
Kilross	S01622	-10.93	NIAMP5 Actual PE Update
Kilskeery	S03148	-24.84	NIAMP5 Actual PE Update
Kiltubbrid (WWTW)	S02588	-0.92	NIAMP5 Actual PE Update
Kinallen (WWTW)	S03981	-139.79	NIAMP5 Actual PE Update
Kinawley	S03149	26.58	NIAMP5 Actual PE Update
Kinego Cottages	S02856	0.64	NIAMP5 Actual PE Update
Kinneyglass Road(87-89)	S01751	0.34	NIAMP5 Actual PE Update
Kircubbin (WWTW)	S04881	-356.48	NIAMP5 Actual PE Update
Knock Terrace	S02139	3.19	NIAMP5 Actual PE Update
Knockanroe	S01585	0.20	NIAMP5 Actual PE Update
Knockans (WWTW)	S01114	0.26	NIAMP5 Actual PE Update
Knockbrack	S03151	1.88	NIAMP5 Actual PE Update
Knockloughrim	S01623	-15.45	NIAMP5 Actual PE Update
Knockmoyle	S03152	-119.81	Actual PE updated following APT PE Review

Name of Works	CAR ID	PE Change	Comments
Knocknarea Road	S02432	-0.33	NIAMP5 Actual PE Update
Knocknatavanna	S01190	-9.40	NIAMP5 Actual PE Update
Lack	S03154	20.78	NIAMP5 Actual PE Update
Largy (WWTW)	S03155	-7.40	NIAMP5 Actual PE Update
Largy Cottages(1)	S01776	11.21	NIAMP5 Actual PE Update
Larne (WWTW)	S02044	-1714.44	NIAMP5 Actual PE Update Trade updated
Laurelvale Road	S02140	0.88	NIAMP5 Actual PE Update
Lawrencetown	S02142	21.40	NIAMP5 Actual PE Update
Leeke Road	S04092	5.43	NIAMP5 Actual PE Update
Legacurry (Down)	S00321	1.55	NIAMP5 Actual PE Update
Legaghory	S03157	1.63	NIAMP5 Actual PE Update
Legatirriff	S02430	-1.47	NIAMP5 Actual PE Update
Legcloghfin Road Cranagh	S05369	-35.63	NIAMP5 Actual PE Update
Leitrim (New)	S02705	-52.70	NIAMP5 Actual PE Update
Letterbin (WWTW)	S03158	-1.38	NIAMP5 Actual PE Update
Letterbreen	S05186	7.66	NIAMP5 Actual PE Update
Letterkeen	S03161	-1.14	NIAMP5 Actual PE Update
Limavady (WWTW)	S03162	-133.57	NIAMP5 Actual PE Update Trade updated
Limestone (1)	S03164	-3.54	NIAMP5 Actual PE Update
Limestone (2)	S03163	-0.54	NIAMP5 Actual PE Update
Lisbane Road(38-40)	S00839	0.74	NIAMP5 Actual PE Update
Lisbarnet Road (47-53)	S00245	2.36	NIAMP5 Actual PE Update
Lisbellaw (WWTW)	S03165	-70.22	NIAMP5 Actual PE Update
Lisburn (New Holland)	S00329	-3135.07	NIAMP5 Actual PE Update Septic tank imports added
Liscolman	S01191	-5.05	NIAMP5 Actual PE Update
Lisdoart (1)	S03166	-15.34	NIAMP5 Actual PE Update
Lisdoart (2)	S03167	1.30	NIAMP5 Actual PE Update
Lisdown	S02585	1.07	NIAMP5 Actual PE Update
Lislea (NEW)	S03980	-1.14	NIAMP5 Actual PE Update
Lismoyle	S01625	-6.87	NIAMP5 Actual PE Update
Lisnadill (WWTW)	S02586	-17.10	NIAMP5 Actual PE Update
Lisnagade Road(54-56)	S02161	-6.05	NIAMP5 Actual PE Update
Lisnagalt	S01157	0.48	NIAMP5 Actual PE Update
Lisnagat Road(34)	S01738	-9.06	NIAMP5 Actual PE Update
Lisnagat Road(64)	S01745	-6.05	NIAMP5 Actual PE Update
Lisnagunogue	S01192	-10.60	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnahall	S01587	-5.67	NIAMP5 Actual PE Update
Lisnakilly	S03168	-9.00	Actual PE Update-RWwIP PE Review

Name of Works	CAR ID	PE Change	Comments
Lisnalea	S02274	4.16	NIAMP5 Actual PE Update
Lisnamuck (Coleraine)	S01158	2.32	Actual PE Update-RWwIP PE Review
Lisnamuck (Magherafelt)	S01626	-1.20	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnaragh	S03169	1.20	NIAMP5 Actual PE Update
Lisnarrick	S03170	-7.65	NIAMP5 Actual PE Update
Lisnaskea (WWTW)	S03171	300.58	NIAMP5 Actual PE Update Trade updated
Lisnevanagh	S01421	-10.13	NIAMP5 Actual PE Update
Lisnisk	S01159	1.20	NIAMP5 Actual PE Update
Lisowan	S00287	-2.38	NIAMP5 Actual PE Update
Locard Park	S02144	6.01	NIAMP5 Actual PE Update
Longfield (Eglinton)	S03173	-5.43	NIAMP5 Actual PE Update Trade updated
Longfield (Moorside Villas)	S01627	-6.17	NIAMP5 Actual PE Update
Longs Glebe	S01160	-25.40	NIAMP5 Actual PE Update
Lough Bradan WTW (Septic Tank)	S03507	-2.78	NIAMP5 Actual PE Update
Lough Fea (WwTW)	S04087	-5.61	NIAMP5 Actual PE Update
Lough Macrory (WWTW)	S03174	7.72	NIAMP5 Actual PE Update
Lough Macrory WTW (Septic Tank)	S03509	0.04	NIAMP5 Actual PE Update
Lough Road(29-31)	S04139	0.27	NIAMP5 Actual PE Update
Loughan Road (Tyrone)	S03175	-1.49	NIAMP5 Actual PE Update
Loughgall (WWTW)	S02604	52.21	NIAMP5 Actual PE Update
Loughguile	S01115	-24.50	NIAMP5 Actual PE Update
Loughinisland (WWTW)	S00298	23.40	NIAMP5 Actual PE Update
Lower Ballinderry	S02410	58.76	NIAMP5 Actual PE Update
Lower Grange Road(20-26)	S01811	1.36	NIAMP5 Actual PE Update
Lower Rashee Road (15-21)	S05188	2.00	Actual PE updated following APT PE Review
Luney	S01628	-0.50	Actual PE updated following APT PE Review
Lurganare	S02298	-16.85	NIAMP5 Actual PE Update
Lurgancahone Road(35-39)	S02707	-0.30	NIAMP5 Actual PE Update
Lurgancahone Road(57-59)	S02708	-3.30	NIAMP5 Actual PE Update
Lurganville	S02411	20.44	NIAMP5 Actual PE Update
Macfin	S01116	-2.53	NIAMP5 Actual PE Update
Macosquin	S01161	-30.60	NIAMP5 Actual PE Update
Madden (WWTW)	S02587	-4.18	NIAMP5 Actual PE Update
Maghera (Down)	S00305	-17.77	NIAMP5 Actual PE Update
Maghera (L/Derry)	S01629	190.01	NIAMP5 Actual PE Update Trade updated
Magheracoltan	S03176	2.52	NIAMP5 Actual PE Update
Magherafelt (WWTW)	S01621	-1310.90	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR ID	PE Change	Comments
Magherafelt Road(24-28)	S01788	0.45	NIAMP5 Actual PE Update
Magherahoney	S01117	-2.00	NIAMP5 Actual PE Update
Magheramason	S03177	-62.66	NIAMP5 Actual PE Update
Magheramore Road(89)	S01753	1.47	NIAMP5 Actual PE Update
Magheramourne (WWTW)	S01464	-4.90	NIAMP5 Actual PE Update
Magheraveely	S03178	-0.57	NIAMP5 Actual PE Update
Magheraville	S02589	-5.94	NIAMP5 Actual PE Update
Maghery (WWTW)	S02414	87.35	NIAMP5 Actual PE Update
Maglion Terrace	S02147	2.28	NIAMP5 Actual PE Update
Main Road Cloughy (103-111)	S00223	1.85	NIAMP5 Actual PE Update
Manse Road (Antrim)	S01710	0.22	NIAMP5 Actual PE Update
Manse Road (Down)	S02148	-2.35	NIAMP5 Actual PE Update
Marlacoo Road	S02149	-3.02	NIAMP5 Actual PE Update
Martinstown	S01445	59.32	NIAMP5 Actual PE Update
Mayboy	S01163	32.44	NIAMP5 Actual PE Update
Mayoghill (WWTW)	S01164	0.58	NIAMP5 Actual PE Update
Maytown Road	S02275	-0.16	NIAMP5 Actual PE Update
McCandless Terrace	S02150	-1.20	NIAMP5 Actual PE Update
McCleary	S01165	0.60	Actual PE updated following APT PE Review
McKinley Park	S02276	-9.29	NIAMP5 Actual PE Update
Meigh (WWTW)	S02277	-58.95	NIAMP5 Actual PE Update
Middle Braniel Road(80-90)	S00857	6.00	NIAMP5 Actual PE Update
Middletown (WWTW)	S02592	32.31	NIAMP5 Actual PE Update
Milltown (Aghory)	S02593	-12.82	NIAMP5 Actual PE Update
Milltown (Burndennet)	S03184	-2.30	NIAMP5 Actual PE Update
Milltown (Maghera)	S01630	-32.80	NIAMP5 Actual PE Update
Milltown (Maghery)	S02416	14.55	NIAMP5 Actual PE Update
Milltown(Artigarvan)	S03183	1.08	NIAMP5 Actual PE Update
Minterburn Road(115-117)	S04134	0.14	NIAMP5 Actual PE Update
Moira	S02429	-935.12	NIAMP5 Actual PE Update
Molenan	S03185	0.84	NIAMP5 Actual PE Update
Monea (WWTW)	S03186	-43.94	NIAMP5 Actual PE Update
Moneybrannon Road(89)	S01754	0.66	NIAMP5 Actual PE Update
Moneycanon	S03188	-0.04	NIAMP5 Actual PE Update
Moneycarrie (WWTW)	S01166	-1.82	NIAMP5 Actual PE Update
Moneydig	S01167	-27.88	NIAMP5 Actual PE Update
Moneyglass	S01423	-15.56	NIAMP5 Actual PE Update
Moneymore (WWTW)	S01589	-210.59	NIAMP5 Actual PE Update Trade updated
Moneyneany (WWTW)	S01631	-19.90	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Moneynick Road(118)	S01757	-3.90	Actual PE updated following APT PE Review
Moneynick Road(94)	S01761	2.46	NIAMP5 Actual PE Update
Moneyreagh (WWTW)	S00337	229.31	NIAMP5 Actual PE Update Design PE updated Trade updated
Moneyreagh Road (51-55)	S00338	1.17	NIAMP5 Actual PE Update
Moneyreagh Road(139-141)	S00852	0.56	NIAMP5 Actual PE Update
Moneyscalp	S02710	-0.68	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Moneyslane (WWTW)	S02151	30.91	NIAMP5 Actual PE Update
Monmurry	S03189	-1.56	NIAMP5 Actual PE Update
Moorfields	S01446	1.80	NIAMP5 Actual PE Update
Moss Road(76-78)	S00244	-55.64	NIAMP5 Actual PE Update
Moss-side (WWTW)	S01194	27.84	NIAMP5 Actual PE Update
Mossvale Terrace	S02153	-13.90	NIAMP5 Actual PE Update
Mount Ida	S02154	1.08	NIAMP5 Actual PE Update
Mountain View (Drumintee)	S02278	-45.04	NIAMP5 Actual PE Update
Mountain View (Tullymurry)	S02712	-1.19	NIAMP5 Actual PE Update
Mounthill	S01465	0.04	Retained
Mountjoy (Dungannon)	S02849	50.20	NIAMP5 Actual PE Update Trade updated
Mountjoy (Omagh)	S03193	8.00	Actual PE updated following APT PE Review
Mountnorris	S02248	-95.50	NIAMP5 Actual PE Update Trade updated
Movenis Road(17)	S01728	0.58	NIAMP5 Actual PE Update
Movilla Road(136-140)	S00232	1.44	NIAMP5 Actual PE Update
Moy (WWTW)	S02859	-830.10	NIAMP5 Actual PE Update Trade updated
Moyagall Road(115-117)	S01799	-0.06	NIAMP5 Actual PE Update
Moyarget Road(178)	S01729	0.98	NIAMP5 Actual PE Update
Mulderg (WWTW)	S03194	2.93	NIAMP5 Actual PE Update
Mullaghbane (Armagh)	S02594	-3.28	NIAMP5 Actual PE Update
Mullaghboy	S00259	-47.28	NIAMP5 Actual PE Update
Mullaghboy Road(136-138)	S01812	-0.32	NIAMP5 Actual PE Update
Mullaghglass (Antrim)	S00325	-13.88	NIAMP5 Actual PE Update
Mullaghglass (Newry)	S02280	-20.56	NIAMP5 Actual PE Update
Mullaghmore	S02281	17.19	NIAMP5 Actual PE Update
Mullahead Road (WWTW)	S02418	1.50	NIAMP5 Actual PE Update
Mullan Road(35)	S01739	0.26	NIAMP5 Actual PE Update
Mullans (Antrim)	S01118	-39.68	NIAMP5 Actual PE Update
Mullans (Fermanagh)	S03196	-4.48	NIAMP5 Actual PE Update
Mullyroddan	S02851	-3.28	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Munie (WWTW)	S01466	-5.32	NIAMP5 Actual PE Update
Murdocks Lane(1-6)	S00850	1.18	NIAMP5 Actual PE Update
Myroe (WWTW)	S03198	6.50	NIAMP5 Actual PE Update
Navery Road	S01119	-2.36	NIAMP5 Actual PE Update
New Road(37-39)	S00830	3.53	NIAMP5 Actual PE Update
Newcastle (WWTW)	S00303	-94.02	NIAMP5 Actual PE Update Trade updated
Newcastle Road(18-20)	S00841	-4.60	NIAMP5 Actual PE Update
Newmills (WWTW)	S02852	-97.36	NIAMP5 Actual PE Update
Newmills Road(70-72)	S01128	0.48	NIAMP5 Actual PE Update
Newry (WWTW)	S02685	-1338.97	NIAMP5 Actual PE Update Trade updated
Newry Road Rathfriland (80-83)	S02726	-3.30	NIAMP5 Actual PE Update
Newtownbreda (WWTW)	S00342	-1932.75	NIAMP5 Actual PE Update Trade updated
Newtownbutler (WWTW)	S03200	-207.85	NIAMP5 Actual PE Update Trade updated
Newtown-Crommelin	S01447	-33.95	NIAMP5 Actual PE Update
Newtownhamilton	S02282	-190.10	NIAMP5 Actual PE Update
Newtownstewart (WWTW)	S03202	-140.60	NIAMP5 Actual PE Update
Nixons Corner (WWTW)	S03203	29.02	NIAMP5 Actual PE Update
Noones Vale	S01632	-5.74	NIAMP5 Actual PE Update
North Coast (WWTWs)	S04150	-3376.17	NIAMP5 Actual PE Update Trade updated
Old Green	S01448	75.46	NIAMP5 Actual PE Update
Old Holywood Road(190-196)	S00340	2.92	NIAMP5 Actual PE Update
Oldstone Terrace(8)	S01779	0.88	NIAMP5 Actual PE Update
Oliver Plunkett Park	S02284	-13.00	NIAMP5 Actual PE Update
Omagh (WWTW)	S03999	1027.36	NIAMP5 Actual PE Update Trade updated
Orahilly Park	S02283	-20.00	NIAMP5 Actual PE Update
Orritor (WWTW)	S01591	0.36	NIAMP5 Actual PE Update
Orritor Craigs	S01592	-3.05	NIAMP5 Actual PE Update
Orritor Road(182)	S02017	2.08	Actual PE updated following APT PE Review
Owenbeg (WWTW)	S03206	0.80	NIAMP5 Actual PE Update
Park (WWTW)	S03207	28.10	NIAMP5 Actual PE Update
Parsonage Road(110-120)	S00831	2.22	NIAMP5 Actual PE Update
Plumbridge (WWTW)	S03210	-2.06	NIAMP5 Actual PE Update
Point Road(29-33)	S01813	5.52	NIAMP5 Actual PE Update
Pomeroy (WWTW)	S01593	-260.86	Actual PE updated following APT PE Review Trade updated
Pomeroy Road	S02901	1.88	NIAMP5 Actual PE Update
Pomeroy Road(47-49)	S01814	-0.18	NIAMP5 Actual PE Update
Portadown Road (Tandragee)	S02175	4.38	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Portaferry (2)	S05200	249.16	NIAMP5 Actual PE Update Trade updated
Portaferry Road(96-100)	S00231	3.96	NIAMP5 Actual PE Update
Portglenone (WWTW)	S01449	-254.67	NIAMP5 Actual PE Update
Poyntzspass (WWTW)	S02156	-140.14	NIAMP5 Actual PE Update
Priestland	S01169	-41.92	NIAMP5 Actual PE Update
Priestland Road (51-53)	S04096	-0.24	NIAMP5 Actual PE Update
Procklis	S01450	0.10	NIAMP5 Actual PE Update
Quarter Road	S00222	1.11	NIAMP5 Actual PE Update
Racavan	S01451	0.34	Actual PE Update-RWwIP PE Review
Railway view(3)	S01785	-12.27	NIAMP5 Actual PE Update
Rasharkin	S01120	-189.48	NIAMP5 Actual PE Update
Rathfriland (WWTW)	S02713	37.76	NIAMP5 Actual PE Update Trade updated
Rathlin Island (New) WWTW	S05624	-92.88	Actual PE updated following APT PE Review
Ravara Road (9-19)	S00242	1.68	NIAMP5 Actual PE Update
Ravarnet	S00319	-8.00	NIAMP5 Actual PE Update
Redford	S02853	-33.90	NIAMP5 Actual PE Update
Rehaghy Road(64-66)	S04144	0.18	NIAMP5 Actual PE Update
Rickamore Road(36-38)	S01780	-1.50	NIAMP5 Actual PE Update
Ringneill (WWTW)	S00237	-69.55	NIAMP5 Actual PE Update
Ringneill Road(1-5)	S00240	1.14	NIAMP5 Actual PE Update
Ringsend	S01170	2.70	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ringsend Road	S02158	-2.64	NIAMP5 Actual PE Update
Ritchies Villas	S01634	-3.50	NIAMP5 Actual PE Update
Robinsonstown	S02419	0.07	Actual PE Update following an ALP PE review and on-site check
Rock Cottages	S02172	-0.36	NIAMP5 Actual PE Update
Rornashane	S01121	0.55	NIAMP5 Actual PE Update
Rosevale Road	S02176	1.76	NIAMP5 Actual PE Update
Rosscolban	S03211	-0.02	Retained
Rosscor	S03212	-2.80	NIAMP5 Actual PE Update
Rosslea (WWTW)	S03213	121.93	NIAMP5 Actual PE Update
Roughfort (WWTW)	S01470	10.58	NIAMP5 Actual PE Update Trade updated
Rousky	S03214	-7.69	NIAMP5 Actual PE Update
Saintfield (WWTW)	S00290	-328.85	NIAMP5 Actual PE Update
Scotstown Road (7-9)	S04117	3.13	NIAMP5 Actual PE Update
Scribbagh (WWTW)	S03216	-2.20	NIAMP5 Actual PE Update
Seacon	S01122	-6.59	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Seagahan	S02530	-7.90	NIAMP5 Actual PE Update
Seahill (WWTW)	S00774	22.10	Retained Trade updated
Sentry Box Road (20-22)	S02165	3.44	NIAMP5 Actual PE Update
Seskinore	S03217	-99.64	NIAMP5 Actual PE Update
Seven Mile Straight(177)	S01781	-0.20	NIAMP5 Actual PE Update
Seven Mile Straight(78)	S02018	0.22	NIAMP5 Actual PE Update
Seven Mile Straight(82)	S02019	0.22	NIAMP5 Actual PE Update
Seven Mile Straight(86)	S02020	0.22	NIAMP5 Actual PE Update
Shaneoguestown Road(38)	S01782	-3.78	NIAMP5 Actual PE Update
Sherrigrim	S01596	2.10	Actual PE updated following APT PE Review
Shinn Road	S02716	-0.60	NIAMP5 Actual PE Update
Shinny Road(20-22)	S01125	0.34	NIAMP5 Actual PE Update
Shore Road (Castle View)	S01797	-0.16	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 1)	S00174	-3.84	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 2)	S00174	-3.84	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 3)	S00174	-3.84	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 4)	S00174	-3.84	NIAMP5 Actual PE Update
Silent Valley (Septic Tank 5)	S00174	-3.84	NIAMP5 Actual PE Update
Silverbridge	S02285	13.00	NIAMP5 Actual PE Update
Sion Mills	S03219	60.57	NIAMP5 Actual PE Update
Skernahergney	S01597	-0.44	NIAMP5 Actual PE Update
Skerry View	S01452	-0.84	NIAMP5 Actual PE Update
Slaght	S01453	-9.28	NIAMP5 Actual PE Update
Soldierstown	S02431	0.90	NIAMP5 Actual PE Update
Spamount	S03221	4.40	NIAMP5 Actual PE Update
Spelga Dam ST	S02676	1.04	NIAMP5 Actual PE Update
Springfield	S03222	-28.84	NIAMP5 Actual PE Update
Springhill Road(1)	S01713	1.84	NIAMP5 Actual PE Update
Springwell Cresent(1-6)	S04135	2.24	NIAMP5 Actual PE Update
St Bridgids Villas	S02286	-3.00	NIAMP5 Actual PE Update
St James	S00322	11.93	Actual PE Update-RWwIP PE Review
St Johns Terrace (Kilcoo)	S02717	-0.60	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade Change in treament category from prim to sec bio
St Marys Terrace	S02718	0.24	NIAMP5 Actual PE Update
St Patricks Villas	S02719	2.11	NIAMP5 Actual PE Update
Staffordstown Road	S01426	0.36	NIAMP5 Actual PE Update
Station Road(155-157)	S00854	0.56	NIAMP5 Actual PE Update
Stewartstown	S01599	36.07	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Stoneyford Beeches One WwTW	S05705	2.06	NIAMP5 Actual PE Update
Strabane	S03223	1269.46	Retained Septic tank imports added Trade updated
Stradreagh (Septic Tank)	S03131	0.92	NIAMP5 Actual PE Update
Straid (Ballymena)	S01455	-17.54	NIAMP5 Actual PE Update
Straid Road(111)	S01719	-8.04	NIAMP5 Actual PE Update
Straid Road(12)	S01721	-1.53	NIAMP5 Actual PE Update
Stranagard	S01815	0.18	NIAMP5 Actual PE Update
Strangford	S00226	16.08	NIAMP5 Actual PE Update
Stranocum	S01123	-68.80	NIAMP5 Actual PE Update
Swatragh (WWTW)	S01637	-23.34	NIAMP5 Actual PE Update Trade updated
Tamlaght (WWTW)	S03224	-50.20	NIAMP5 Actual PE Update
Tamlaght O Crilly	S01638	-30.75	NIAMP5 Actual PE Update
Tamnaherin	S03226	33.64	NIAMP5 Actual PE Update
Tamnamore (WWTW)	S02862	-254.61	NIAMP5 Actual PE Update Trade updated
Tandragee	S02174	1601.95	NIAMP5 Actual PE Update Trade updated
Tartaraghan	S02421	-12.75	NIAMP5 Actual PE Update
Tattysallagh	S03227	-8.78	NIAMP5 Actual PE Update
Teeraw	S02598	-3.96	NIAMP5 Actual PE Update
Tempo (WWTW)	S03229	-108.00	NIAMP5 Actual PE Update
The Demesne	S00289	0.84	NIAMP5 Actual PE Update
The Loup (WWTW)	S01588	-19.00	NIAMP5 Actual PE Update
The Oyster Yard WWTW	S05533	5.70	Actual PE updated following APT PE Review
The Rock	S01594	-13.45	NIAMP5 Actual PE Update
The Skeagh	S02163	3.58	NIAMP5 Actual PE Update
Thorney Glen	S00284	12.44	NIAMP5 Actual PE Update
Tibaran Cottages	S04127	1.36	NIAMP5 Actual PE Update
Tirquin	S03230	4.00	Actual PE Update-RWwIP PE Review
Toberkeagh	S01195	0.94	NIAMP5 Actual PE Update
Tobermore (WWTW)	S01640	-21.63	NIAMP5 Actual PE Update
Tobermore Road(144-146)	S01817	0.18	NIAMP5 Actual PE Update
Torr Head	S01196	-10.18	NIAMP5 Actual PE Update
Trench Road (66-70)	S04118	-0.20	NIAMP5 Actual PE Update
Trillick (WWTW)	S03231	-20.04	NIAMP5 Actual PE Update
Tromra	S01197	-2.62	NIAMP5 Actual PE Update
Tubber Road (10-16)	S00207	1.48	NIAMP5 Actual PE Update
Tullaghmore Road(41-43)	S01818	0.10	NIAMP5 Actual PE Update
Tully (WWTW)	S03232	-17.20	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Tully Road Headworks	S03975	-72.68	NIAMP5 Actual PE Update
Tullyard(Tyrone)	S03233	0.50	NIAMP5 Actual PE Update
Tullyelmer (WWTW)	S02599	-4.68	NIAMP5 Actual PE Update
Tullygrawley	S01457	-4.52	NIAMP5 Actual PE Update
Tullyhubbert Road(75-81)	S00258	1.12	NIAMP5 Actual PE Update
Tullyleek	S02855	-0.16	NIAMP5 Actual PE Update
Tullymore Road (43-45)	S04119	-6.46	NIAMP5 Actual PE Update
Tullynakill Road	S05280	-18.78	NIAMP5 Actual PE Update
Tullyreavy	S01600	-0.66	Actual PE updated following APT PE Review
Tullyroan	S02600	-1.11	NIAMP5 Actual PE Update Trade updated
Tulnacross Road(44-46)	S01820	-0.18	NIAMP5 Actual PE Update
Tummery	S03234	-13.50	NIAMP5 Actual PE Update
Tureagh	S01198	-0.40	NIAMP5 Actual PE Update
Turraloskin	S01199	2.92	NIAMP5 Actual PE Update
Tursallagh	S03235	-1.08	Actual PE updated following APT PE Review
Upper Ballinderry	S02422	-0.18	NIAMP5 Actual PE Update
Upper Ballygelagh Road(12-18)	S00845	-6.41	NIAMP5 Actual PE Update
Upper Cranlome Road	S02893	0.14	NIAMP5 Actual PE Update
Upper Malone Road	S04026	-25.50	NIAMP5 Actual PE Update
Upperlands (WWTW)	S01642	-84.38	NIAMP5 Actual PE Update
Victoria Bridge (WWTW)	S03236	-36.56	NIAMP5 Actual PE Update
Victoria Road (277-279)	S04111	-5.20	NIAMP5 Actual PE Update
Waringstown	S02423	312.68	NIAMP5 Actual PE Update
Warrenpoint (WWTW)	S02720	102.49	SWELL - Retained Design PE updated Trade updated
Waterfoot Road (WWTW)	S01643	-22.60	NIAMP5 Actual PE Update
When Road (21-23)	S04122	0.30	NIAMP5 Actual PE Update
Whitechurch Road (45-53)	S00213	3.25	NIAMP5 Actual PE Update
Whitegate Road	S02167	-1.84	NIAMP5 Actual PE Update
Whitehouse	S00265	-211.59	Retained trade update.
Whitelough Road(29-31)	S04137	0.18	NIAMP5 Actual PE Update
Whitepark Road(211)	S01732	1.18	NIAMP5 Actual PE Update
Whitepark Road(56)	S01741	1.96	NIAMP5 Actual PE Update
Whitepark Road(71)	S01746	0.98	NIAMP5 Actual PE Update
Windmill Road(24-32)	S00235	2.40	NIAMP5 Actual PE Update
Windmill Road(71-73)	S04159	3.48	NIAMP5 Actual PE Update
Woaghternerry	S03239	-3.80	NIAMP5 Actual PE Update
Woodburn/Dorisland WTW (Septic Tank)	S00011	0.30	NIAMP5 Actual PE Update
Ballintoy New WwTW	S05672	-28.76	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
	Total	**-86,693.9**	**Change in Line 6 PE since AIR20**

Difference between AIR21 and AIR20:

Line 6 for AIR21 -	**1,999,445**
Line 6 for AIR20 -	**1,912,751**
Total Difference -	**86,694**

Note – The difference in the above totals are due to rounding of values.

Line 7 - Equivalent population served (resident) (Numerical consents)

The table below shows the changes in WWTWs PEs since AIR20 that affects equivalent population served (resident) with numerical consents for Line 7. NB. Change in PE (-Ve AIR21 PE Higher)

Name of Works	CAR ID	PE Change	Comments
Aghagallon	S02393	-129.00	NIAMP5 Actual PE Update
Aghalee	S02394	-113.36	NIAMP5 Actual PE Update
Aghanloo (1)	S02989	-28.08	NIAMP5 Actual PE Update Trade updated
Annacloy (WWTW)	S00292	-2.25	NIAMP5 Actual PE Update
Annaghhugh (WWTW)	S02602	-30.08	NIAMP5 Actual PE Update
Annaghmore (WWTW)	S02556	-62.52	NIAMP5 Actual PE Update
Annahilt (WWTW)	S00317	-47.00	NIAMP5 Actual PE Update
Annsborough	S02687	58.91	NIAMP5 Actual PE Update Trade updated
Antrim (WWTW)	S01422	-905.87	NIAMP5 Actual PE Update Trade updated
Ardglass (WWTW)	S00268	494.54	NIAMP5 Actual PE Update Trade updated
Ardstraw (WWTW)	S02997	20.72	NIAMP5 Actual PE Update
Armoy (WWTW)	S01172	-34.04	NIAMP5 Actual PE Update
Augher (WWTW)	S03005	-89.84	Actual PE based on on-site check Design PE Updated following reverse engineering exercise.
Aughnacloy	S03007	-307.53	NIAMP5 Actual PE Update
Ballinmallard (WWTW)	S03010	164.60	NIAMP5 Actual PE Update
Ballybogy	S01087	577.00	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballycassidy (WWTW)	S03012	-67.12	NIAMP5 Actual PE Update
Ballyclare	S01467	-3647.99	NIAMP5 Actual PE Update Trade updated
Ballycranbeg	S00218	-76.16	NIAMP5 Actual PE Update Design PE updated
Ballygawley (WWTW)	S03013	-299.82	NIAMP5 Actual PE Update
Ballygowan	S00247	-25.06	NIAMP5 Actual PE Update Trade updated
Ballykelly (L/Derry)	S03016	-190.75	NIAMP5 Actual PE Update
Ballymagorry (WWTW)	S03018	-89.49	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Ballymena (WWTW)	S01456	-15161.48	NIAMP5 Actual PE Update Trade updated
Ballynahinch (Down)	S00311	-24.06	NIAMP5 Actual PE Update Trade updated
Ballyvoy	S01177	-7.56	NIAMP5 Actual PE Update Design PE Updated
Banbridge (WWTW)	S02102	-3389.51	NIAMP5 Actual PE Update Trade updated
Belcoo (WWTW)	S03022	-37.68	NIAMP5 Actual PE Update
Belfast (WWTW)	S00345	-6172.32	Retained Septic tank imports added Trade updated
Bellaghy (WWTW)	S01606	-39.04	Actual PE updated following APT PE Review
Belleek (Armagh)	S02253	10.90	NIAMP5 Actual PE Update
Belleek (Fermanagh)	S03024	118.35	NIAMP5 Actual PE Update
Benburb (WWTW)	S02831	-109.05	NIAMP5 Actual PE Update
Beragh (WWTW)	S03027	-260.75	NIAMP5 Actual PE Update
Blackscull (WWTW)	S02397	64.09	NIAMP5 Actual PE Update
Blackwatertown (WWTW)	S02552	-48.91	NIAMP5 Actual PE Update
Bonnanaboigh	S03031	-1.48	NIAMP5 Actual PE Update
Bready (WWTW)	S03971	-20.00	NIAMP5 Actual PE Update
Brookeborough (WWTW)	S03032	-120.71	NIAMP5 Actual PE Update
Bushmills (WWTW)	S01178	114.91	NIAMP5 Actual PE Update Trade updated
Cabragh (WWTW)	S02834	-73.87	NIAMP5 Actual PE Update
Caledon (WWTW)	S02835	-65.49	NIAMP5 Actual PE Update
Cargan (WWTW)	S01433	163.74	NIAMP5 Actual PE Update
Carrickfergus (WWTW)	S00261	-64.39	Retained Trade updated
Carrickmore (WWTW)	S03039	45.34	NIAMP5 Actual PE Update
Carrowdore	S00236	235.05	NIAMP5 Actual PE Update
Castle Archdale Country Park (WWTW)	S05877	-14.60	NIAMP5 Actual PE Update
Castlecaulfield (WWTW)	S02836	-166.56	NIAMP5 Actual PE Update
Castlederg (WWTW)	S03042	-685.84	NIAMP5 Actual PE Update Trade updated
Clabby (WWTW)	S03051	75.61	NIAMP5 Actual PE Update
Clady (Tyrone)	S04149	2.60	NIAMP5 Actual PE Update Trade updated
Clarehill	S01039	27.43	NIAMP5 Actual PE Update
Claudy	S03054	-56.42	NIAMP5 Actual PE Update
Clogh (WWTW)	S01436	-28.25	NIAMP5 Actual PE Update
Clogher (WWTW)	S03056	-140.28	Actual PE updated following APT PE Review
Clough (WWTW)	S00296	152.30	NIAMP5 Actual PE Update
Cloughmills (WWTW)	S01096	-116.43	NIAMP5 Actual PE Update
Cluntoe (Richardson)	S04872	-11.88	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Coagh (WWTW)	S01562	37.54	NIAMP5 Actual PE Update
Coalisland	S02828	-753.21	NIAMP5 Actual PE Update
Cookstown (WWTW)	S01582	-1392.34	NIAMP5 Actual PE Update Trade updated
Creagh	S01611	-26.62	NIAMP5 Actual PE Update
Crossmaglen	S02273	-414.48	NIAMP5 Actual PE Update
Cullaville	S02264	-57.69	NIAMP5 Actual PE Update
Cullyhanna (WWTW)	S02265	40.56	NIAMP5 Actual PE Update
Culmore (WWTW)	S03071	-30134.47	NIAMP5 Actual PE Update Trade updated
Darkley (WWTW)	S02569	-1.20	NIAMP5 Actual PE Update
Dernaflaw	S03072	38.00	Actual PE Updated following ALP review and on-site checks
Derrygonnelly (WWTW)	S03074	-142.60	NIAMP5 Actual PE Update
Derryhale	S02570	136.45	NIAMP5 Actual PE Update Trade updated
Derrylin (WWTW)	S03075	-89.19	NIAMP5 Actual PE Update
Derrymore (WWTW)	S02401	20.60	NIAMP5 Actual PE Update
Derrytrasna	S02402	-19.67	NIAMP5 Actual PE Update
Dervock (WWTW)	S01102	-44.89	NIAMP5 Actual PE Update Trade updated
Desertmartin	S01614	-5.43	NIAMP5 Actual PE Update
Donaghmore (WWTW)	S02840	350.05	NIAMP5 Actual PE Update Trade updated
Donemana	S03103	2.23	SWELL-Retain Design PE updated Trade updated
Donnybrewer	S03080	25.17	NIAMP5 Actual PE Update Trade updated
Downpatrick (WWTW)	S00771	-6006.93	NIAMP5 Actual PE Update Septic tank imports added Trade updated
Draperstown	S01615	-141.15	NIAMP5 Actual PE Update Trade updated
Dromara (WWTW)	S00316	-116.78	NIAMP5 Actual PE Update Trade updated
Dromore (Down)	S02127	-744.15	NIAMP5 Actual PE Update Trade updated
Dromore (Tyrone)	S03083	51.30	NIAMP5 Actual PE Update Trade updated
Drumbeg (WWTW)	S00335	-85.87	NIAMP5 Actual PE Update
Drumintee	S02269	-20.76	NIAMP5 Actual PE Update
Drumquin (WWTW)	S03098	-98.24	NIAMP5 Actual PE Update
Drumsurn	S03100	85.94	NIAMP5 Actual PE Update
Dundrum (Down)	S00297	-58.44	NIAMP5 Actual PE Update Design PE updated
Dungannon	S02850	1730.58	Retain Trade updated
Dungiven	S03101	135.47	NIAMP5 Actual PE Update Trade updated
Dunloy	S01108	-154.14	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Dunmurry	S00346	-2623.92	NIAMP5 Actual PE Update Trade updated
Dunnamore	S01574	-57.55	NIAMP5 Actual PE Update
Ederney (WWTW)	S03106	-10.21	NIAMP5 Actual PE Update
Enniskillen	S03218	-536.54	NIAMP5 Actual PE Update Trade updated
Feeny	S03110	106.12	NIAMP5 Actual PE Update
Fintona (WWTW)	S03112	50.25	Retained
Fivemiletown (WWTW)	S03113	-111.16	NIAMP5 Actual PE Update Trade updated
Florencecourt	S03114	5.84	NIAMP5 Actual PE Update
Foreglen	S03019	36.88	NIAMP5 Actual PE Update
Forkhill	S02270	-79.76	NIAMP5 Actual PE Update
Galbally	S02844	39.00	NIAMP5 Actual PE Update
Garvagh (WWTW)	S01154	777.91	NIAMP5 Actual PE Update
Garvaghy	S03116	6.38	NIAMP5 Actual PE Update
Gilford (WWTW)	S02162	-275.01	NIAMP5 Actual PE Update Trade updated
Glassdrumman (Down)	S00302	-81.70	NIAMP5 Actual PE Update
Glenavy (WWTW)	S04188	-524.28	NIAMP5 Actual PE Update
Glenstall	S01109	-1213.90	NIAMP5 Actual PE Update. Transfer of flows to Ballybogy catchment. Ballybogy PE added. Septic tank imports added Trade updated
Gortin (Tyrone)	S03124	-35.96	NIAMP5 Actual PE Update
Gortnahey (WWTW)	S03126	9.80	NIAMP5 Actual PE Update
Grange (Taylorstown)	S01442	-72.03	NIAMP5 Actual PE Update Trade updated
Greencastle (Tyrone)	S03132	-30.41	NIAMP5 Actual PE Update
Greenisland (WWTW)	S00263	161.73	Retained Trade updated
Greyabbey (WWTW)	S00214	-60.51	NIAMP5 Actual PE Update
Gulladuff (WWTW)	S01619	-255.09	NIAMP5 Actual PE Update
Hamiltonsbawn	S02603	-277.74	NIAMP5 Actual PE Update
Hilltown (WWTW)	S02701	-279.62	NIAMP5 Actual PE Update Trade updated
Irvinestown	S03137	-877.35	NIAMP5 Actual PE Update Trade updated
Jonesborough (WWTW)	S02272	-85.49	NIAMP5 Actual PE Update
Keady (Armagh)	S02553	-558.89	NIAMP5 Actual PE Update Trade updated
Kesh (WWTW)	S03140	189.36	NIAMP5 Actual PE Update
Kilcoo	S02704	-65.32	NIAMP5 Actual PE Update
Kilkeel (WWTW)	S00313	1339.78	Retain Trade updated
Killeen (Tyrone)	S02846	-38.98	NIAMP5 Actual PE Update
Killen	S03143	70.36	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Killinchy (WWTW)	S00252	3426.24	NIAMP5 Actual PE Update Trade updated
Killygonlan (WWTW)	S02043	159.81	NIAMP5 Actual PE Update Trade updated
Killyleagh (WWTW)	S00273	504.15	NIAMP5 Actual PE Update
Kilrea	S01156	48.84	NIAMP5 Actual PE Update Trade updated
Kinallen (WWTW)	S03981	-139.79	NIAMP5 Actual PE Update
Kinawley	S03149	26.58	NIAMP5 Actual PE Update
Kircubbin (WWTW)	S04881	-356.48	NIAMP5 Actual PE Update
Knockloughrim	S01623	-15.45	NIAMP5 Actual PE Update
Larne (WWTW)	S02044	-1714.44	NIAMP5 Actual PE Update Trade updated
Lawrencetown	S02142	21.40	NIAMP5 Actual PE Update
Limavady (WWTW)	S03162	-133.57	NIAMP5 Actual PE Update Trade updated
Lisbellaw (WWTW)	S03165	-70.22	NIAMP5 Actual PE Update
Lisburn (New Holland)	S00329	-3135.07	NIAMP5 Actual PE Update Septic tank imports added
Liscolman	S01191	-5.05	NIAMP5 Actual PE Update
Lisnarrick	S03170	-7.65	NIAMP5 Actual PE Update
Lisnaskea (WWTW)	S03171	300.58	NIAMP5 Actual PE Update Trade updated
Lough Macrory (WWTW)	S03174	7.72	NIAMP5 Actual PE Update
Loughgall (WWTW)	S02604	52.21	NIAMP5 Actual PE Update
Loughguile	S01115	-24.50	NIAMP5 Actual PE Update
Lower Ballinderry	S02410	58.76	NIAMP5 Actual PE Update
Lurganare	S02298	-16.85	NIAMP5 Actual PE Update
Macosquin	S01161	-30.60	NIAMP5 Actual PE Update
Maghera (Down)	S00305	-17.77	NIAMP5 Actual PE Update
Maghera (L/Derry)	S01629	190.01	NIAMP5 Actual PE Update Trade updated
Magherafelt (WWTW)	S01621	-1310.90	NIAMP5 Actual PE Update Trade updated
Magheramason	S03177	-62.66	NIAMP5 Actual PE Update
Maghery (WWTW)	S02414	87.35	NIAMP5 Actual PE Update
Martinstown	S01445	59.32	NIAMP5 Actual PE Update
Meigh (WWTW)	S02277	-58.95	NIAMP5 Actual PE Update
Middletown (WWTW)	S02592	32.31	NIAMP5 Actual PE Update
Moira	S02429	-935.12	NIAMP5 Actual PE Update
Monea (WWTW)	S03186	-43.94	NIAMP5 Actual PE Update
Moneymore (WWTW)	S01589	-210.59	NIAMP5 Actual PE Update Trade updated
Moneyneany (WWTW)	S01631	-19.90	NIAMP5 Actual PE Update
Moneyreagh (WWTW)	S00337	229.31	NIAMP5 Actual PE Update Design PE updated Trade updated
Moneyslane (WWTW)	S02151	30.91	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Moorfields	S01446	1.80	NIAMP5 Actual PE Update
Moss-side (WWTW)	S01194	27.84	NIAMP5 Actual PE Update
Mountjoy (Dungannon)	S02849	50.20	NIAMP5 Actual PE Update Trade updated
Mountnorris	S02248	-95.50	NIAMP5 Actual PE Update Trade updated
Moy (WWTW)	S02859	-830.10	NIAMP5 Actual PE Update Trade updated
Mullans (Antrim)	S01118	-39.68	NIAMP5 Actual PE Update
Newcastle (WWTW)	S00303	-94.02	NIAMP5 Actual PE Update Trade updated
Newmills (WWTW)	S02852	-97.36	NIAMP5 Actual PE Update
Newry (WWTW)	S02685	-1338.97	NIAMP5 Actual PE Update Trade updated
Newtownbreda (WWTW)	S00342	-1932.75	NIAMP5 Actual PE Update Trade updated
Newtownbutler (WWTW)	S03200	-207.85	NIAMP5 Actual PE Update Trade updated
Newtownhamilton	S02282	-190.10	NIAMP5 Actual PE Update
Newtownstewart (WWTW)	S03202	-140.60	NIAMP5 Actual PE Update
Nixons Corner (WWTW)	S03203	29.02	NIAMP5 Actual PE Update
North Coast (WWTWs)	S04150	-3376.17	NIAMP5 Actual PE Update Trade updated
Omagh (WWTW)	S03999	1027.36	NIAMP5 Actual PE Update Trade updated
Orritor (WWTW)	S01591	0.36	NIAMP5 Actual PE Update
Park (WWTW)	S03207	28.10	NIAMP5 Actual PE Update
Plumbridge (WWTW)	S03210	-2.06	NIAMP5 Actual PE Update
Pomeroy (WWTW)	S01593	-260.86	Actual PE updated following APT PE Review Trade updated
Portaferry (2)	S05200	249.16	NIAMP5 Actual PE Update Trade updated
Portglenone (WWTW)	S01449	-254.67	NIAMP5 Actual PE Update
Poyntzspass (WWTW)	S02156	-140.14	NIAMP5 Actual PE Update
Rasharkin	S01120	-189.48	NIAMP5 Actual PE Update
Rathfriland (WWTW)	S02713	37.76	NIAMP5 Actual PE Update Trade updated
Ravarnet	S00319	-8.00	NIAMP5 Actual PE Update
Redford	S02853	-33.90	NIAMP5 Actual PE Update
Ringneill (WWTW)	S00237	-69.55	NIAMP5 Actual PE Update
Robinsonstown	S02419	0.07	Actual PE Update following an ALP PE review and on-site check
Rosslea (WWTW)	S03213	121.93	NIAMP5 Actual PE Update
Roughfort (WWTW)	S01470	10.58	NIAMP5 Actual PE Update Trade updated
Saintfield (WWTW)	S00290	-328.85	NIAMP5 Actual PE Update
Seahill (WWTW)	S00774	22.10	Retain Trade Update
Seskinore	S03217	-99.64	NIAMP5 Actual PE Update
Sion Mills	S03219	60.57	NIAMP5 Actual PE Update

Name of Works	CAR ID	PE Change	Comments
Spamount	S03221	4.40	NIAMP5 Actual PE Update
Stewartstown	S01599	36.07	NIAMP5 Actual PE Update
Stoneyford Beeches One WwTW	S05705	-692.94	NIAMP5 Actual PE Update
Strabane	S03223	1269.46	Retained Septic tank imports added Trade updated
Stranocum	S01123	-68.80	NIAMP5 Actual PE Update
Swatragh (WWTW)	S01637	-23.34	NIAMP5 Actual PE Update Trade updated
Tamlaght (WWTW)	S03224	-50.20	NIAMP5 Actual PE Update
Tamnaherin	S03226	33.64	NIAMP5 Actual PE Update
Tamnamore (WWTW)	S02862	-254.61	NIAMP5 Actual PE Update Trade updated
Tandragee	S02174	1601.95	NIAMP5 Actual PE Update Trade updated
Tempo (WWTW)	S03229	-108.00	NIAMP5 Actual PE Update
The Loup (WWTW)	S01588	-19.00	NIAMP5 Actual PE Update
Tobermore (WWTW)	S01640	-21.63	NIAMP5 Actual PE Update
Trillick (WWTW)	S03231	-20.04	NIAMP5 Actual PE Update
Upper Ballinderry	S02422	-0.18	NIAMP5 Actual PE Update
Upperlands (WWTW)	S01642	-84.38	NIAMP5 Actual PE Update
Victoria Bridge (WWTW)	S03236	-36.56	NIAMP5 Actual PE Update
Waringstown	S02423	312.68	NIAMP5 Actual PE Update
Warrenpoint (WWTW)	S02720	102.49	SWELL - Retained Design PE updated Trade updated
Whitehouse	S00265	-211.59	Retained Trade updated
	Total	**-83216.78**	**Change in Line 7 PE since AIR20**

Difference between AIR21 and AIR20:

Line 7 for AIR21 -	**1,933,782**
Line 7 for AIR20 -	**1,850,566**
Total Difference -	**83,216**

Note – The difference in the above totals are due to rounding of values.

Line 8 - Number of sewage treatment works

The number of WWTWs of 1015, on this line differs from the total of 1023 as shown in Table 17c, as the former does not include the screened outfalls (2 No.) and the unscreened outfalls (5 No.), as per the definition for this line.

The table below shows the changes in numbers of WWTWs since AIR20 for Line 8.

Name of Works	CAR ID	Change in Nr of STWs	Comments
Ballybogy	S01087	**-1**	Pumpaway - Transfer of flows to Glenstall catchment. PE added to Glenstall

Name of Works	CAR ID	Change in Nr of STWs	Comments
Net Decrease			**-1**

Difference between AIR21 and AIR20:

Line 8 for AIR21 -	**1,014**
Line 8 for AIR20 -	**1,015**
Total Difference -	**1**

Line 9 – Treatment capacity available

The table below shows the changes in Treatment Capacity Available at WWTWs since AIR20 for Line 9. NB. Change in PE (-Ve AIR21 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Augher (WWTW)	S03005	-48.0	Actual PE based on on-site check Design PE Updated following reverse engineering exercise.
Ballybogy	S01087	700.0	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballycranbeg	S00218	-267.0	NIAMP5 Actual PE Update Design PE updated
Ballymaderphy	S02728	-25.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ballyvoy	S01177	-189.0	NIAMP5 Actual PE Update Design PE Updated (PC15 Project)
Buckna (WWTW)	S01432	-3.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Carmean	S01608	-22.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Church Hill	S03050	-36.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Craignasasonagh	S00308	-15.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Donemana	S03103	-583.0	SWELL-Retain Design PE updated (SWELL project) Trade updated
Drumard Primate (WWTW)	S02404	4.0	NIAMP5 Actual PE Update Design PE updated following RWwIP Upgrade
Dundrum (Down)	S00297	-649.0	NIAMP5 Actual PE Update Design PE updated
Lisnagunogue	S01192	-25.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Lisnamuck (Magherafelt)	S01626	-11.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Moneyreagh (WWTW)	S00337	-876.0	NIAMP5 Actual PE Update Design PE updated Trade updated

Name of Works	CAR ID	PE Change	Comments
Moneyscalp	S02710	-29.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Ringsend	S01170	17.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Rocktown	S01635	7.0	Design PE updated following RWwIP upgrade
St Johns Terrace (Kilcoo)	S02717	-20.0	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade Change in treament category from prim to sec bio
Warrenpoint (WWTW)	S02720	-4791.0	SWELL - Retained Design PE updated (SWELL Project) Trade updated
	Total	-6861	**Change in Line 9 PE since AIR20**

The change in PE equates to an increase in load of 0.4t BOD/day (i.e. 6861 x 60 for 60g/hd/day /1000/1000) from AIR20 to AIR21.

Difference between AIR21 and AIR20:

Line 9 for AIR19 -	**136.0**
Line 9 for AIR20 -	**135.6**
Total Difference -	**0.4**

Note – The difference in the above totals are due to rounding of values

Confidence Grade

The confidence grade for line 8 remains as A2. There may still be a number of small WWTWs which are perhaps under the ownership of the NI Housing Executive or have become private due to customers perhaps installing their own private septic tanks or converting 2 houses into 1. Hence a small reduction in confidence grade i.e. A2 is viewed as necessary to reflect this uncertainty, especially as 698 WWTWs (excluding tourist PE) are listed as having a PE of less than 100.

Lines 14- 17 Sewage – Sludge Disposal

NIW Only

Line 14 – Percentage unsatisfactory sludge disposal

Northern Ireland Water (NIW) continues to have zero unsatisfactory sludge disposals.
NIW has again assigned a confidence grade of A1 to percentage unsatisfactory sludge disposal as the total is zero.

Line 15 – Total sewage sludge produced

Sewage cake is produced from 8Nr. NIW sites and transported to PPP Contractor for incineration. Liquid sludge is also transported to the PPP Contractor (Ballynacor & Duncrue Street, Belfast) where the Contractor measures and processes same for disposal (including Belfast WwTW Indigenous).

For the purpose of AIR 21 submission Table 15 (NIW Only) relates to sewage sludge produced for 2020/21 (tds) as recorded by PPP and monthly by Ww Area Sludge Officers (reconciled using the SLS) and presented in the monthly Sludge Management Report (copy

attached) along with an estimated quantity of WwTW & WwPS grit & screenings which are routinely removed as part of the sewage treatment process and disposed of separately under Tender C821 (Collection, Transportation and Disposal of Waste by skip). The total estimated quantity of grit and screenings removed as part of the sewage treatment process and disposed of under Tender C821 has been collated for the period of 2020/21.

Line 16 - Total sewage sludge received from NI Water

Northern Ireland Water is contracted to transfer all sewage liquid and cake to PPP. Sewage cake is produced from 8Nr. NIW sites and transported to PPP Contractor for incineration. Liquid sludge is also transported to the PPP Contractor (Ballynacor & Duncrue Street, Belfast) where the Contractor measures and processes same for disposal (including Belfast WwTW Indigenous). That element of the sewage treatment production is reported and subsequently combined for the Total T15 submission. This data is also submitted through PPP reporting in T42.

Line 17 - Total sewage sludge disposal

Northern Ireland Water disposes the same amount of sludge as that produced (Line 15). NIW remains committed to compliance with the requirements of the "Safe Sludge Matrix". A total of 97.7% of sewage sludge to PPP during 2020/21, the total estimated quantity of grit and screenings removed as part of the sewage treatment process and disposed of separately under Tender C821 (Collection, Transportation and Disposal of Waste by skip) has been collated and disposed to landfill & other (ReCon) in 2020/21.

PPP Only

Line 2 - Total load receiving secondary treatment

The total loads receiving secondary treatment have changed to reflect the actual load discharged from the NI Water sewer network to the PPP works. The extent of this loading has likely been affected by the impact of the Covid-19 virus which (i) disrupted the frequency of sampling during the early months of the AIR21 period and (ii) may have affected the actual loads received as the population experienced differing work practices [home working, furloughed, business closures, reduced trade etc.].

Line 6 - Equivalent population served (resident)

The change in the Equivalent Population Served (resident) receiving treatment reflects the change in load received from the NIW Catchments in line with the variation to the loading.

Line 7 - Equivalent population served (resident) (Numerical consents)

As all the PPP WwTW's have numerical consents, the change reflects the same change in Line 6 above for the same reasons.

Lines 14- 17 Sewage – Sludge Disposal

Line 14

No change – the PPP Contractor has confirmed that all sludges were disposed of through authorised routes.

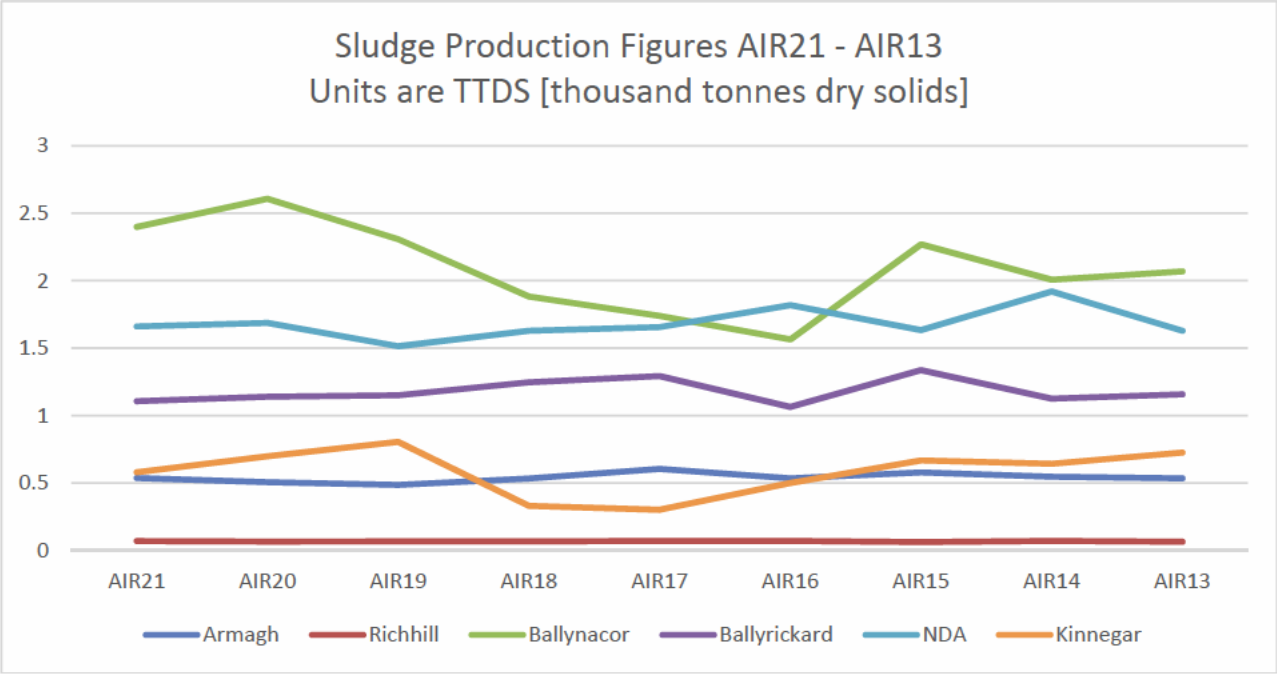
Line 15 - Total sewage sludge produced

The changes in sludge produced data reflect the actual loads delivered to the PPP contractor from within the NI Water sewer network, outside the PPP contractor's control. There are minor additions for Screenings and Grit which were initially reported in AIR13 and subsequently in AIR submissions since by the Contractors.

The variations are tabulated below;

PPP Production	AIR21	AIR20	AIR19	AIR18	AIR17	AIR16	AIR15	AIR14	AIR13	AIR12	AIR11
Armagh WWTW	0.537	0.506	0.486	0.534	0.605	0.535	0.579	0.547	0.535	0.570	0.759
Richhill WWTW	0.070	0.066	0.067	0.068	0.071	0.071	0.063	0.071	0.065	0.066	0.213
Ballynacor WWTW	2.398	2.607	2.307	1.882	1.739	1.564	2.269	2.007	2.069	3.330	2.468
Ballyrickard WWTW	1.107	1.140	1.150	1.246	1.293	1.064	1.337	1.126	1.158	1.225	1.627
NDA WWTW	1.661	1.687	1.514	1.629	1.656	1.818	1.633	1.920	1.628	1.559	1.753
Kinnegar WWTW	0.580	0.699	0.805	0.331	0.302	0.501	0.668	0.643	0.726	0.823	0.792
Omega Screenings/Grit	0.156	0.141	0.220	0.233	0.206	0.083	0.083	0.088	0.106		
Kinnegar Screenings/Grit	0.029	0.030	0.033	0.035	0.058	0.049	0.057	0.047	0.022		
Totals	6.538	6.876	6.582	5.958	5.930	5.685	6.689	6.449	6.309	7.573	7.612

The changes in sludge production [shown below in graphical form] records data for Omega reflect a probable combination of :
(i) Cumulative tolerances in the representative nature of dry solids sampling and flowmeter accuracy (particularly on smaller sites)
(ii) a mix of improved methodologies and record keeping systems for liquid and cake movements (as demanded by the Omega contract payment processes) implemented by end of AIR11, and
(iii) the loads delivered to the PPP contractor from the NI Water sewer network, outside the PPP contractor's control, and
(iv) The timing of data capture, where prolonged dry periods can have a fluctuating effect from year to year on absolute values.



However, the lower Kinnegar WwTW Sludge Production figures in the AIR21 period compared with the AIR20 period also reflects the fact that Kinnegar WwTW suffered a mechanical failure in its Sludge Transfer Pumps which prevented the works from producing Sludge Cake during January, February and part of March 2021. The extended period for resolution was exacerbated by the Brexit influence, which resulted in the replacement pumps being delayed in transit. The sludge is now being processed at a more standardised and sustainable rate, albeit that some additional 120 TDS has had to be stored on site. Significant quantities of sludge had been previously retained on site during the trial of various

dewatering solutions in AIR17 and AIR18, which had led to an artificial suppression of the reported sludge production in these years. Sludge removal during AIR19/20 assisted the return to normality and retained sludges were also been processed for disposal. This had resulted in an artificial elevation in AIR19/20 to rebalance the sludge output from the Kinnegar site. Due to the Grit Trap requiring substantial maintenance, no grit is reported as removed from the Kinnegar Site during the AIR21 period.

Kinnegar aside, the Omega sites continue to present a reasonably static trend over the last 5 year AIR periods. The notable exception to the trend is Ballynacor WwTW, which presents a clear downward trend from AIR15 to AIR16; some recent recovery in AIR17, AIR18, AIR19 and AIR 20, for AIR21, the site is now returned to slightly below previous levels, possibly affected by the Covid-19 pandemic catchment impacts. Given the treatment processes have not changed in the same period and effluent compliance has been maintained, it could be considered the overall loading on the WwTW tends towards decreased loading from within the catchment and/or from tankered imports, compared with the trend shown in AIR16-18. This is supported by the data behind Line 2 (Load Receiving Secondary Treatment) and is suggestive of the scale and variance of trade discharges in this catchment being impacted by the Covid-19 Pandemic.

Line 16 - Total sewage sludge received from NI Water

This reflects the change in sludge quantities received by the PPP Contractor from the Company and includes that received from Kinnegar concession, which is treated as Company sludge for the purposes of the Omega PPP Contractor's records.

Line 17 - Total sewage sludge disposal

In AIR20 the Omega Contractor reported a sludge disposal of 41.5 ttds [41.536 ttds]. This year (AIR21) the reported figure is 41.3 ttds [41.259 ttds]; these Omega based figures also exclude the Screenings and Grit removal for both the Kinnegar site and the NIW sites, where each of these parties disposes of these directly, rather than through the Omega contract .
In a previous year [AIR17] the Reporter made a recommendation that the Incinerator Returns (centrate liquors returned to Belfast WWTW) be deducted from the Total Sludge Disposal collation. For the period of AIR21 the Incinerator Returns have been calculated to be 3.884 ttds [AIR20 – 2.707 ttds: Confidence Grade for this estimation would be approx. C5 at best, given the extremely limited data set on which the calculations have been made – [additional missing data has reduced the CG from C4 in 2020], which could make this actual total sewage sludge disposal figure 38.227 ttds [AIR20 – 38.829 ttds]. However, the Company has declined to use this amended figure as it is considered wild unreliable, is not indicative of the Company's costs for PPP services and cannot be used to compare or interrogate trends as Incinerator Returns were not collated or included for the previous year's returns prior to AIR18.
The comparable ttds total sludge disposal variance against AIR20 is considered to be a combination of:

(i) Timing of data capture (sludges being collected and receipted for disposal)
(ii) Accurate measurement and records demanded under the Omega contract
(iii) Variations in quantities of sludge produced across PPP and NIW WwTWs.
(iv) Reporting of Screenings and Grit, and modification to accuracy where possible.
(v) Reporter requirement that the total Sludge Disposal calculation is adjusted to remove the Incinerator Return Loading which is essentially a double count, has not impacted on this, as it has not been included.
(vi) The inaccurate methodology for estimation of the Centrate returns to Duncrue WwTW. As the Regulator has already agreed that the Glen Water operation

at BWwTW is unique and that it should not be charged in relation to Trade Effluent, even though this operation is covered by Trade Effluent Agreements. It is worthy to note that the Omega Contract pays on Sludge Processed and not Net Volumes [which would disregard any re-circulation]. This would further suggest that the calculation is not relevant.

(vii) The potential impact of the Covid-19 Pandemic on trade businesses during the period.

Specific Commentary Requirements:

- Assumptions Made:
  - 60g/h/d as per NIAUR requirements
  - Skips weights (for Screenings and Grit) are recorded in wet tonnes. An assumption based on long term averages of (39%DS Screenings and 65%DS Grit) Dry Solids content has been used to convert wet tonnes into TDS. Apart from Kinnegar where the %DS is assessed for each skip weight.
- BOD loading is based on the measured influent sample result of loading applied to the WWTW processes; therefore there is no need to include a calculation for recirculated Sludge/Sludge liquors in Lines 1-7. It is not a calculated load from desktop analysis of Population, as required by the Regulator Guidance Notes. However, PPP Management team have been instructed to proceed on the basis of measured BOD and PE calculated from measured BOD (rather than desktop calculation) as it has been advised this is the Reporter and Regulators preferred method of establishing PE and BOD.
- Sludge production is based on the records of actual sludge imported to treatment or disposal centres. This is confirmed from the Contractors records of sludge from both weighbridge / Waste Management Notes records (for sludge cake) and sludge logger records (for liquid sludge).
- The PE figures have only been established on the basis of the BOD_5 loads recorded by the end of the year and represent the load received for the AIR20 Reporting Period. They have not therefore been notified to NIEA, as any such notifications relate to calendar years.
  As the PPP contractors do not control septage, trade effluent nor manage connections of domestic population, they are unable to build up the loads on this basis. The loads are therefore determined in accordance with the Table 15 Line 2 Methodology, based on 52 treated effluent BOD_5 sample results per year [subject to Covid-19 Intervention]. This is contrary to the requirements of the Guidance Notes, and is not consistent with how NI Water only data is constructed; but PPP Management Team has been advised that this is the Reporter and the Regulator's preferred method of calculation. The PPP only data remains unchanged. The recirculated sludge/sludge liquors in Lines 1-7 are consistent with the methodology presented in AIR's 10-20.

Total Table

Line 14 - Percentage unsatisfactory sludge disposal

No change – the PPP Contractor has confirmed that all sludges were disposed of through authorised routes.

Line 15 - Total sewage sludge produced

The changes to the sludges produced are reflected in the commentary to Line 17 below.

Line 17 - Total sewage sludge disposal

In AIR20 the PPP Contractors reported a disposal of 42.4 ttds [41.362] sludge disposed of. This year (AIR21) the reported figure is 42.1 [42.109] ttds.
In AIR20 the Company disposed of 0.8 ttds [0.796 ttds] relating to grit/screenings sludge. This year (AIR21) the reported figure is 0.8 ttds [0.821 ttds]. The AIR21 year was a wetter year than on average [1,100mm of rainfall] with 1,248.4mm recorded on the Areal series. Rainfall for the AIR20 period was 1,293.1mm.
In total, AIR20 reported 42.4 ttds [42.362 ttds] of sludge disposed of by all parties. In this reporting year (AIR20) the figure is 42.1 ttds [42.109 ttds].
The variance of 0.253 ttds [0.387 ttds AIR20] is considered to be a combination of:

(i) A variation in total tonnage of sludge disposed of by the Omega contractor from NIW, Kinnegar and Omega WWTWs in combination.
(ii) Variation in sludges derived for PPP Contractor grit and screenings, providing a further potential for variance.
(iii) A variation in Sludge and Screenings handled by NI Water.
(iv) Potential influence of Covid-19 Pandemic on overall trade discharges.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 16 NON FINANCIAL MEASURES
SEWERAGE SERVICE ACTIVITIES (NIW Only)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**ASSET BALANCE AT APRIL 1**																				
1	Total length of sewers	km	2	15,090.35	B3	15,254.37	B3	15,410.44	B3	15,581.51	B3	15,625.13	B3	15,777.29	B3	15,890.63	B3	16,009.10	B3	16,163.23	B3
2	Total length of "critical" sewers	km	2	3,656.86	C3	3,716.68	C3	3,732.98	C3	3,760.85	C3	3,839.64	C3	3,860.69	C3	3,892.98	C3	3,930.23	C3	3,997.00	C3
B	**CHANGES DURING REPORT YEAR**																				
3	New "critical" sewers	km	2	33.50	C3	24.68	C3	19.54	C3	36.44	C3	1.49	C3	2.75	C3	2.79	C3	1.14	C3	1.19	C3
4	"Critical" sewers - inspection by CCTV/man entry	km	2	51.79	C4	48.98	C4	35.98	C4	71.62	C4	91.44	C4	151.69	C4	83.93	C4	65.60	C4	118.46	C4
5	"Critical" sewers - renovated	km	2	1.41	B2	0.99	B2	1.87	B2	1.26	B2	4.65	B2	2.49	B2	1.52	B2	2.55	B2	3.71	B2
6	"Critical" sewers - replaced	km	2	1.04	B2	3.32	B2	5.09	B2	5.32	B2	1.48	B2	2.76	B2	0.68	B2	2.38	B2	2.50	B2
7	Abandoned "critical" sewers and other changes	km	2	0.00	B2	1.48	B2	0.50	B2	0.00	B2	0.16	B2	0.00	B2	0.00	B2	1.40	B2	0.00	B2
8	New "non-critical" sewers	km	2	145.40	C3	172.22	C3	130.22	C3	110.60	C3	117.07	C3	117.78	C3	41.94	C3	63.18	C3	88.77	C3
9	"Non-critical" sewers - renovated	km	2	2.31	B2	2.93	B2	1.95	B2	2.71	B2	2.53	B2	3.88	B2	3.96	B2	3.64	B2	4.82	B2
10	"Non-critical" sewers - replaced	km	2	19.29	B2	18.08	B2	11.89	B2	7.80	B2	0.63	B2	5.98	B2	4.36	B2	9.95	B2	1.68	B2
11	Abandoned "non-critical" sewers and other changes	km	2	0	B2	0.36	B2	0.60	B2	0.11	B2	0.29	B2	0.18	B2	0.39	B2	0.21	B2	0.60	B2
11a	Total length of sewers replaced or renovated	km	2	24.05		25.32	B2	20.80	B2	17.09	B2	9.29	B2	15.11	B2	10.52	B2	18.52	B2	12.71	B2
12	Sewer collapses per 1,000km	nr	1	73.6	B3	72.7	B3	85.7	B3	78.5	B6	79.1	B3	75.8	B3	77.5	B3	77.3	B3	80.4	B3
13	Sewer blockages per 1,000km	nr	1	1,363.6	B3	1,172.1	B3	1,073.6	B3	1,023.4	B3	998.6	B3	905.8	B3	987.9	B3	1,088.5	B3	872.1	B3
13a	Number of sewer blockage clearance which exceeds 6 hours	nr	0	1,250	B3	1,104	A2	2,640	B4	4,199	A2	4,285	A2	3,362	A1	4,155	A1	4,960	B3	3,900	A1
13b	Number of sewer blockage clearance which exceeds 12 hours	nr	0	849	B3	645	A2	1,832	B4	3273	A2	3,625	A2	2,586	A1	3,137	A1	3,634	B3	3,007	A1
13c	Number of sewer blockage clearance which exceeds 24 hours	nr	0	444	B3	203	A2	276	B4	555	A2	708	A2	390	A1	512	A1	655	B3	498	A1
C	**ASSET BALANCE AT MARCH 31**																				
14	Total length of sewers	km	2	15,254.37	B3	15,410.44	B3	15,581.51	B3	15,625.13	B3	15,777.29	B3	15,890.63	B3	16,009.10	B3	16,163.23	B3	16,301.61	B3
15	Total length of "critical" sewers	km	2	3,716.68	C3	3,732.98	C3	3,760.85	C3	3,839.64	C3	3,860.69	C3	3,892.98	C3	3,930.23	C3	3,997.00	C3	4,044.91	C3
D	**INTERMITTENT DISCHARGES**																				
16a	Number of unsatisfactory intermittent discharges excluding CSOs (NIEA)	nr	0	197	C2	190	C2	159	C2	151	C2	147	C2	143	C2	253	C2	134	C2	133	C2
16b	Number of unsatisfactory intermittent discharges CSOs (NIEA)	nr	0	318	C2	312	C2	288	C2	270	C2	263	C2	255	C2	137	C2	253	C2	253	C2
17a	Number of intermittent discharges excluding CSOs	nr	0	1,675	B3	1,732	B3	1,751	B3	1,760	B3	1,762	C2	1,766	C2	1,771	C2	1,776	C2	1,783	C2
17b	Number of CSOs	nr	0	779	B3	802	B3	802	B3	800	B3	796	C2	788	C2	784	C2	784	C2	784	C2
E	**DRAINAGE AREA PLANS**																				
18	Cumulative number of drainage area plans completed	nr	0	71	A1	71	A1	58	A1	58	A1	58	A1	79	A1	82	B2	71	B2	82	B2
19	Number of drainage area plan studies in progress at the report end of the report year	nr	0	1	A1	8	A1	8	A1	8	A1	14	A1	23	A1	35	B2	48	B2	58	B2
20	Total sewerage drainage areas	nr	0	256	A2	254	A2	251	A2	250	A2	250	A2	250	A2	250	B2	257	B2	255	B2
21	Cumulative % drainage area plan studies completed	%	1	27.7	A2	28.0	A2	23.1	A2	23.2	A2	23.2	A2	31.6	A2	32.8	B2	27.6	B2	32.2	B2
22	% population/properties covered by completed studies	%	1	53.3	B3	53.2	B3	50.7	B3	50.4	B3	50.2	B3	87.2	B2	82.1	B2	85.2	B2	89.0	B2
F	**SEWAGE TREATMENT COMPLIANCE MEASURES**																				
23	% WwTW discharges compliant with numeric consents	%	1	93.1		91.8	A1	92.17	A1	92.6	A1	93.4	A1	93.4	A1	94.7	A1	94.7	A1	95.2	A1
24	% of total p.e. served by WwTWs compliant with numeric consents	%	1	97.9		94.5	C5	96.45	C5	97.5	A1	93.9	A1	98.1	A1	99.3	A1	94.0	A1	99.2	A1
24a	% of total p.e. served by WwTWs compliant with numeric consents excluding upper tier failures	%	1	98.5		97.6	C5	98.15	C5	98.3	A1	98.7	A1	98.4	A1	99.3	A1	99.4	A1	99.4	A1
25	Small WwTW compliance (works greater than or equal to 20 p.e. but less than 250 p.e.	%	2							80.72	A1	83.99	A1	87.21	A1	86.64	A1	89.29	A1	90.91	A1
G	**NOMINATED SEWERAGE SERVICE OUTPUTS**																				
26	Delivery of improvements to nominated UIDs as part of a defined programme of work	nr	0	38	B3	11	A2	17	A2	26	A2	11	A1	11	A1	8	A1	3	A1	1	A1
27	Delivery of improvements to nominated WWTWs part of a defined programme of work	nr	0	12	B3	17	A2	16	A2	3	A2	2	A1	2	A1	6	A1	2	A1	3	A1
28	Small WwTWs delivered as part of the rural wastewater investment programme	nr	0	14		7	A2	18	A2	4	A2	8	A2	3	A2	8	A2	9	A2	12	A2
H	**ADDITIONAL SEWERAGE SERVICE OUTPUTS**																				
29	CSO and EO discharges at which event and duration monitoring equipment has been installed	nr	0							0	B2	0	B2	0	B2	115	B2	37	B2	127	B2
30	WwTWs upgraded to comply with PPC Regulations	nr	0							0	A1	0	A1	1	A1	6	A1	7	A1	2	A1
31	Impermeable surface water collection area removed from the combined sewerage network	m2	0							28,560	B2	54,864	B2	119,200	B2	34,103	B2	59,586	B2	0	B2
32	Number of sustainable WwTW solutions delivered (p.e. ≥ 250)	nr	0							1	A1	1	A2	1	A2	1	A2	0	A1	0	A1
33	Number of sustainable WwTW solutions delivered (p.e. < 250)	nr	0							0	A1	1	A2	0	A2	0	A2	1	A1	1	A1

Table 16 - Sewerage Service Activities (NI Water only WWTW)

Line 1 – Total length of sewers at 1 April 2020

This value has been extracted from line 14 of the AIR20 Table 16.

Line 2 – Total length of 'critical' sewers at 1 April 2021

This value has been extracted from line 15 of the AIR20 Table 16.

Lines 3 to 11a – Changes during report year

The tables below show the make-up of the figures submitted for these lines.

Line	Description	CD	DS	CSD	Total(km)
3	New "critical" sewers	1.10	0.09	0	1.19
5	"Critical" sewers - renovated	3.45	n/a	0.26	3.71
6	"Critical" sewers - replaced	2.50	n/a	0	2.50
7	Abandoned "critical" sewers and other changes	0	n/a	0	0
8	New "non-critical" sewers	1.78	86.99	0	88.77
9	"Non-critical" sewers - renovated	2.98	n/a	1.84	4.82
10	"Non-critical" sewers - replaced	1.68	n/a	0	1.68
11	Abandoned "non-critical" sewers and other changes	0.60	n/a	0	0.60
11a	Total length of sewers replaced or renovated				12.71

Lines 3 and 8 – New 'critical' sewers/ new 'non-critical' sewers

Lines 3 and 8 include lengths of sewers within 'new development' which have been adopted by the Developer Services section of NI Water. The total length has increased from 64.32km in AIR20 to 89.96km.


Copy of AIR 21 Sewers.xlsx


March 2021 Statistics for sewer Rehab.xls


Copy of SEWERS ADOPTED - 2020-21.x

The critical sewer lengths have been calculated using the same methodology as AIR20. The confidence grade is unchanged at C3.

Line 4 - 'Critical' sewers – inspection by CCTV/man entry

Line	Description	CD	In-house	AP	Total(km)
4	'Critical sewers'- inspection by CCTV/man entry	27.87	37.47	53.12	118.46

Capital Delivery

Carried out 27.87km of CCTV work this year 20/21.

Asset Performance

Carried out 53.12 of CCTV work to address work for the Drainage Area Studies and Sewer Rehab Programme.

In-house crews

The length of CCTV executed by in-house CCTV crews is reported in AIR21 as 149.89km. In order to estimate the 'critical' sewer length this was multiplied by the overall percentage of critical sewer in the Corporate Asset Register – which is 25% = 37.47km.


Copy of Total CCTV Meterage 2022-21.xls


Copy of MASTER Copy AIR21 Monthly


Copy of AIR 21 CCTV CD Sewers.xlsx

The confidence grade for this line remains unchanged at C4.

Lines 5, 6, 9, 10 and 11a - sewers renovated and replaced

The total length renovated and replaced (12.71km) is a decrease from the AIR 20 figure of 18.52 km.

NI Water is still on target to meet our targets for sewer rehab.

Confidence grades remain unchanged at B2.

Lines 7 and 11 - sewers abandoned

These lines had a return of 0.60 km which is a decrease from the AIR20 figure of 1.61km. These figures were due to the abandonment of sewers only.

Lines 12-13c – Sewer collapses and blockages

General

NIW agree the number of sewer blockages and sewer collapses from the draft invoices provided by the Contractor and approved by the relevant Field Managers. For the purposes of AIR 21 submissions and moving forward the Sewer Maintenance Contractor now provides an automated monthly blocked sewer report which details the total number of blockages cleared i.e. Main Sewer, Lateral Sewer, 'Private' Sewer & instances where the Contractor attended site and reported 'No Blockage Found'.

Within this reporting year (2020/21) the number of blockages has fallen in comparison with 2019/2020 reporting period., This is due to more accurate reporting now being produced by the Sewer Maintenance Contractor i.e. Automated monthly blocked sewer report. The Covid-19 pandemic in 2020/21 may have also played a role in the reduction in blockage numbers due to many Business Operators being closed during periods of 'lockdown'.

The total number of rising main failures added to the total number of gravity sewer collapses provides the number of sewer repairs for table 46 line 44. During the reporting year the figures are as follows:

5	Rising Main Failures Repaired
113	Gravity Main Sewers Repaired
192	Gravity Lateral Sewers Repaired
1310	Total number of sewer repairs

11658	Main Sewer Blockages
2759	Lateral Sewer Blockages
144417	Total Number of sewer blockages

Of the 14417 sewer blockages, for 20/21 reporting year there were 16 incidents of actual internal flooding.

Note: There were no other sewer repairs other than those documented above.

All FOC's attributed to 11 Blockages 5 Collapses 0 Equipment Failure

NIW are now more proactive in their approach to repeat blockages, as part of the annual performance objectives all the Field Managers (FM) have been tasked to make a 1% reduction in the number of blocked sewers. This reduction is being targeted by NIW Customer Field Managers (CFM) using the resource of designated field technicians to carry out CCTV investigations on sewers that have repeat blockage complaints, any faults found are remedied, thus reducing the number of repeat incidents. NIW have now generated a new standard job that enables the contractor, when he is attending a blocked sewer, to carry out a CCTV to locate and mark any suspected defects in the pipe, these can then be repaired and this prevents further repeat blockages and a reduction in the total number of blockages annually. Under the new contract repeat blockages are recorded on the draft invoices, from the contractor, as they are not paid unless the original blockage was more than 28 days prior to the reoccurrence. These repeat blockages < 28 days are discounted from the blockage numbers.

For AIR 21 submissions & moving forward the Sewer Maintenance Contractor provides an automated monthly blockage report to NIW. This blockage report details the job created date & time and the date and time the job is completed by the Contractor on site.

- The number of rising main failures and the number of gravity sewer collapses are summated to give the total number of sewer collapses.
- The total number of sewer collapses is divided by the total length of sewers at 31 March 2021 to give the number of sewer collapses per kilometre.
- The number of sewer collapses per kilometre is multiplied by 1000 to give the number of sewer collapses per 1,000km.

Table 16 line 12 has been calculated using the figure reported for table 46 Lines 32 and 33 and the total length of sewers figure reported for Table 16 line 14.

The automated monthly blocked sewer report received from the Sewer Maintenance Contractor also includes numbers of ‘Private’ blockages cleared as a goodwill gesture and also the numbers of instances where the Contractor attended site and reported ‘No blockage found’.

Line 13 - Sewer Blockages per 1,000 Km

- The number of sewer blockages is divided by the total length of sewers at 31 March 2021 to give the number of sewer blockages per kilometre.
- The number of sewer blockages per kilometre is multiplied by 1000 to give the number of sewer blockages per 1,000km.

Table 16: line 13 has been calculated using the figure reported for table 46 Line 36 and the total length of sewers figure reported for Table 16 line 14

Lines 13a, 13b and 13c - Number of blockage clearance which exceeds 6, 12 & 24 hours

For previous AIR submissions, NIW used the Ellipse system to calculate the length of time a job takes from the time the work request is raised until the work request is closed. All jobs exceeding 24 hours were investigated as all follow-on jobs were included in the time the work request was open. These jobs were then reported in the correct category according to the length of time the blockage job actually took to complete.

For AIR 21 submissions & moving forward the Sewer Maintenance Contractor provides an automated monthly blockage report to NIW. This blockage report details the job created date & time and the date and time the job is completed by the Contractor on site. From this report NIW calculate the length of time the blockage takes to complete. The Sewer Maintenance Contractor report also details the number of 'private' sewer blockages cleared as a good will gesture and these are subsequently excluded from the totals. These figures are then populated into Table 16 Lines 13a, 13b & 13c as per Utility Regulator definition.

Confidence Grading – Lines 12, 13, 13a, 13b & 13c

Because NIW are using data from checked and paid invoices (B3) and total length of sewers (B3), the confidence grade for the AIR21 L12 & L13 is B3. NIW expects this to consolidate as we move forward into AIR22 as report building continues with the single Sewer Maintenance Contractor.

NIW proposes that the Confidence Grade for Table 16 Lines 13a, 13b & 13c is improved to A1 (B3 for Air 20) on the basis of the automated monthly blocked sewer report received from the Sewer Maintenance Contractor.

Line 14 – Total length of sewers

There has been no change to the structure of the data reported on this year from the previous years that would directly affect the totals provided. The same queries have been used to extract the data from the Corporate Asset Register and have been checked to ensure that they are still relevant. The confidence grade of the data will remain the same as the previous year. Any new data will have adhered to the NIW Code of Practice for the submission of asset data ensuring that data quality levels have been maintained throughout the year.

This figure has not been calculated from Lines 1 to 11, it has been extracted using the process outlined in the methodology using data extracted from the Corporate Asset Register.

Line 15 – Total length of 'critical' sewers

The same estimation techniques have been used as in previous years and are still dependent on 3rd party datasets. The analysis performed assesses the criticality of the sewers based on size, material and depth attributes of the sewer and its location in regards to structures, roads, railways and watercourses. This is a desktop exercise based on the location and attributes of each sewer as per the definition of critical sewers in the WRc Sewerage Rehabilitation Manual. Due to the reliance on 3rd party datasets for this analysis, sewer criticality grading for individual sewers may change from previous submissions and therefore the change in total length of critical sewers may not fully align with the new critical sewers figure in T16 L3. As the result of the analysis is an estimation the confidence grade of C3 will remain in place.

This figure has not been calculated from Lines 2 to 7, it has been extracted using the process outlined in the methodology using data extracted from the Corporate Asset Register.

Lines 16a & 16b - Number of unsatisfactory intermittent discharges

This line refers to those intermittent discharges which have been defined as Unsatisfactory by NIEA within the terms of the Guidelines to the UWWT Directive.

The estimate of the number of Unsatisfactory Intermittent Discharges which was produced for AIR 20 was:

CSOs: 253
Other UIDs: 134

In order that lines 16a and 16b should provide a stable baseline by which progress in UID improvements may be assessed, the above estimates have been retained – and the entries made in 16a and 16b for AIR21 are equal to the above figures minus the numbers UID improvements which were executed in 20/21. i.e.

CSOs: 253 – 0 = 253
Other UIDs: 134 – 1 = 133.

Notes:

1. The estimate of UIDs excludes those IDs within the boundary of WWTW sites. These are not subject to any systematic classification by NIEA.
2. The estimate of UIDs excludes those IDs which are overflows from 'Foul-only pumping stations'. These are not subject to any formal classification by NIEA.

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Lines 17a and 17b – Sewerage System Intermittent Discharges

General Commentary from the Asset Performance Team (APT) – Sewerage System Intermittent Discharges Lines [17a and 17b]

Table A - Depicting differences between the sewerage system overflows between AIR20 and AIR21

Intermittent Discharges	APT Preliminary AIR20 Number	Final AIR20 Number (after removal of Dual, Duplicates and Bifurcation Assets)	APT Preliminary AIR21 Number	Difference between AIR20 & AIR21 Preliminary Number	Total Number of Dual, Duplicates and Bifurcation assets to be removed	Final AIR21 Number (after removal of Dual, Duplicates and Bifurcation Assets)
Combined Storm Overflows (CSOs)	826	784	826	0	-42	784
Waste Water Pumping Stations (WwPSs)	1103	1101	1104	+1	-2	1102

Total Number of Intermittent Discharges	1929	1885	1930	+2	44	1886

Hence for AIR21 the total number of Sewerage System Overflows is 784 plus 1102 i.e. 1886.

From the APT data used there has been no change in CSOs since AIR20 (i.e. 826).

There has been a 1No increase in WWPS overflows since AIR20 (i.e.1103 +1 = 1104)

Preliminary no difference CSOs overflows since AIR20

Preliminary total increase of 1 overflows since AIR20 (i.e. 1929 to 1930
(For a further breakdown see Table B, C & D – Changes in Intermittent Discharges by Drainage Area below)

The total number of consented assets held by NI Water is 1930. However a number of these assets (n=44) are not included in the finalised number. This is because these are duplicates, dual manholes or bifurcation manholes which do not fall within the industry standard for reporting purposes.
The 44 sewerage system overflows have been categorised into the following:

- 29 Dual Manholes;
- 4 Bifurcation Manholes;
- 11Duplicate Assets

(For further details see Tables E, F & G below)

Overall this equates to a:

Net increase of 1 Preliminary overflows since AIR20
Plus: 1929 Preliminary overflows identified in AIR20
Sub Total: 1930 sewerage system overflows
Minus: 44 Overflows not included in the finalised number for AIR21
Total: 1886 sewerage system overflows identified for AIR21

An exercise has been ongoing over the AIR reporting years to confirm the number of sewage system overflows within NI Water. An agreement is in place with Northern Ireland Environment Agency (NIEA) that updates will only be submitted on a catchment by catchment basis once all information is confirmed.

Before this information can be adopted by NI Water, it has to be signed off by NI Water Network Sewage Business Unit and any changes included on NI Water's Geographical Information Service (GIS). This process is ongoing.

Table B – APT Preliminary changes in intermittent discharges by drainage area for AIR21

Drainage Area	No of CSOs added since AIR20	No of CSOs removed since AIR20	No of WWPS added since AIR20	No of WWPS removed since AIR20	Comments
Ballymoney DA	0	0	1	0	Ballybogey WWTW closed and WWPS built which is now pumped to the Ballymoney Catchment.
Total Number of intermittent discharges added or removed since AIR20	0	0	1	0	
Net decrease in CSOs since AIR20	0				
Net Increase in WWPSs since AIR20		1			

Table C – AIC Preliminary changes in Intermittent discharges by drainage area for AIR21

Drainage Area	No of CSOs added since AIR20	No of CSOs removed since AIR20	No of WWPS added since AIR20	No of WWPS removed since AIR20	Comments
N/A	0	0	0	0	**No Updates from AIC for AIR21**
AIC Net Increase in CSOs since AIR20	**0**				
AIC Net Increase in WWPSs since AIR20			**0**		

Table D – Combined Totals of APT & AIC Preliminary changes in Intermittent discharges by drainage area for AIR21

	No of CSOs added since AIR20	No of CSOs removed since AIR20	No of WWPS added since AIR20	No of WWPS removed since AIR20
Preliminary APT number of intermittent discharges added or withdrawn since AIR20	0	0	1	0
Preliminary AIC number of intermittent discharges added or withdrawn since AIR20	0	0	0	0
Subtotals	0	0	1	0
Preliminary net increase or decrease in WWPS & CSOs since AIR20	0		1	
Preliminary total increase in sewage system overflows for AIR21	1			

Table E - Dual Manholes not included in the finalised number for AIR21

Name of Sewer System	Car Id	Easy reference of asset from Consent of Discharge Map	Dual Manholes (To be Withdrawn)	Total No: of Dual Manholes per drainage area
Antrim	CO002586738		Y	1
Whitehouse	NM001345599		Y	16
Whitehouse	NM001348440		Y	
Whitehouse	NM001345603		Y	
Whitehouse	NM001349241		Y	
Whitehouse	NM001347238		Y	
Whitehouse	NM001346012		Y	
Whitehouse	NM001339619		Y	
Whitehouse	NM001340886		Y	
Whitehouse	NM001350136		Y	
Whitehouse	NM001340887		Y	
Whitehouse	NM001349313		Y	
Whitehouse	NM001339615		Y	
Whitehouse	NM001340884		Y	
Whitehouse	NM001349320		Y	
Whitehouse	NM001349319		Y	
Whitehouse	NM001349658		Y	
Ballynacor	NM001229100		Y	12
Ballynaor	NM001230688		Y	
Ballynacor	NM001231583		Y	
Ballynaor	NM001231355		Y	
Ballynacor	NM001229426		Y	
Ballynacor	NM001232930		Y	
Ballynacor	NM001278776		Y	
Ballynacor	NM001278775		Y	
Ballynacor	NM001234366		Y	
Ballynacor	NM001280565		Y	
Ballynacor	NM001282390		Y	
Ballynacor	NM001231354		Y	
Total Number of Dual Manholes not included in the finalised number for AIR21				**29**

Table F - Bifurcation Manholes not included in the finalised number for AIR21

Name of Sewer System	Car Id	Easy reference of asset from Consent of Discharge Map	Bifurcation Manhole (To be Withdrawn)	Total No: of Bifurcation Manholes per drainage area
Carrickfergus	NM001353097	Ellis Street A	Y	1
Rathfriland	NM001291669	John Street	Y	1
Waringstown	NM001238461	CS 06	Y	1
Enniskillen	CO003124504		Y	1
Total No: of Bifurcation Manholes not included in the finalised number for AIR21				**4**

Table G - Duplicate Assets not included in the finalised number for AIR21

Name of Sewer System	Car Id	Easy reference of asset from Consent of Discharge Map	Duplicate Assets (To be Withdrawn)	Total No: of Duplicate Assets per drainage area
Ballymena	SP002022687	Tullygarley Transfer WWPS FA Overflow	Y	1
Whitehouse	CO002966311	John Street	Y	6
Whitehouse	CO002987846		Y	
Whitehouse	CO002914133		Y	
Whitehouse	CO002988722		Y	
Whitehouse	CO002987839		Y	
Whitehouse	CO000984647		Y	
Omagh	SP002021852	Omagh Transfer WWPS	Y	2
Omagh	SP002021852	Omagh Transfer WWPS	Y	
Ballynacor	CO000984402	Thomas Street	Y	2
Ballynacor	SP002022218	Annsborough	Y	
Total Number of Duplicate not included in the finalised number for AIR21				**11**

Lines 17a and 17b – Above Ground Overflows from within WTWWs

Table H - Total number of Overflows within WWTW

	AIR20 Number	AIR21 Number
Total number of Overflows from within WWTW	674	681

Hence for AIR21 the total number of overflows within WWTW is 681.

The overall number of WWTW overflows from AIR20 to AIR21 has had a net increase of 7 overflows. With regards to the number of additional and withdrawn overflows and further changes to the designation of the type of overflow listed, see Tables H to P below. The increase in WWTW overflows in AIR21 is mainly due to capital investment which has resulted in numerous small works now having an overflow facility.

The physical changes on the ground with respect to the number of overflows within WWTW since AIR20 are as follows:

- 2 Overflows within WWTW withdrawn due to the works becoming a pump away, and 3 withdrawn due to the works being upgraded since AIR20. (See Table I, J, K & L below).
- 11 Additional overflows within WWTW and 1 additional overflow which was previously unknown in AIR20. (See Table M, N & O below).

Hence a net increase of 7 overflows since AIR20.

Table I - Overflows within WWTW withdrawn since AIR20 due to works becoming a pump away in AIR20

Name of Works	Site ID	Status in AIR20	Withdrawn O/Fs Since AIR20
Ballybogey WwTW	S01087	Works became a pump away	2
Total number of Overflows withdrawn since AIR20 due to the WWTWs becoming a pump away			**2**

Table J - Overflows within WWTW withdrawn since AIR20 due to works being upgraded

Name of Works	Site ID	Status in AIR20	Changes to Overflows for AIR21	Withdrawn O/Fs Since AIR20
Ballyvoy WwTW	S01177	Works upgraded	1no. Interstage PS E/O withdrawn	1
Lisnagunogue WwTW	S01192	Works upgraded	1no. FFT withdrawn	1
Ringsend WwTW	S01170	Works upgraded	1no. FA withdrawn	1
Total number of Overflows within WWTW withdrawn since AIR20 due to works being upgraded				**3**

Table K – Withdrawn Overflows within WWTWs due to incorrect designation in AIR20

NAME of Works	Site ID	Status in AIR21	Changes to Overflows for AIR21	Withdrawn O/Fs Since AIR20
Bells Hill WwTW	S00291	Overflow re-designated	1no. 3 DWF withdrawn	1
Greenisland WwTW	S00263	Overflow re-designated	1no. 3 DWF withdrawn	1
Moss-side WwTW	S01194	Overflow re-designated	1no. 3 DWF withdrawn	1
Mullans (Antrim) WwTW	S01118	Overflow re-designated	1no. 3 DWF withdrawn	1
Jonesborough WwTW	S02272	Overflow re-designated	1no. 6 DWF & 1no. 3 DWF withdrawn	2
Upper Ballinderry WwTW	S02422	Overflow re-designated	1no. 3 DWF withdrawn	1
Aghanloo (1)	S02989	Overflow re-designated	1no. 3 DWF withdrawn	1
Bready WwTW	S03971	Overflow re-designated	1no. FFT with E/O withdrawn	1

NAME of Works	Site ID	Status in AIR21	Changes to Overflows for AIR21	Withdrawn O/Fs Since AIR20
Carnanbane WwTW	S03037	Overflow re-designated	1no. 3 DWF withdrawn	1
Dernaflaw WwTW	S03072	Overflow re-designated	1no. 3 DWF withdrawn	1
Drumlegagh Church Road WwTW	S03987	Overflow re-designated	1no. 3 DWF withdrawn	1
Dungiven WwTW	S03101	Overflow re-designated	1no. 3 DWF withdrawn	1
Magheracoltan WwTW	S03176	Overflow re-designated	1no. 3 DWF withdrawn	1
Rosslea WwTW	S03213	Overflow re-designated	1no. 3 DWF withdrawn	1
Tempo WwTW	S03229	Overflow re-designated	1no. 3 DWF & 1no. FA withdrawn	2
Total number of withdrawn Overflows within WWTWs due to incorrect designation in AIR21				**17**

Table L– Summary of the total number of Overflows withdrawn since AIR20

Total of overflows withdrawn since AIR20 due to the works becoming a pump away	2
Total of overflows withdrawn since AIR20 due to the works being upgraded	3
Total of Withdrawn Overflows due to incorrect designation in AIR20	17
Combined Total Number of Overflows within WWTW withdrawn since AIR20	**22**

Table M - Additional overflows within WWTW since AIR20 due to WWTW upgrades

NAME of Works	Site ID	Status in AIR21	Changes to Overflows for AIR21	Additional O/Fs Since AIR20
Craignasasonagh WwTW	S00308	Works upgraded	1no. additional FFT O/F	1
Buckna WwTW	S01432	Works upgraded	1no. additional FFT O/F	1
Carmean WwTW	S01608	Works upgraded	1no. additional FFT O/F	1

NAME of Works	Site ID	Status in AIR21	Changes to Overflows for AIR21	Additional O/Fs Since AIR20
Mullans (Antrim) WwTW	S01118	Works upgraded	1no. additional FA O/F	1
Ringsend WwTW	S01170	Works upgraded	1no. additional FFT O/F	1
Rocktown WwTW	S01635	Works upgraded	1no. additional FFT O/F	1
Ballymaderphy WwTW	S02728	Works upgraded	1no. additional FFT O/F	1
Drumard Primate WwTW	S02404	Works upgraded	1no. additional FFT O/F	1
Moneyscalp WwTW	S02710	Works upgraded	1no. additional FFT O/F	1
St Johns Terrace WwTW	S02717	Works upgraded	1no. additional FFT O/F	1
Donemama WwTW	S03103	Works upgraded	1no. additional FA O/F	1
Total number of additional Overflows since AIR20 due to WWTW upgrades				**11**

Table N - Additional overflows within WWTW due to incorrect designation in AIR20

NAME of Works	CAR ID	Status in AIR20	Changes in Overflows for AIR20 from Process Info	Additional O/Fs Since AIR20
Bells Hill WwTW	S00291	Overflow re-designated	Changed from 3 DWF to FFT	1
Greenisland WwTW	S00263	Overflow re-designated	Changed from 3 DWF to FFT	1
Killymuck WwTW	S01583	Overflow re-designated	On site verification by CD & DW	1
Moss-side WwTW	S01194	Overflow re-designated	Changed from 3 DWF to FFT	1
Mullans (Antrim) WwTW	S01118	Overflow re-designated	3 DWF O/F changed to FFT & 1 additional FA O/F added through upgrade	1
Jonesborough WwTW	S02272	Overflow re-designated	>6 DWF & 3 DWF changed to FA & FFT	2
Upper Ballinderry WwTW	S02422	Overflow re-designated	Changed from 3 DWF to FFT	1
Aghanloo (1) WwTW	S02989	Overflow re-designated	Changed from 3 DWF to FFT	1
Bready WwTW	S03971	Overflow re-designated	FFT with E/O changed to FA with E/O	1
Carnanbane WwTW	S03037	Overflow re-designated	Changed from 3 DWF to FFT	1

NAME of Works	CAR ID	Status in AIR20	Changes in Overflows for AIR20 from Process Info	Additional O/Fs Since AIR20
Dernaflaw WwTW	S03072	Overflow re-designated	Changed from 3 DWF to FFT	1
Drumlegagh Church Road	S03987	Overflow re-designated	Changed from 3 DWF to FFT	1
Dungiven WwTW	S03101	Overflow re-designated	Changed from 3 DWF to FFT	1
Magheracoltan WwTW	S03176	Overflow re-designated	Changed from 3 DWF to FFT	1
Rosslea WwTW	S03213	Overflow re-designated	Changed from 3 DWF to FFT	1
Tempo WwTW	S03229	Overflow re-designated	Changed from 3 DWF to FFT	2
Total number of additional Overflows within WWTW due to incorrect designation in AIR20				**18**

Table O – Summary of additional overflows within WWTW since AIR20

Total Number of additional overflows since AIR20 due to works being upgraded	11
Totals Number of additional overflows within WWTWs due to incorrect designation in AIR21	18
Combined Total of Additional overflows within WWTWs since AIR20	**29**

Table P – Summary of Overflow type within WWTW

Overflow Type	AIR20 Overflows from WWTW	AIR20 Overflows - Totals	AIR21 Overflows from WWTW	AIR21 Overflows - Totals	Difference between AIR20 & AIR21
3 DWF	14	14	0	0	-14
Formula "A" O/Fs	171	199 111	172	200 108	1 -3
Additional Storm Overflows-other structures	6		5		
Additional Storm Overflows (which also act as PS E/O)	19 6		20 5		
Formula "A" O/Fs with Storm Retention					
Additional FFT O/Fs (which also act as PS E/O)	9 99		8 98		
FFT O/Fs only	110		133		
Total No of WWTWs Overflows	**674**	**674**	**681**	**681**	**7**
FFT O/Fs with Storm Retention	214	350	213	373	23
FFT O/Fs with Storm Retention (which also act as PS E/O	10		10		

For AIR21, 2 overflows have been withdrawn due to works becoming a pump away (see Table I), and 3 overflows have been withdrawn due to works being upgraded (see Table J), therefore there were 5 overflows withdrawn in total.

Also, there are 11 additional overflows due to works being upgraded (see Table M), and 1 additional overflow has now been included (see Table N) which was unknown in AIR20 (Killymuck WwTW), this was verified on-site. Therefore, there were 12 additional overflows in total.

This equates to a net increase of 7 additional overflows since AIR20

Since AIR20 the Strategic Asset Performance Team has continued to review their WwTW overflow summary information from Water Order Consent (WOC) applications.

This provides further refinement and greater confidence in the designation of overflow type. Therefore for the purpose of these lines Strategic Asset Performance has not endeavored to use A/C data due to the on-going A/C process of subscribing WOC information across onto GIS.

Lines 18 -22 – Drainage Area Plans

Background

NI Water's programme of Drainage Area Studies commenced in 1995. Typically the programme relates to those drainage areas with residential population greater than one thousand. The status of the networks within the programme is summarised in the schedule below.

NI Water takes a risk based approach to sewerage management, following the principles set out in the Sewerage Rehabilitation Manual, 4th Edition (WRc). Each DAP model is built to industry best practice guidelines aligning to CIWEM code of practice. Recently, NIW has introduced a model audit programme to ensure that Plans consistently meet NIW requirements and specifications.
NI Water has developed a risk based prioritisation matrix. This 'live' tool ensures that Drainage Areas demonstrating key needs aligning to NIW business objectives are promoted for investigation such that NIW can deliver evidence based and targeted investment planning.

It has been NI Water practice to review each Study on a 5-10 year cycle and, if necessary, to commission an update of the Study. A number of updates of older studies have been completed and others have commenced.

Current studies

The following DAP studies are being undertaken:
Aghagallon DA
Aghalee DA
Annahilt DA
Annsborough DA
Antrim DA
Ardglass DA
Armagh DA
Ballycastle DA
Ballyclare DA

Ballymena DA
Ballynahinch DA
Ballyrickard DA
Ballystrudder Whitehead DA
Ballywalter DA
Belfast DA
Bellaghy DA
Bushmills DA
Clough DA
Cloughey DA
Cookstown DA
Craigavon DA
Cranfield DA
Culmore DA
Donnybrewer DA
Dromore Down DA
Dundrum DA
Dungannon DA
Dunmurry DA
Enniskillen DA
Glenarm and Carnlough DA
Glenstall DA
Greenisland DA
Greysteel DA
Killinchy DA
Killough DA
Kilrea DA
Kinnegar DA
Kircubbin DA
Lisbellaw DA
Lisburn DA
Maghaberry DA
Maghera DA
Magherafelt DA
Markethill DA
Moy DA
Newcastle DA
North Coast DA
North Down DA
Omagh DA
Portaferry DA
Portglenone DA
Richhill DA
Saintfield DA
Stewartstown DA
Strabane DA
Strangford DA
Waringstown DA

Warrenpoint DA

This gives a total of 58 No. DAPs currently in progress.

Specification

NI Water's DAS specification is the "NI Water Risk Based Drainage Area Plan Specification". Version number D11.

Outputs

The main outputs from a DAP are:

- UIDs
- DG5s
- New Developments/Growth
- Inform Integrated Environmental Modelling (IEM) studies
- SPG4s and SPG5s these are added to the Sewer Risk tool to enable these SPG4s and 5s to be assessed along with the other SPG4s and 5s within the overall sewerage network to enable a prioritised list to be produced.

Drainage Area Study Programme – Status at May 2021

The table below sets out the programme of DAPs since 2003. The number of completed DAPs has been recalculated and the value (n=82) has therefore changed since AIR20.
The number of completed DAPs was recalculated because there were 11 No. DAPs completed during 2020 / 2021. The recalculated number of completed DAPs is 82 (n=71+11)


DAPS.xlsx

The above domestic PEs have been updated where possible from the '210604_FINAL_AIR21 PEs' spreadsheet from APT. The value has changed from AIR20, giving a TOTAL PE of 2,120,941.

Line 18 – Cumulative number of drainage area plans completed

The number of drainage area plans that have been completed. The AIR 21 value of 82 completed DASs.

Line 20 – Total sewerage drainage areas

For the purposes of this AIR line, 'drainage area' is taken to mean a sewer-network served by a WwTW which serves a population equivalent of greater than 250.

The value has changed from AIR20 (due to updated population equivalent values). For the 2020/21 AIR21 reporting year the number of drainage areas was calculated as 255.

Line 21 – Cumulative % drainage area plan studies completed

The cumulative percentage drainage area plan studies completed is equal to Line 18 divided by Line 20. The value has changed from AIR20 (due to changes in Line 18 and Line 20) and is 32.2% (82 DASs/ 255 drainage areas).

Line 22 - % population/properties covered by completed studies

Line 22 is the percentage population/properties covered by completed studies.

- The PE relating to those networks defined by AIR21 Line 18 is 2,120,941 giving the total population for completed DASs since 2003 (n=82).

- The PE for the total sewerage network is 2,382,809.

The percentage of PE covered by completed DAS studies is 89.0% (i.e. the division of 2,120,941 by 2,382,809 which is then converted to a percentage value).

Lines 23 – 25 Sewage treatment compliance measures

Introduction

The Northern Ireland Environment Agency (NIEA) issues Water Order Consents (WOC) which set out legally binding conditions under which discharges to the aquatic environment are permitted. NI Water has in the order of 1500 WOC's covering all Waste Water Treatment Works (WWTW), Water Treatment Works and sewerage systems.

NIEA assesses compliance on a calendar year basis, against WOC and UWWTR standards to give the "official" compliance figure. However, to inform Management of progress on achieving Key Performance Indicators (KPI's) and address any potential problems, monthly reports are produced. In 2020 the KPI's related to wastewater treatment performance were:

- The percentage of WWTW serving more than 250 Population Equivalent (PE) compliant with the WOC and Urban Wastewater Treatment Regulations (UWWTR).
- The percentage PE served by compliant WWTW

Changes carried forward for AIR 21

1. For AIR 21 data the base for the WWTW in service aligns with the compliance figures of the KPI outturn and NIEA compliance assessment, which reports on all works in service at the start of the calendar year.
2. The PE data used to populate this table are the PE's derived by the Capital Maintenance Planning Team (Wastewater) for the AIR 19 Return. These same PE's were also used to calculate the number of audit samples required per site for the 2020 reporting year and agreed with (NIEA).
3. Only WWTW serving greater than 250PE with numeric standards are included. No qualifying works were excluded from the assessment, with all regulatory samples having been sampled and analysed for the regulatory parameters.
4. The list of WWTW for AIR 21 contains a number of works which have crossed sampling thresholds. Table 1, which indicates the sampling frequencies associated with WWTW PE's, is provided below.

Table 1 – Sampling Frequency Table

PE	Sampling Frequency
<250 PE	0
250 – 4,999 PE	12
5,000 – 49,999 PE	24
>50,000 PE	48

If the PE of a WWTW causes a difference in sampling frequency, NIEA require evidence to justify the change. Evidence is required in the form of results of a flow and load survey or daily inlet sample results for a period of preferably one year but no less than six months. Table 2 indicates the WWTW affected by sampling frequency threshold changes and is provided overleaf.

Table 2 – Sampling Frequency Threshold Changes

Works Name	PE	PE Supplied by Asset Management	Threshold Being Crossed

Ballymena	113,825 (2011)	66,375	100,000
Dunmurry	53,605 (2011)	45,939	50,000
Dromore (Tyrone)	2032 (2014)	1919	2,000
Donaghmore	2024 (2015)	1982	2,000

The figures in brackets refer to the year that the sample scheduling PE data, agreed with NIEA, was applied to each of the works in Table 2, in the absence of flow and load data.

5. Only NI Water operated WWTW are included in assessment.

How the compliance is measured

Line 23 – Percentage of WWTW discharges compliant with numeric consents

The WOC specifies the number of samples to be taken per year and the parameters which have to be determined. A WWTW may fail if the required numbers of samples are not taken or the full range of parameter's are not determined.

Compliance for each WWTW was assessed on a parameter basis over a calendar year using the Look-Up Tables (LUT) of the Urban Waste Water Treatment Regulations (NI) 1995. This statistically derived methodology permits a certain number of exceedances, based on the number of samples taken, for each parameter included in the WOC e.g. where 24 samples are taken, three exceedances of each parameter are permitted. When this number of exceedances is surpassed a WWTW is deemed to fail. Table 3 in Appendix 1 details the relevant section of the Look-Up Table.

A number of WWTW have an additional clause in the consent known as an Upper Tier Limit (UTL) on the sanitary parameters of Biological Oxygen Demand (BOD, Suspended Solids (SS) and Ammonia (NH_4). One exceedance of this standard will lead to the WWTW failing for the year.

The WOC standards are contained in the Laboratory Information Management System (LIMS) and the audit sample results are automatically assessed against the standard. LIMS generates a standard report listing all WWTW with numeric standards and indicating the number of exceedances and whether the works has passed or failed. The LIMS report is accessed through:

Sample Manager/ Reporting / Sewage Reports / NIEA Monthly Reports / All sites

A small number of WWTW have nutrient standards, nitrogen and/or phosphorus, although these are assessed on an annual average. While LIMS calculates a running average, which is displayed in the report referred to previously, it does not have the facility to compare this against a standard. This requires that the average is compared manually on an ongoing basis with the WOC standard. All standards can be viewed on SharePoint at:

Asset Management/Environmental Regulation/Wastewater and Waste/Tracking/Consent database over 250 consent

Exceedances can be discounted from compliance assessment should NI Water be able to demonstrate to NIEA that, at the time of the exceedance, a works was not under normal operating conditions. The definitions of abnormal operating conditions are given in Appendix 2 but NIEA may permit discounts under other conditions e.g. skewing of performance through too many samples being lifted in a short period caused by the rescheduling of samples. Should a sample be discounted it must be replaced by another sample taken on the same day of the week. A replacement sample when entered on LIMS will register automatically on the compliance report.

NIEA can also issue interim time banded standards during capital upgrades of a WWTW. This is a more relaxed standard applicable for a specified period over which construction work may disrupt the normal treatment processes. When this time banded standard is entered in LIMS it is taken account in the production of the compliance report.

At monthly intervals (for the KPI and Board Reports) and at the end of the calendar year, the number of WWTW which have passed their numeric WOC was calculated as a percentage of the total number of works to determine the compliance with the target.

Line 23 Calculations – Taken from AIR 21 Calculation Spreadsheet

No. of NI Water Only WWTW's = 229
No. of failing NI Water Only works = 11
No. of passing NI Water Only works = 218

218/229 x 100 = 95.20%
Reported to one decimal place = **95.2%**

Line 24 – Percentage of Total PE Served by WWTW's Compliant with Numeric Consents

The PE served by compliant WWTW was calculated as a percentage of the PE served by the total number of WWTW. As referred to above it should be noted that Upper Tier Limits (UTL) were applied in determining this compliance. The figure reported is based on the total population.

Line 24 Calculations – Taken from AIR 21 Calculation Spreadsheet

PE of failing NI Water Only works = 15029
Total PE of NI Water Only works = 1942212
PE of passing NI Water Only works = 1927183

1927183/ 1942212 x 100 = 99.23
Reported to one decimal place = **99.2%**

Line 24a – Percentage of total PE served by WwTWs compliant with numeric consents excluding upper tier failures

The PE served by compliant WWTW was calculated as a percentage of the PE served by the total number of WWTW. As referred to above it should be noted that Upper Tier Limits (UTL) were not applied in determining this compliance. The figure reported is based on the total population.

Line 24a Calculations – Taken from AIR 21 Calculation Spreadsheet

PE of failing NI Water Only works (Exc. UT) = 11377
Total PE of NI Water Only works = 1942212
PE of passing NI Water Only works = 1930835

1930835/1942212 x 100 = 99.41
Reported to one decimal place = **99.4%**
The data reported in this table was new for AIR16. As more information is developed in future AIR reporting cycles, further commentary can be developed on emerging trends for these measures.

The application of confidence grade A1 to lines 24 and 24a is considered appropriate as these lines are reporting a percentage of total consented PE values, the values of which are agreed with NIEA. The change from C5 to A1 was made in response to the Reporter's recommendation in AIR15 commentary that a much higher confidence grade should be applied to these lines.

Line 25 - Small WwTW compliance (works greater than or equal to 20 p.e. but less than 250 p.e.)

A new compliance measure has been introduced for PC15 for small works in the band 20 – 249 population equivalent (p.e.). This measure is directly linked to delivery of small works under the Rural Wastewater Improvement Project (RWIP) project. All sites to be upgraded under RWIP are agreed with NIEA. The starting position for compliance projections throughout PC15 was based on NIEA's assessment of works as passing or failing in calendar year 2013. Compliance was projected to improve year on year through delivery of works agreed with NIEA for upgrade via the RWIP project.

Line 26 - Delivery of improvements to nominated UIDs as part of a defined programme of work

NI Water has established the process for the identification, monitoring and review of UIDs. This included linking CAR and FD identifiers, developing CPMR to hold all relevant UID information and introducing review steps for all potential UIDs identified. In addition, NIEA have full visibility of the programme and sign off individual outputs within overall schemes: consequently, UIDs are claimed on a rolling basis rather than waiting for overall scheme completion.

The PC15 Final Determination indicated a target of 56 UID improvements for the 6-year period, with 0 of these profiled for delivery in 2020/21. 1 FD nominated output was delivered between 01 April 2019 and 31 March 2020 with remaining UID's not delivered in PC15 now profiled to deliver in PC21.

Confidence grades

NI Water has maintained improvements in the reporting process and the cross checking process for this line which were initially implemented for the AIR14 submission. Improvements in the management of Beneficial Use dates were implemented in January 2016. For 2020/21, the confidence grades for this line was determined using the reporting guidance and assessed as A1 – based on sound, time specific data captured relevant to each individual UID.

UIDs Delivered during the sixth year of PC15 – AIR21 Period

Catchment	UID Address	FD Ref.	Project ID	Comments	Operational Date
Islandreagh WWPS Upgrade	Islandreagh WWPS	UID391	KA262	Upgraded	31/03/2021

Line 27 – Delivery of improvements to WwTW through nominated schemes as part of a defined programme of work

3 WwTW nominated outputs were delivered between 01 April 2020 and 31 March 2021. Ballybogy WwTW, Greyabbey WwTW and Ballyvoy WwTW are all PC15 outputs. The remaining PC15 WwTW not delivered within PC15 are all now profiled to deliver at the start of PC21.
Changes to the definition of how Beneficial Use can be claimed on a WwTW project were agreed with the Regulator in 18/19 to ensure a WwTW is capable of meeting the appropriate consent standard.

Confidence grades

NI Water has maintained improvements in the reporting process and the cross checking process for this line which were initially implemented for the AIR14 submission.

Improvements in the management of Beneficial Use dates were implemented in January 2016. For 2020/21, the confidence grades for this line was determined using the reporting guidance and assessed as A1 – based on sound, time specific data captured relevant to each individual WwTW.

WwTW Delivered during the fourth year of PC15 – AIR20 Period

Project Name	Project Code	Beneficial Use Date	Comments
Ballybogy WwTW	KC463	31/03/2021	
Greyabbey WwTW	KS918	31/03/2021	
Ballyvoy WwTW	KC427	25/03/2021	

Line 28 - Investment in improvements to small wastewater treatment works as part of the Rural Wastewater Investment Programme.

Twelve small wastewater treatment works achieved Beneficial Use during 2020/21. Details of the actual works and year delivered are listed in the table below.

As with WwTW in line 27, a change in how Beneficial Use may be claimed was agreed in 18/19.

CAR Site Reference	Project title	Year claimed	Notes
S01608	Carmean WWTW	2020/21	27/08/2020
S01635	Rock Town WWTW	2020/21	08/07/2020
S02404	Drumard Primate WWTW	2020/21	04/08/2020
S00308	Craignasasonagh WWTW	2020/21	27/08/2020
S01192	Lisnagunogue WWTW	2020/21	04/10/2020
S02728	Ballymaderfy WWTW	2020/21	06/08/2020
S03050	Church Hill WWTW	2020/21	06/07/2020
S01170	Ringsend WWTW	2020/21	24/08/2020
S01432	Buckna WWTW	2020/21	18/09/2020
S02717	St Johns Terrace WWTW	2020/21	06/10/2020
S01626	Lisnamuck_Magherafelt WWTW	2020/21	26/02/2021
S02710	Moneyscalp WwTW	2020/21	02/03/2021

The confidence grades for this line were determined using the reporting guidance and were assessed as A2, based on the evidence within the methodology and the visibility of programme as defined within the 'Project Sites' section on CPMR.

Line 29 - CSO Monitoring

NI Water has installed 127 monitors in 20/21 giving an overall total of 279 monitors. All necessary monitoring equipment has now been installed for the PC15 period.

The confidence grade is unchanged at B2

Line 30 – WWTW's upgraded to comply with PPC Regulations

A new compliance measure was introduced for AIR16 for Wastewater Treatment Works upgraded to comply with PPC Regulations. There are currently 29 qualifying works reported for this measure. In agreement with NIEA the PPC permit for Sion Mills WwTW was surrendered in May 2017 as the site was treating significantly less sludge than the PPC permitted daily limit of 49.3 m^3/d and a PLC inhibitor was installed.

During 2020/21, NI Water will continue to work with NIEA to identify potential additional sites for PPC permit surrender, which are in a similar position to Sion Mills.
Improvement works have been carried out a number of sites under the PC15 Year 1 Base Maintenance Programme. These improvement works include PPC compliance measures such as odour abatement unit media replacement, sludge thickener replacements, refurbishment of sludge import screens, replacement of odour control unit blowers, replacement of sludge holding tanks, additional sludge cake conveyors as back up to the duty system and replacement of poly dosing pumps.

Odour modelling is required to demonstrate what impact, if any, each installation is having on the surrounding environment. Given the cost associated with odour modelling, NIEA set out their priorities for completion of odour modelling. This required 23 odour modelling assessments to be undertaken, with 5 sites being assessed by NIEA as not requiring odour modelling.

An Odour Modelling plan has been prioritised and agreed with NIEA.

To date, odour modelling has demonstrated that 8 sites do not require capital investment to achieve compliance. A further 14 sites became compliant between 2017 and 2021 following improvement works:

2017/18: Whitehouse
2018/19: Ballyclare, New Holland (Lisburn), Carrickfergus, Culmore, Cookstown and Greenisland
2019/20: Antrim, Larne, Dunmurry, Enniskillen, Omagh, Banbridge and Magherafelt

Upon completion of the odour modelling, NI Water and NIEA will be in a position to assess each of the remaining sites and determine if the PPC Regulations are satisfied, or if additional investment is required to comply. If so, a work programme will be developed, in conjunction with NIEA, to deliver the necessary improvements to meet PPC Compliance for each site. Until such times, the remaining 6 sites are assessed as non-compliant at this stage.

For the sites not requiring odour modelling NI Water will progress all site documentation, such as site specific management plans, accident management plans and odour management plans to obtain sign-off by NIEA.

In 2018/2019, NI Water completed a survey of chemical storage and site drainage at a number of sites, including PPC permitted sites. The findings from this survey have identified additional work at PPC sites to maintain compliance. The main issue identified from the survey relates to a pathway issue for the chemical storage and delivery areas. For example, at Downpatrick WwTW there is a chemical interceptor in place and a 3 way valve which should prevent any discharge of chemical to surface water, however there is a small risk which has been identified. Pipework from the spill tank requires diversion from the 3 way valve to the process pipework. The work has been identified as part of the PC21 plan and will be programmed to address the issue once the final price determination has been made by the regulator and DFI and the funding is confirmed.

Line 31 Impermeable Surface Area

NI Water removed 0 m2 of impermeable surface water from the combined sewerage system IN 20/21.

The confidence grade is unchanged at B2

Line 32 - Number of sustainable WwTW solutions delivered (p.e. ≥ 250)

No WwTW sustainable solution with a p.e. greater than 250 was delivered in 2020/21.

Line 33 - Number of sustainable WwTW solutions delivered (p.e. < 250)

1 WwTW sustainable solution with a p.e. less than 250 was delivered in 2020/21, this was Lisnagunogue WWTW which made use of solar panels to reduce energy consumption from the power network bringing the total to 3 over the period against a target of 3.

The confidence grade for this line was determined using the reporting guidance and assessed as A1 – based on sound, time specific data captured relevant to each individual WwTW.

NORTHERN IRELAND WATER LIMITED - ANNNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17a SEWERAGE EXPLANATORY FACTORS

SEWERAGE SUB - AREA EXPLANATORY FACTORS (TOTAL)

	DESCRIPTION	UNITS	DP	1 AREA 1	CG	2 AREA 2	CG	3 AREA 3	CG	4 AREA 4	CG	5 AREA 5	CG	6 AREA 6	CG	7 AREA 7	CG	8 AREA 8	CG	9 Total	CG
A	**SEWERAGE SUB AREAS GENERAL**																				
	Area name:-																				
1	Annual average resident connected population	000	1																	1,543.0	C3
2	Annual average non-resident population	000	1																	9.8	C3
3	Volume of sewage collected (daily average)	Ml/d	1																	367.6	B2
4	Total connected properties	nr	0																	727,504	A2
5	Area of Sewerage District	km^2	0																	13520	B2
B	**SEWERAGE DATA**																				
6	Total length of sewer	km	0																	16302	B3
C	**Costs**																				
7	Sewerage: Direct Costs	£000	0																	15,674	
8	Sewerage: Power Costs	£000	0																	5,136	
9	Sewerage: Service Charges	£000	0																	0	
10	Sewerage: General & Support Expenditure	£000	0																	9,643	
11	Sewerage: Functional Expenditure	£000	0																	25,316	

Table 17a – Sewerage Explanatory Factors

Line 1 - Annual average resident connected population (Total)

The guidance for Table 17a includes the following text:
"Companies must check that the following data are consistent. Companies must explain in the commentary any reasons why this data is not consistent.

- *Annual average resident connected population in table 17a (line 1, 'total' column) plus annual average non-resident population in table 17a (line 2, 'total' column) should equal the total connected population in table 13 (line 10)"*

NI Water has not calculated the Total Annual Average Resident Connected Population independently of the Total Annual Average Non-Resident Population and the Total Connected Population. Instead, the Company has used the consistency check *(above)* to derive the Total Annual Average Resident Connected Population.

- According to AIR21: Table 13: Line 10, the total connected population (comprising resident and non-resident population) is 1,552.799 x 10^3
- According to AIR21: Table 17a: Line 2, the annual average non-resident population is 9.751 x 10^3
- By calculation, the annual average resident connected population = 1,552.799 x 10^3 - 9.751 x 10^3 = **1,543.048 x 10^3**

Significant year on year changes in reported figures including an explanation of any factors that may have influenced the figure

AIR19	Confidence Grade	AIR20	Confidence Grade	AIR21	Confidence Grade
1,517.6 x 10^3	C3	1,531.9 x 10^3	C3	**1,543.0 x 10^3**	**C3**

The estimated annual average resident sewerage connected population has increased from 1,531.9 x 10^3 in AIR20 to 1,543.0 x 10^3 in AIR21, an increase of 11.1 x 10^3 *(0.72%)*.

Confidence Grade

There are two figures associated with the calculation of AIR21: Table 17a: Line 1: Column 9. The first figure is derived from AIR21: Table 13: Line 10 and was allocated a confidence grade of B3. The second figure is derived from AIR21: Table 17a: Line 2: Column 9 and was allocated a confidence grade of C3. Since the lower of the two confidence grades is C3, a confidence grade of **C3** has been allocated to Table 17a: Line 1: Column 9.

Line 2 - Column 9 - Annual average non-resident population (Total)

AIR19	Confidence Grade	AIR20	Confidence Grade	AIR21	Confidence Grade
33.1 x 10^3	C3	34.1 x 10^3	C3	**9.8 x 10^3**	**C3**

NI Water has included holiday and tourist population connected to the sewerage system, averaged over the year.

NI Water has not included any allowance for daily commuters or day visitors.

Changes in Methodology

Background

The methodology for calculating the average non-resident sewerage population relies heavily on the ability to source a figure from available tourism statistics for the number of **non-resident visitor nights**. In the past, this figure has been available for either the most recent calendar year *(as in the case of AIR17)* or the first three quarters of the most recent calendar year *(as in the case of AIR18)* but not the financial year in question.

These limitations have caused NI Water to base its reporting of the average non-resident sewerage population on a calendar year and to estimate the number of non-resident visitor nights in the calendar year when the figure has not been readily available. Estimates are based on the assumption that there is a direct relationship between the number of non-resident visitor nights and the occupancy figures for hotels and guest houses/B&Bs.

AIR21 Methodology

The Household Travel Survey (HTS) data from the Central Statistics Office (CSO) provides information on residents from the Republic of Ireland taking overnight trips in Northern Ireland. This information is an important part of the overall statistical picture of tourism in Northern Ireland and is used to determine amongst other things, the number of non-resident visitor nights.

In its AIR20 commentary, NI Water explained that NISRA had identified delays in both the provision of HTS data from CSO and in the assessment of that data to determine its quality. Those issues have since been resolved. However, in 2020 there was a new complication resulting from the Covid-19 pandemic and the impact it has had on the availability of tourism statistics. On the 23rd March 2020, the Government imposed a lockdown across the UK. This lockdown included all accommodation providers such as hotels, B&B, Guesthouses and Guest Accommodation. Relaxation of the lockdown allowed hotels, B&Bs, Guesthouses and Guest Accommodation to reopen again from the 3rd July. During the first lockdown, NISRA did not issue the NI Occupancy Survey and only restarted the collection of data in July.

In view of the circumstances highlighted above, NI Water has used the last available published figure for non-resident visitor nights i.e. the figure for the 12-month period from January to December 2019 and has estimated the annual number of non-resident visitor nights in 2020.

Impact of Change in AIR21 Methodology on Reported Outturn

The change in methodology described above is not believed to have had a significant impact on the reported outturn. This can be illustrated as follows:

Ref: Tables 1.3 and 1.2 of the NISRA publications '*Northern Ireland Tourism Statistics Tables (2011 – 2020)'* dated 18/02/2021.

Total bed-spaces sold (Jul 18 to Jun 19) = 4,645,321

Estimated non-resident visitor nights (Jul 18 to Jun 19) =
4,645,321 x 2.473 = 11,486,354

Ref: Country of Residence worksheet of the NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* dated 22/09/2020.

- *'Estimated Overnight Trips taken in Northern Ireland by Country of Residence, Q1 2011-Q4 2019'*

Actual non-resident visitor nights (Jul 18 to Jun 19) = 12,098,471

Difference between actual and estimate =
12,098,471 - 11,486,354 = 612,116

Percentage difference = 612,116 / 12,098,471 x 100 = 5%

As the difference between the actual and estimate is within the tolerance of any previously assigned confidence grading for this measure i.e. between 1% and 5%, this is deemed to be a suitable method for estimating the number of non-resident visitor nights.

Statement detailing estimation method used including date of data on which estimate is made

Assumption: There is a direct relationship between bed-spaces sold and non-resident visitor nights.

Ref: Tables 1.3 and 1.2 of the NISRA publications *'Northern Ireland Tourism Statistics Tables (2011 – 2020)'* dated 18/02/2021.

- *Northern Ireland Hotel Rooms and Beds Sold by Month*
- *Northern Ireland Guesthouse, Bed & Breakfast and Guest Accommodation Rooms and Beds Sold by Month*

Total bed-spaces sold (Jan 19 to Dec 19) = 4,778,202
Total bed-spaces sold (Jan 20 to Dec 20) = 1,443,361

Ref: Country of Residence worksheet of the NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* dated 22/09/2020.

- *'Estimated Overnight Trips taken in Northern Ireland by Country of Residence, Q1 2011-Q4 2019'*

Non-resident visitor nights (Jan 19 to Dec 19) = 11,814,924
11,814,924 / 4,778,202 = 2.473

Estimated non-resident visitor nights (Jan 20 to Dec 20) =
1,443,361 x 2.473 = 3,568,957

Annual average non-resident population = 3,568,957 / 366 nights = **9,751**

In obtaining the estimated number of visitor nights, NI Water has avoided the assumption specified in the guidance of *'a two-thirds occupancy rate of estimated bed-spaces available for non-residents for four months in the year'*.

Significant year on year changes in reported figures including an explanation of any factors that may have influenced the figures

At the time of reporting on AIR20, a non-resident visitor nights figure was available for only the first three months of 2019 and a figure for the entire twelve months had to be estimated. In accordance with the AIR19 Reporter Recommendation for Table 2 Line 20, NI Water has recalculated the AIR20 outturn for Table 17A Line 2 using a figure now published for the entire twelve months. The recalculation is as follows:

Annual average non-resident population = 11,814,924 / 365 nights = **32,370**

The recalculated AIR20 outturn of 32,370 is 1,750 properties *(2.52%)* lower than the original AIR20 outturn of 34,120 which was based on an estimated number of non-resident visitor nights in 2019 of 12,453,895. This is well within the tolerance of the assigned confidence grading.

Last year, the Company reported a Table 17A Line 2 outturn of 34.1 x 10^3. Based on the AIR21 outturn of 9.8 x 10^3, the estimated annual average non-resident sewerage population has decreased by 24.3 x 10^3 *(71%)*. This decrease can be attributed to a decrease in the number of non-resident visitor nights. The 2020 estimate was 3,568,957 compared to the 2019 confirmed figure of 11,814,924.

Covid-19 – Impact on tourism and winter population

Although there is a distinct lack of published data available for 2020 because of the impact that Covid-19 has had on the data capturing process, it is quite apparent, even from the estimates in the commentary, that tourism was severely and unprecedentedly affected by the restrictions imposed during the pandemic. With the requirement for catering establishments to remain closed for large parts of the year, the cancellation of entertainment and sporting events due to social distancing guidelines and the suspension of foreign travel throughout Europe and the rest of the world, many people were either prevented from visiting Northern Ireland or just simply opted not to visit, due to the continued uncertainty.

What happens in 2021 will depend very much on the easing of restrictions on business operations and travel and people regaining confidence to book vacations. The number of new strains of the virus continues to be a concern and it may be that some quarantine requirements will have to remain in place. Although tourism is unlikely to suffer as much as in 2020, there can be no doubt that Covid-19 has had an extremely detrimental impact on the hospitality industry as a whole and it will take time for it to fully recover from the setback.

Confidence Grade

The annual average non-resident sewerage population is an estimate based on several sources of information:

1. The NISRA publications *'Northern Ireland Tourism Statistics (2011 – 2020)'* provide only an estimate of the monthly numbers of bed-spaces sold, based on the extrapolation of data for a representative sample group of establishments.
2. The NISRA publication *'Northern Ireland Tourism Statistics Microdata (January 2011 – December 2019)'* provides only an estimate of the quarterly numbers of non-resident visitor nights, based on sample surveys. The estimate therefore has an associated degree of sampling error, determined both by the sample design and by the sample size. Sample surveys include the Northern Ireland Passenger Survey (NIPS) conducted by the Northern Ireland Statistics and Research Agency (NISRA), the Survey of Overseas Travellers (SOT) conducted on behalf of Fáilte Ireland and the Household Travel Survey (HTS) conducted by Central Statistics Office (CSO).

NI Water has assigned a confidence grade of **C3** to account for known deficiencies in the reliability and accuracy of the reported figure. Although there have been changes in the methodology, data confidence is still believed to be comparable to previous years.

At the time of reporting on AIR21, the most recent non-resident visitor nights figure available was for 2019 and a figure for 2020 had to be estimated. When reporting on AIR22, NI Water will recalculate the AIR21 outturn using the published figure for 2020.

Line 3 - Volume of Sewerage Collected

This figure has been copied from AIR21 Table 14 Line 7 – Volume Waste Water Returned.

Line 4 - Total Connected Properties

NI Water's data on property counts and classifications is reported monthly from RapidXtra within the Rapid Property Summary (RPS). The data is extracted from the Diamond Warehouse via Microsoft SQL Server to produce the RPS report.

Our AIR21 methodology has remained consistent with previous years – using the automated Property Model tool to populate the Table 17a Line 4 figure (this was first introduced in AIR12 – the RPS as the input).

The RPS provides us with a snapshot at the end of each month in terms of net movement; however it alone does not support in the explanation of gross movements within the data. With this is mind, during the 19/20 reporting year the CSD Services MI & Data Team explored the use of Power BI to re-create the RPS with a drill down function to display the gross movement. The Power BI property models developed take their direct feed from the Diamond Warehouse in order to refresh. These models provide us with information on gross movements and allow us to 'slice and dice' the data from various angles, providing invaluable insights. The plan is to further enhance and incorporate these models across the business during 2021/22.

Customer/Property information is updated through:

- BAU ('business as usual') customer contacts, such as new connection requests, customer move in/move outs, or
- through Data Quality initiatives/Projects, and/or
- Metering work streams e.g. UNHH (Selectives), Optants, and Proactive Meter Exchange etc.

Under the Water & Sewerage Services (2006) Order, NI Water were required to install meters on all new household connections from April 2007. This practice has stopped as directed by a change in legislation, which took effect in July 2016. The legislation was amended by Regulations, which in effect relieved NI Water of the obligation to install meters at newly connected domestic properties. As domestic customers are not charged on a measured basis, the property is reported as unmeasured. Some domestic properties were initially reported as measured in AIR10 but this was rectified as per the erratum to AIR10. Depending on the basis for charging when domestic billing is introduced, these customers can be activated as measured household if required.

The difference between the AIR20 and the AIR21 figures is 9,185. The breakdown can be explained as follows:

1. New Connections during the 2020/21 reporting year. The figures are based on data supplied by our Customer Connections Team and represent completed connections during the reporting year. The projections for New Connections remain in line with

the agreed PC15 forecasts, however we have noted a downturn and will review mid-year (during the draft Principle Statement) to ascertain if projections should be changed.

2. Added as a result of a customer contact. i.e. septic tank empty request, no water complaint, blocked sewer, updating of standing data e.g. removal of services etc. Within this category there are 2 scenarios:
    (a) The adding of properties NI Water allegedly did not know about
    (b) The adding of duplicates as the customer's address could not be found on Rapid. Rapid may hold the site number but when the customer contacts NI Water, they quote the verified postal address, which is different, therefore creating a duplicate. The street name may also have changed from the time of New Connection to that of customer contact (street names can change in the early stages of site development).
3. Removal/reclassification of properties as a result of data quality initiatives/projects
    a. Duplicate properties
    b. Reclassification of properties that were recorded in error
4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

For NI Water, accurate property data is fundamental for many systems and processes, including customer service, metering, billing, consumption, leakage and Major Incident Planning & Response. The Rapid Customer Contact System contains the master property data for NI Water.

As Data Owner for Property Standing Data, The Head of CSD Services is responsible for the property standing data held by NI Water; this is monitored and managed through the Property Information Group (PIG). The CSD Services MI & Data Team chair this group.

The role of PIG is to ensure that there is appropriate governance, controls and reporting for changes made to core data on the system. As Property Data Owners, we need to ensure the processes around creation, maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. Control is key for us; as such we have identified the systems, processes and people using property information across the business, alongside confirming data accuracy and endeavouring to reduce the opportunities for erroneous data entry and creation (such as the inability to recreate demolished properties or duplicate properties).

The issues under consideration were identified as of corporate relevance, therefore to ensure appropriate direction and governance the PIG was formalised. Key objectives include:

1. To agree a single consistent source of property data.
2. To ensure the source property data represents accurate, up-to-date information appropriate for use by the business.
    a. To understand and agree data primacy in respect of data updates from NI Water and external (Land & Property Services - LPS) sources
    b. To ensure the processes around creation (i.e. New Connections), maintenance and demolition of properties are governed and appropriate control points and associated reporting are in place. i.e. through CBC Data Validation (Phase 1, Phase 2, Phase 3, 105 Days DV)
    c. To co-ordinate property reconciliations between NI Water & external sources i.e. Data Sharing Agreements between NI Water & LPS, NI Water & Belfast

City Council (BCC) etc. and understand the reasons and validity of any differences

d. To understand and ensure the adequacy of long term procedures for database maintenance, including the updating of data standards and associated CDE M&M Plans

3. To ensure the reporting requirements for the business are met relating to data held on Rapid, particularly, but not exclusively, in respect of tariffs, leakage, Annual Information Returns (AIR) & Principle Statement (PS) returns.
4. Challenge the data in the areas of
    a. Data categorisation & structure
    b. Data robustness – i.e. where is our data good and where is there opportunity for improvement? Identify projects that could aid improvement
    c. Data alignment – both internally and externally. Internally between systems such as Rapid, Ellipse, GIS, Diamond, Netbase, IMS etc. Externally through data reconciliations, such as LPS above.
5. To agree measures to improve the quality and integrity of the data, particularly the key CDEs as monitored by IMU
6. To agree the content and frequency of reports required by NI Water.
7. To agree the quality checking criteria for the above data and reporting and develop a Quality Plan including the determination of responsibilities and audit trails.
8. To produce & circulate an 'operate and maintain' programme for property data to the business.

The COVID 19 pandemic has caused delays to our 20/21 plans, however our aim for 2021/22 remains the same with continued focus for PIG including analysis and action on:

- Volume of properties coming onto the Rapid billing system on a monthly basis
    - new connections
    - customer contact
    - project work
- Volume of properties coming off the Rapid billing system (demolished)
    - sample check to ensure reason for demolition has been noted and on system audit trail recorded
- Volume of properties amended on the Rapid billing system
    - In particular, address fields -> building number, street name, town and postcode
    - sampling to identify if the data changes are data improvement or data regression
    - if data regression, further analysis into the process is undertaken
- Review of access privileges
    - Rapid audit
    - Through monthly audit samples
    - Internal CRs require sign off from PIG as BAU
    - Working with Echo to review access privileges on an ongoing basis
- Interruptions to supply notices – returned mail
    - This returned mail was brought to the attention of LPS and include properties that LPS have classified as live properties despite being returned as 'no such address' etc.
    - The 2 way communication with LPS will help underpin our governance work and provide direction to the business on practices

The PIG Strategy for 2021/22 will include the following:

- New Connections - A push to move to on-system reporting following the Business Improvement New Connections Review

- Further use of PowerBI – We currently use Power BI to create and issue the monthly Rapid Property Summary (RPS) and will continue to explore the use of Power BI in other aspects of our property work throughout 2021/22
- Rapid-POINTER Reconciliation - follow on actions to be worked through and benefits realised. i.e. Uploading of UPRNs from POINTER where a property can move from an A match to an A* match
- Continued monitoring of data alignment between systems – Rapid and Ellipse, GIS, Netbase, Diamond, IMS etc.
- Smart Cities (Belfast City Council Rates Maximisation Project) – Ongoing data sharing project that commenced in August 19
- Continuation of the 2 way communication with LPS - This will help underpin our governance work and provide direction to the business on practices that will work alongside LPS
- Student Accommodation – further case studies on student accommodation re-development sites. Liaise with Belfast City Council to understand at what stage they can inform NI Water of properties that are to be re-developed as student accommodation.
- Test Meters – monitor numbers of 'retain for review' meters
- Properties with 'no water supply' (no water/well water) – review and validate on a monthly basis

Annex A details the Line Methodology followed to produce the figures for Table 17a Lines 3-4.

Line 5 - Area of sewerage district

The figure provided equates to the total land mass of Northern Ireland excluding major bodies of inland water. The same LPS product has been used to determine the Area of Sewerage District. There remains only one sewerage district for all of Northern Ireland. The confidence grade of the data will remain the same as the previous year.

Line 6 - Total length of sewer

There has been no change to the structure of the data reported on this year from the previous years that would directly affect the totals provided. The same queries have been used to extract the data from the Corporate Asset Register and have been checked to ensure that they are still relevant. The confidence grade of the data will remain the same as the previous year. Any new data will have adhered to the NIW Code of Practice for the submission of asset data ensuring that data quality levels have been maintained throughout the year.

C Costs

The overall approach and allocation process for Table 17a has not changed since AIR08. There are still some limitations and it has not been possible to fully complete the Information Returns for 2020-21. Work is ongoing, through the Cost to Serve Project. Cost to Serve is not fully implemented and therefore could not be used for AIR21. The figures populated in Column 9 have been taken from Table 22 (NIW only).

Line 7 – Direct Costs

It is not yet possible to split the costs into areas. A total figure has been supplied in Column 9 which agrees to the direct sewerage costs in Table 22, column 1 line 9. See Table 22 commentary. Direct Costs have increased by circa £1.0M from AIR20.

The main reason for this was increased power costs (see below) and Hired and Contracted Services and a decrease in Employment Costs.

Line 8 – Power Costs

The figure for Power costs agrees to Table 22, line 2 column 1. See Table 22 commentary. Power costs have increased by £0.2M from AIR20 due to increased energy tariffs and higher consumption.

Line 9 – Services Charges

The figure for Service Charges agrees to Table 22, line 7 column 1. They are minimal for AIR21.

Line 10 – General & Support

The figure for General & Support expenditure agrees to Table 22, line 10 column 1. See Table 22 commentary and methodology. These costs have remained at AIR20 levels.

Line 11 – Functional Expenditure

This is a calculated cell and is the total of line 7 and line 10. This figure agrees to Table 22, line 11 column 1. The costs in this line have increased by approx. £1.0m since AIR20. This is due to the combination of higher power costs, higher Hired and Contracted Services and decreased Employment Costs.

Annex A Table 4 Lines 6-8 - Total Connected Properties

Total properties connected for sewerage services (including voids) at year end.

This figure is taken from the AIR21 Rapid Property Summary, as attached.

RPS March YE 2021.xlsx

Total Gross Sewerage Properties	End March 2021
Household - Unmeasured	646930
Household - Sewerage Only	10
Household – Measured - Not Charged (test meters)	28
Household - Measured	35195
Household – Site Meters	2788
Household - Unmeasured - Not Charged	13
Non-Household - Unmeasured	12749
Non-Household – Sewerage only	19
Non-Household - Measured	29772
Total	**727504**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17b SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - LARGE WORKS INFORMATION DATABASE (NIW Only

	DESCRIPTION	UNITS	DP	TOTAL	1	CG	2	CG	3	CG	4	CG	5	CG	6	CG	7	CG	8	CG	9	CG	10	CG	11	CG	12	CG	13	CG	14	CG	15	CG
1	Works Name				Belfast		Culmore		Ballymena		Whitehouse		North Coast		Newry		Lisburn		Antrim		Dunmurry		Omagh		Dungannon		Newtownbreda		Carrickfergus		Enniskillen		Larne	
A	**WORKS SIZE**																																
2	Population equivalent of total load received	000	0	1,400	485	C5	166	C5	84	C5	88	C5	82	C5	65	C5	75	C5	69	C5	50	C5	33	C5	80	C5	37	C5	32	C5	27	C5	27	C5
B	**EFFLUENT CONSENT STANDARD**																																
3	Suspended solids consent	mg/l	0		50	A1	50	A1	25	A1	50	A1	50	A1	50	A1	15	A1	20	A1	25	A1	50	A1	40	A1	30	A1	50	A1	30	A1	50	A1
4	BOD5 consent	mg/l	0		30	A1	30	A1	15	A1	30	A1	30	A1	30	A1	10	A1	10	A1	10	A1	30	A1	25	A1	15	A1	30	A1	20	A1	30	A1
5	COD consent	mg/l	0		125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1
6	Ammonia consent	mg/l	1				10.0	A1	3.0	A1							2.5	A1	15.0	A1	2.5	A1	10.0	A1	7.0	A1	5.0	A1			10	A1		
7	Phosphates consent	mg/l	1						1.0	A1							2.0	A1	1.0	A1	2.0	A1	2.0	A1	1.0	A1	2.0	A1			1	A1		
C	**TREATMENT CATEGORY**																																
8	Classification of Treatment Works				TA2		SAS		TA2		TA2		SAS		SAS		TA2		TA2		TA2		TA2		TA2		TA2		TA2		TA2		TA2	
D	**COSTS**																																
9	Direct cost	£000	0	6,333	1,502		436		332		347		245		441		454		331		385		271		346		319		307		314		303	
10	Power costs	£000	0	3,725	1,067		316		225		207		171		238		238		184		154		117		227		144		135		123		179	
11	Service Charges	£000	0	218	31		9		8		12		4		19		15		12		19		13		12		13		19		21		12	
12	General and support expenditure	£000	0	3,807	532		150		131		215		73		330		264		201		332		225		210		230		333		366		215	
13	Functional expenditure	£000	0	10,140	2,035		586		463		562		318		771		717		532		717		495		557		548		640		680		517	
14	Estimated terminal pumping costs	£000	0	0																													
15	Estimated sludge costs	£000	0	0																													

Table 17b – Sewerage Explanatory Factors (NIW only)
Sewage Treatment Works – Large Works Information Database

Lines 1- 8

NI Water has a number of sites which fall into the Band 6 category and are to be reported within this submission.

The WWTW to be reported on for AIR21 are:

LIMS Code	LIMS Name	Confirmed PE	AIR21 Band	BOD WOC	BOD UWWTR
S34AG	Carrickfergus WWTW	32296	Band 6	30	25
S34AK	Belfast WWTW	484790	Band 6	30	25
S37AB	Dunmurry WWTW	50186	Band 6	10	25
S37AA	Lisburn (New Holland) WWTW	74652	Band 6	10	25
S34AD	Newtownbreda WWTW	36683	Band 6	15	25
S34AE	Whitehouse WWTW	88141	Band 6	30	25
S15AO	Antrim (Milltown) WWTW	68648	Band 6	10	25
S13BE	Ballymena (Tullaghgarley) WWTW	83750	Band 6	15	25
S25AC	Dungannon (Moygashel) WWTW	79561	Band 6	25	25
S27AC	Newry WWTW	64893	Band 6	30	25
S45IB	Omagh WWTW	33008	Band 6	30	25
S43CI	Culmore WWTW	165653	Band 6	30	25
S17HF	North Coast WWTW	82014	Band 6	30	25
S47HK	Enniskillen WWTW	27074	Band 6	20	25
S15BS	Larne WWTW	27462	Band 6	30	25

No assumptions have been made for the return.

All consents reported have both BOD and SS as part of the consent as issued by Northern Ireland Environment Agency (NIEA).

There are no consents for ammonia by itself without accompanying BOD and SS consents.

The consent conditions as issued by NIEA are based on 95%ile limits.
For the purposes of reporting the WOC BOD limit has been reported for all WWTW's. It should be noted that in some instances, the UWWTR BOD limit of 25mg/l is lower, as identified in the table above.

For reference, the works in Band 5 which have the potential to be included in subsequent returns are listed here:

LIMS Code	LIMS Name	Confirmed PE	AIR21 Band
S36AA	Downpatrick	23735	Band 5
S34AH	Greenisland	12733	Band 5
S36BB	Kilkeel	13385	Band 5
S36BO	Newcastle	17281	Band 5
S17ED	Ballycastle	12798	Band 5
S15AA	Ballyclare	20355	Band 5
S17BP	Ballymoney	20999	Band 5

LIMS Code	LIMS Name	Confirmed PE	AIR21 Band
S13CH	Cookstown	22569	Band 5
S13GK	Magherafelt	19702	Band 5
S27AA	Banbridge	24199	Band 5
S25AB	Coalisland	10757	Band 5
S27AD	Warrenpoint	15948	Band 5
S43GI	Limavady	16566	Band 5
S45JA	Strabane	22261	Band 5

D Costs

This table was populated in the same way as AIR20. The costs are a further breakdown by location of the Band 6 expenditure detailed in Table 17f line 6. It is populated with the information available for the year ended 31 March 2021. The Population Equivalent (PE) information used to complete this table was received from Asset Delivery on 4th June 2021. No PPP costs are included in this table.

Line 9 – Direct Costs

Direct costs include power 521x, contractors 531x, other contractors 532x, materials 541x, chemicals 548x, cost reallocations 611x (this includes direct labours costs and & overhead charges) and service charges.

In AIR21 there are 15 works that fall into Band 6, which is the same as AIR20.

Direct costs have decreased by approx. £0.2M from AIR20. This is mainly due to decreased Employment Costs

Line 10 – Power Costs

Through the cost to serve project all power costs are allocated to individual sites and a report was taken from EAM to get the full year power cost per WWTW's. The power costs have remained at AIR20 levels.

Belfast WWTW's was treated separately as there is one electricity meter at Duncrue Street which includes the costs for the Belfast WWTW's and the two Incinerators operated by PPP. The power team supplied an estimated 45:55 split between the Belfast WWTWs and the Incinerators (based on an estimated KWhr usage and a number of sub-meters) which has been used to calculate the amount relating to Sewage Treatment at Belfast WWTW's. The split in AIR20 was 48:52 for the Belfast and Incinerators. No costs for the Incinerator have been included in this table in AIR21.

Line 11 – Service Charges

Service Charges for AIR21 are in line with AIR20.

Line 12 – General & Support

The total general & support expenditure was taken from Table 22 line 10 column 2 (see Table 22 methodology and commentary). This figure was apportioned across all the WWTWs in this table based on the cost reallocations 611X (this includes direct labours costs & overhead charges). This figure has increased by £0.3m since AIR20. See commentary on Table 22 for further breakdown and explanation.

Line 13 – Functional Expenditure

This is a calculated line and is the total of line 9 and line 12. The total in the workings agrees to Table 22 (NIW Only) column 2 line 11. Costs have remained at AIR20 levels.

Line 14 – Terminal Pumping Costs

This information was populated in the same way as AIR20. No Power costs for Terminal Pumping Stations have been included in the table.

Line 15 – Sludge Costs

Sludge treatment is a separate activity in the accounts and the direct costs are not included in line 9 to line 13.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17c SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - NUMBERS (NIW Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11
				TREATMENT CATEGORY										
					SECONDARY		TERTIARY				SEA OUTFALLS			
				PRIMARY	ACTIVATED	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	TOTAL
A	**SMALL WORKS**													
1	Number of STWs in size band 1	nr	0	239	19	508		0	3	2	0	0	4	775
2	Number of STWs in size band 2	nr	0	0	4	35	3	1	10	6	0	1	0	60
3	Number of STWs in size band 3	nr	0	1	14	48	7	12	15	8	2	0	1	108
4	Number of STWs in size band 4	nr	0	1	15	7	1	16	2	4	3	1	0	50
5	Number of STWs in size band 5	nr	0	0	5	0	2	6	0	1	0	0	0	14
B	**LARGE WORKS**													
6	Number of STWs in size band 6	nr	0	0	3	0	0	12	0	0	0	0	0	15
7	Total numbers of STWs	nr	0	241	60	598	13	47	30	21	5	2	5	1022
C	**SMALL WORKS WITH AMMONIA CONSENTS**													
8	Number of small STWs with NH_3 consent (5 - 10mg/l)	nr	0	44										
9	Number of small STWs with NH_3 consent (< = 5mg/l)	nr	0	60										

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17c SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - NUMBERS (PPP Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11
				TREATMENT CATEGORY										
					SECONDARY		TERTIARY				SEA OUTFALLS			
				PRIMARY	ACTIVATED	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	TOTAL
A	**SMALL WORKS**													
1	Number of STWs in size band 1	nr	0											0
2	Number of STWs in size band 2	nr	0											0
3	Number of STWs in size band 3	nr	0											0
4	Number of STWs in size band 4	nr	0				1							1
5	Number of STWs in size band 5	nr	0					1						1
B	**LARGE WORKS**													
6	Number of STWs in size band 6	nr	0		1			3						4
7	Total numbers of STWs	nr	0		1		1	4						6
C	**SMALL WORKS WITH AMMONIA CONSENTS**													
8	Number of small STWs with NH3 consent (5 - 10mg/l)	nr	0	0										
9	Number of small STWs with NH3 consent (< = 5mg/l)	nr	0	2										

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17c SEWERAGE EXPLANATORY FACTORS

SEWAGE TREATMENT WORKS - NUMBERS (Total)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11
				TREATMENT CATEGORY										
					SECONDARY		TERTIARY				SEA OUTFALLS			
				PRIMARY	ACTIVATED	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	TOTAL
A	SMALL WORKS													
1	Number of STWs in size band 1	nr	0	239	19	508	0	0	3	2	0	0	4	775
2	Number of STWs in size band 2	nr	0	0	4	35	3	1	10	6	0	1	0	60
3	Number of STWs in size band 3	nr	0	1	14	48	7	12	15	8	2	0	1	108
4	Number of STWs in size band 4	nr	0	1	15	7	2	16	2	4	3	1	0	51
5	Number of STWs in size band 5	nr	0	0	5	0	2	7	0	1	0	0	0	15
B	LARGE WORKS													
6	Number of STWs in size band 6	nr	0	0	4	0	0	15	0	0	0	0	0	19
7	Total numbers of STWs	nr	0	241	61	598	14	51	30	21	5	2	5	1028
C	SMALL WORKS WITH AMMONIA CONSENTS													
8	Number of small STWs with NH3 consent (5 - 10mg/l)	nr	0	44										
9	Number of small STWs with NH3 consent (< = 5mg/l)	nr	0	62										

Table 17c- Sewage Treatment Works Numbers

NIW only

It should be noted that the banding of the WWTWs is based on the latest Populations Equivalents minus tourist PEs (i.e. hotels and caravan parks only as information does not exist on proportion of PE to commuters). PEs for 904 WWTWs (which were live during AIR21) have been updated. The number of changes for AIR21 is due mainly to the adoption of the PC21 WwTW PE Refresh exercise.

Changes regarding WWTWs from the AIR20 period are as follows:

- 2 WWTWs have been upgraded and achieved operational beneficial use in the last financial year – i.e. Ballybogy WwTW (pumpaway to Glenstall catchment), Ballyvoy WwTW;
- 2 WwTWs have been upgrade and achieved operational beneficial use in the last financial year as part of the EU SWELL Project – i.e. Donemana and Warrenpoint WwTWs;
- 13 WWTWS had achieved 'operational beneficial use' under the RWwIP project (including upgrades to Ballymaderphy, Buckna, Carmean, Church Hill, Craignasasonagh, Drumard Primate, Killeter, Lisnagunogue, Lisnamuck(Magherafelt), Moneyscalp, Ringsend, Rocktown, St Johns Terrace(Kilcoo) WwTWs);
- 5 WwTWs have been upgraded or design capacity reviewed during PC15 which have been missed in previous returns. They are Augher, Ballycranbeg, Ballymartin, Dundrum (Down), Moneyreagh WwTWs.

There has been 1 net reduction in the number of WWTWs (Ballybogy WwTW) from AIR20 reporting, with 1022 WWTW live on 31st March 2021.

The total number of WWTWs in Table 17c line 7 is the total of all works in this table i.e. 1,022 including the screened outfalls (2 No.) and the unscreened outfalls 5 No). The number of WWTWs in Table 15 line 8 is 1,015 as the screened and unscreened outfalls are not to be included in the total for this line.

The UR Chapter 17c guidance also requests the following cross check to be carried out, which has been completed:

- The number of large WWTWs in each treatment category in table 17c (line 6, columns 1-10) should equal the corresponding total number of large WWTWs reported in table 17b (line 8) – which for AIR21 is 15 No WWTWs.

It should be noted that the AIR21 PEs, used to populate tables 17c and 17d, were forwarded to others within the organisation who are responsible for the population of tables 17b and 17f, which should ensure consistency of reporting.

The Reporters report for AIR09 recommended that the difference in the total population used to calculate the size bands and the population given in Table 13 Line 10 should be investigated and consideration given to a harmonised approach. The table below shows the AIR21 comparison between the two figures.

Total Residential Population used to Calculate Table 17c for AIR21	1,361,516
Total Population connected to the sewerage system based on Table 13 Line 10	1,552,799
Difference	**191,283**

As can be seen there is a difference of 191,283. However the Table 17c information does not include the residential population within PPP catchments. An exercise was carried out during February 2012 to establish a Theoretical Desktop pe for the PPP sites and these have been updated with the latest AIR21 Trade PE. The non-residential aspect of these PEs have been subtracted from the overall AIR21 PPP PE (based on the reported AIR21 PPP BOD Load and divided by 60g/head/day).

Name of WWTWs	**Equivalent Population (From PPP Section)**	**Non-Residential pe held against PPP Catchments (Includes Non-Residential, Trade, Schools, Large Water Consumers, Caravan Parks)**	**Residential Population (Based on PPP Equivalent Population. Includes Residential Homes)**
North Down WWTW	62,177	10,187	51,990
Armagh WWTW	15,283	7,991	7,292
Richhill WWTW	2,417	227	2,190
Newtownards (Ballyrickard)	41,900	15,269	26,631
Ballynacor WWTW	118,862	61,403	57,459
Kinnegar	95,717	35,754	59,963
Total	**336,356**	**130,831**	**205,525**

The residential population for the PPP sites is now approximated to be 205,525. If this is added to the 17c figure (1,361,516) then the total is 1,567,041 which is 14,242 greater than the figure held in Table 13. However the Table 13 Line 10 residential figure also includes nursing homes and tourist population. Nursing homes are included in the Trade PE so if this element (3,907) and the AIR21 tourist population for both NIW sites (47,009 pe) and PPP sites (1,964) are included this gives a revised figure of 1,619,921 which is 67,122 PE greater than the figure held in Table 13, approximately 4.1% of a difference.

It should be noted that the Residential PE for most of the NIW WWTWs has been derived from GIS pointer data and that inaccuracies do exist in that some residential properties are labelled as commercial or industrial, and visa-versa.

The Reporters report for AIR09 recommended that a consistent approach for population figures used in the 17 series tables should be adopted. The population figures used in Table 17c are the same as in 17d. These figures have also been supplied to the other parts of the business which populate Tables 17a, 17b & 17f etc., so population figures should be consistent.

With reference to the WWTWs in Size Band 1:

- the number of WWTWs with a PE less than or equal 100 (excluding tourist PE) is 689, and
- the number of WWTWs with a PE greater than 100 but less than or equal to 250 (excluding tourist PE) is 85.

The table below highlights the changes in band sizes from AIR20 to AIR21.

Name of Works	CAR ID	AIR20 Band Sizes	AIR21 Band Sizes	Comment
Annaghmore (WWTW)	S02556	Band 2	Band 3	NIAMP5 Actual PE Update
Ballybogy WwTW	S01087	Band 3	Pumpaway	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballycassidy (WWTW)	S03012	Band 2	Band 3	NIAMP5 Actual PE Update
Cranfield (Down)	S02721	Band 2	Band 3	NIAMP5 Actual PE Update
Donaghmore (WWTW)	S02840	Band 4	Band 3	NIAMP5 Actual PE Update Trade updated
Garvagh (WWTW)	S01154	Band 4	Band 3	NIAMP5 Actual PE Update
Kilcoo	S02704	Band 2	Band 3	NIAMP5 Actual PE Update
Moss-side (WWTW)	S01194	Band 3	Band 2	NIAMP5 Actual PE Update
Mullaghboy	S00259	Band 2	Band 3	NIAMP5 Actual PE Update
Tandragee	S02174	Band 5	Band 4	NIAMP5 Actual PE Update Trade updated

The table below highlights the changes in treatment category from AIR20 to AIR21.

Name of Works	CAR ID	AIR19 Treatment Category	AIR20 Treatment Category	Comment
Ballybogy WwTW	S01087	Band 3	Pumpaway	Transfer of flows to Glenstall catchment. PE added to Glenstall
St Johns Terrace (Kilcoo)	S02717	Prim	Sec Bio	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade Change in treatment category from prim to sec bio

Difference between AIR20 and AIR21 for total in Table 17c (column 11, row 7)

Total Number of Works for AIR21 -	**1,022**
Total Number of Works for AIR20 -	**1,023**
Total Difference -	**1**

With reference to lines 8 and 9, data regarding the ammonia consents of the Small WWTWs (Bands 1 to 5 inclusive) was obtained from a spreadsheet of standards obtained from the Environmental Regulation Team.

Changes to lines 8 and 9 of this table, from AIR20 to present are summarised below:

Line	Nr AIR20	Nr AIR21	Difference	Comment
8	44	44	0	No consent changes during AIR21 with regards to line 8 Net change - zero
9	60	60	0	Numeric consent applied to Stoneyford Beeches One WwTW Numeric consent removed from Ballybogy WwTW Net Change - 0

It is to be noted that NIEA did not recognise the AIR15 PEs for the WWTWs in the table below, and will probably not recognise the updated AIR21 PEs for these sites, for compliance reporting. They view the PEs in the last column of the table as the PEs to be used for the latter. NIEA require daily flow and load studies for a full year to substantiate drops in PE which cross UWWTD boundaries i.e. 2000pe, 50,000pe and 100,000pe. These flow and load studies were not identified in the PC21 Business Plan submission and are not currently prioritised for inclusion in the capital works programme.

WWTWs	Site ID	AIR21 Actual PE	Actual PE recognised by NIEA
Dromore (Tyrone)	S03083	1,867	2032
Donaghmore	S02840	1,780	2,058

PPP

Lines 1-6

There are no changes from AIR20. The category of Richill STW remains Category 4 as adjusted in AIR20.

Line 9

There are no changes from AIR20. The category of Richill STW remains Category 4 as adjusted in AIR20.

Specific required commentary;

- There are no doubts about the classification of any of the PPP works.
- The data is consistent with the data provided on Table 15 Line 8 (PPP Only) table.
- Based on the calculated loads treated at the PPP sewage works in the AIR21 Reporting period, there are no size band 1 PPP works on which to provide extra detail.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17d SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - LOADS (NIW Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	
				TREATMENT CATEGORY										TOTAL	CG
				PRIMARY	SECONDARY		TERTIARY				SEA OUTFALLS				
					ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED		
A	SMALL WORKS														
1	Load received by STWs in size band 1	kg BOD_5/day	0	153	93	1,476	0	0	60	24	0	0	15	1,821	C3
2	Load received by STWs in size band 2	kg BOD_5/day	0	0	101	718	68	21	219	130	0	69	0	1,325	C3
3	Load received by STWs in size band 3	kg BOD_5/day	0	77	1,087	2,817	404	898	1,004	655	307	0	41	7,290	C3
4	Load received by STWs in size band 4	kg BOD_5/day	0	354	3,681	1,441	150	4,942	339	1,109	928	198	0	13,144	C3
5	Load received by STWs in size band 5	kg BOD_5/day	0	0	4,627	0	2,070	7,399	0	1,182	0	0	0	15,278	C3
B	LARGE WORKS														
6	Load received by STWs in size band 6	kg BOD_5/day	0	0	18,754	0	0	65,175	0	0	0	0	0	83,929	C3
7	Total loads rec'd (daily average all size bands)	kg BOD_5/day	0	584	28,342	6,453	2,691	78,436	1,623	3,100	1,236	267	56	122,787	C3
C	SMALL WORKS WITH AMMONIA CONSENTS														
8	Load rec'd by small STW w. NH_3 consent (5 - 10mg/l)	kg BOD_5/day	0	5,099											
9	Load rec'd by small STW w. NH_3 consents (< = 5mg/l)	kg BOD_5/day	0	15,166											

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17d SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - LOADS (PPP Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	
				TREATMENT CATEGORY											
					SECONDARY		TERTIARY				SEA OUTFALLS				
				PRIMARY	ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	TOTAL	CG
A	SMALL WORKS														
1	Load received by STWs in size band 1	kg BOD5/day	0												
2	Load received by STWs in size band 2	kg BOD5/day	0												
3	Load received by STWs in size band 3	kg BOD5/day	0												
4	Load received by STWs in size band 4	kg BOD5/day	0				145							145	B3
5	Load received by STWs in size band 5	kg BOD5/day	0					917						917	B3
B	LARGE WORKS														
6	Load received by STWs in size band 6	kg BOD5/day	0		5,743			13,377						19,120	B3
7	Total loads rec'd (daily average all size bands)	kg BOD5/day	0		5,743		145	14,294						20,182	B3
C	SMALL WORKS WITH AMMONIA CONSENTS														
8	Load rec'd by small STW w. NH3 consent (5 - 10mg/l)	kg BOD5/day	0	0											
9	Load rec'd by small STW w. NH3 consents (< = 5mg/l)	kg BOD5/day	0	1,062											

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17d SEWERAGE EXPLANATORY FACTORS

SEWAGE TREATMENT WORKS - LOADS (Total)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	
				TREATMENT CATEGORY											
					SECONDARY		TERTIARY				SEA OUTFALLS				
				PRIMARY	ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	TOTAL	CG
A	SMALL WORKS														
1	Load received by STWs in size band 1	kg BOD5/day	0	153	93	1,476	0	0	60	24	0	0	15	1,821	C3
2	Load received by STWs in size band 2	kg BOD5/day	0	0	101	718	68	21	219	130	0	69	0	1,325	C3
3	Load received by STWs in size band 3	kg BOD5/day	0	77	1,087	2,817	404	898	1,004	655	307	0	41	7,290	C3
4	Load received by STWs in size band 4	kg BOD5/day	0	354	3,681	1,441	295	4,942	339	1,109	928	198	0	13,289	C3
5	Load received by STWs in size band 5	kg BOD5/day	0	0	4,627	0	2,070	8,316	0	1,182	0	0	0	16,195	C3
B	LARGE WORKS														
6	Load received by STWs in size band 6	kg BOD5/day	0	0	24,497	0	0	78,552	0	0	0	0	0	103,049	C3
7	Total loads rec'd (daily average all size bands)	kg BOD5/day	0	584	34,085	6,453	2,836	92,730	1,623	3,100	1,236	267	56	142,969	C3
C	SMALL WORKS WITH AMMONIA CONSENTS														
8	Load rec'd by small STW w. NH3 consent (5 - 10mg/l)	kg BOD5/day	0	5,099											
9	Load rec'd by small STW w. NH3 consents (< = 5mg/l)	kg BOD5/day	0	16,228											

Table 17d - Sewage Treatment Works Loads

NIW only

Update for AIR21

As part of the PC21 submission an asset management plan (NIAMP5) has been undertaken. This included a WwTW PE refresh/update. The update is a theoretical desk top exercise, primarily based on Land Property Services (LPS) Pointer data sets and average household size/non-residential multiplying factors as per Asset Standard - Wastewater Flow and Population Determination – v1.6 – January 2019. It is hoped the update will be automated so as NI Water's GIS system is updated with Land Property Services (LPS) pointer data, the WwTW PE system will be updated accordingly. The findings/ approach/ assumptions/ exceptions have been presented to Northern Ireland Environment Agency (NIEA), who are content with the overall approach and agree with the PE results.

It should be noted that the banding of the WWTWs is based on the latest Population Equivalent minus tourist PEs (i.e. hotels and caravan parks only as information does not exist on proportion of PE to commuters). PEs for 904 WWTWs (which were live during AIR21) have been updated.

The allowance for the tourist population, which has been deducted for the purposes of band size determination, has been the proportion of PE allocated to hotels, and caravan and tent pitches only. No deduction has been made for commuters as such information has not been captured.

The loads reported in this table are the sums of the loads received by each WWTWs or outfall in each particular category, and hence include the proportion of PE allocated to hotels, and caravan and tent pitches. Hence the loads reported in this table include the non-resident population.

1,022 WWTWs were reported on in Table 17d for AIR21. This represents a reduction of 1 in the number of WWTWs being reported from AIR20 to AIR21.

Trade effluent information was obtained from NIW's Trade Effluent Section, for each individual consented trader, which enabled easy conversion to PEs. The COD: BOD conversion factor of 2:1 was not used as more accurate flow based information was available to the Trade Effluent Section.

The Water and Sewerage Services (NI) Order 2006 designated that the discharge from hospitals, nursing homes & clinics should no longer be considered as Trade Effluent, therefore for AIR21 these have been removed from the Trade Effluent Submission. For the majority of hospitals a certain % of hospital discharges has been included due to discharges from x-ray departments and bathing pools. Since AIR12, the AIR11 Trade Information, for nursing homes and clinics, has been maintained as there was no other avenue available to obtain this information. Residential homes, clinics, etc. were assessed under the PC21 PE Refresh and included under non-residential, therefore this AIR11 Trade information has not been carried forward for AIR21. The PEs for the hospitals has been factored up to 100% of their total discharge to give a more accurate figure of load discharging to the sewerage network.

In AIR13 it was reported that flow & load information was validated for Belfast and a figure of 365,000Pe was agreed. Since then the only update to Belfast PE figure has been the latest trade information. As part of the Living with Water Programme, a population review

for Belfast WWTW has been undertaken. The review is a theoretical approach based on the current Asset Standard – Wastewater Flow & Population Determination v1.6 and provides a PE of 478,618. Please note an element of this figure, 117,010, is made up of trade effluent information provided by NIW's Trade Effluent Section and is based on measured data. The trade figure includes returns from the sludge incinerator which is operated by a PPP concessionaire on behalf of NI Water. For previous returns the incinerator returns were excluded, the thinking being it did not form part of Belfast catchment. Following last year's review and agreement the PE from the incinerator will be added to the overall PE figures for Belfast WWTW giving an overall PE figure of 478,618 and has been adopted for AIR20.

We have assumed the Bands to be:

Small works

a. size band 1 <= 15kg BOD5/day (population equivalent: 0 - 250)
b. size band 2 >15 but <= 30kg BOD5/day (population equivalent: 251 - 500)
c. size band 3 >30 but <= 120kg BOD5/day (population equivalent: 501 – 2,000)
d. size band 4 >120 but <= 600kg BOD5/day (population equivalent: 2,001 –10,000)
e. size band 5 >600 but <= 1500kg BOD5/day (population equivalent: 10,001 – 25,000)

Large works

f. size band 6 > 1500kg BOD5/day. (population equivalent: > 25,000)

It should be noted that the bandings of b, c, d and e above are slightly different from those listed in the UR Chapter 17c guidance, to ensure no duplication of works which may have 250, 500, 2000 or 10,000 PE.

The total number of WWTWs in Table 17c line 7 is the total of all NIW only works in this table i.e. 1,022 including the screened outfalls (2 No.) and the unscreened outfalls (5 No.).

The Reporters Report on AIR09 recommended that NIW correct possible overestimation of total WWTW loads due to the inclusion of offices/commercial premises. The majority of the residential and non-residential element of PEs used to calculate tables 17c and 17d was based on Pointer information from MapInfo.

However it should be noted that the non-residential element of Pointer is made up of both commercial and unknown properties. At this present time it is not known what proportion of the unknowns are actually residential and which are non-residential and therefore it has been decided to include both elements when calculating the PEs for the band sizes.

It is difficult to estimate the proportion of load at a WWTW due to commuters, or the load which should be deducted from/added to a particular WWTW due to population commuting out of/into the catchments, which that WWTW serves. Hence no allowance to WWTWs loads has been made either way for Table 17d.
The only allowance made for newly connected properties is where a population studies have been carried out for a drainage catchment during the reporting year and the recommendations have been considered and agreed upon. Where a population study has not been completed for a drainage catchment no allowance has been made for newly connected properties. It should be noted that some drainage catchments may not have had a population review undertaken for several years. Going forward the exercise explained under 'Future Improvement' above will address this shortfall.

The confidence grades of the data in lines 1 - 7 remain as C3 as stated in AIR20.

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference** (-ve indicates AIR21 figure larger)	Comments
3 Sisters	S04027	18	14	4	NIAMP5 Actual PE Update
Aghadrumsee	S02988	30	37	-7	NIAMP5 Actual PE Update
Agivey Road (199-201)	S01755	6	8	-2	NIAMP5 Actual PE Update
Annaghquinn Road (49)	S01718	6	16	-9	NIAMP5 Actual PE Update
Ardess	S02995	66	49	17	NIAMP5 Actual PE Update
Ardglass (WWTW)	S00268	2895	2401	495	NIAMP5 Actual PE Update Trade updated
Ardress (WWTW)	S02557	123	166	-43	NIAMP5 Actual PE Update
Arvalee	S03003	60	78	-18	NIAMP5 Actual PE Update
Augher (WWTW)	S03005	570	660	-90	Actual PE based on on-site check Design PE Updated following reverse engineering exercise.
Aughnacloy	S03007	1614	1921	-308	NIAMP5 Actual PE Update
Ballsmill	S02258	12	39	-27	NIAMP5 Actual PE Update
Ballybentragh (66-72)	S01760	6	10	-4	NIAMP5 Actual PE Update
Ballybogy	S01087	577	0	577	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballyclare	S01467	16707	20355	-3648	NIAMP5 Actual PE Update Trade updated
Ballycranbeg	S00218	275	351	-76	NIAMP5 Actual PE Update Design PE updated
Ballydrain Road (39-43)	S00238	12	7	5	NIAMP5 Actual PE Update
Ballyeastborough Road (15-17)	S00221	6	10	-4	NIAMP5 Actual PE Update
Ballygawley (WWTW)	S03013	1237	1537	-300	NIAMP5 Actual PE Update
Ballyhome (WWTW)	S01134	77	112	-34	NIAMP5 Actual PE Update
Ballyhornan Outfall	S04090	911	690	221	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Ballymena (WWTW)	S01456	68092	83750	-15657	NIAMP5 Actual PE Update Trade updated
Ballymoyer	S02252	42	57	-15	NIAMP5 Actual PE Update
Ballynafie	S01431	70	98	-28	NIAMP5 Actual PE Update
Ballynagard (Antrim)	S01173	9	14	-4	NIAMP5 Actual PE Update
Ballyquinn (WWTW)	S03021	101	89	13	NIAMP5 Actual PE Update
Ballyrussell	S02691	24	44	-20	NIAMP5 Actual PE Update
Ballystrudder (Retention Tank)	S00264	5729	7608	-1879	NIAMP5 Actual PE Update
Ballyveely	S01090	6	13	-7	NIAMP5 Actual PE Update
Bankside Shinn	S02692	82	59	23	NIAMP5 Actual PE Update
Beagh	S01605	35	43	-8	NIAMP5 Actual PE Update
Belfast Road (56-58)	S04142	6	19	-13	NIAMP5 Actual PE Update
Beragh (WWTW)	S03027	1416	1677	-261	NIAMP5 Actual PE Update
Bohulkin	S03029	7	11	-4	NIAMP5 Actual PE Update
Bovean	S02793	24	30	-6	NIAMP5 Actual PE Update
Boveedy	S01139	75	108	-33	NIAMP5 Actual PE Update
Bovevagh Road (37-41)	S04121	6	9	-3	NIAMP5 Actual PE Update
Bregagh Road (60-62)	S01743	6	9	-3	NIAMP5 Actual PE Update
Bresagh	S00332	29	33	-4	NIAMP5 Actual PE Update
Broagh	S01607	28	58	-30	NIAMP5 Actual PE Update
Brookeborough (WWTW)	S03032	664	784	-121	NIAMP5 Actual PE Update
Cargan (WWTW)	S01433	860	696	164	NIAMP5 Actual PE Update
Cargin Road	S01322	30	41	-11	NIAMP5 Actual PE Update
Carmean Road (42-46)	S01796	9	3	6	NIAMP5 Actual PE Update
Carnally	S02255	9	12	-3	NIAMP5 Actual PE Update
Carnbeg	S01434	15	5	10	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Carnduff (Retention Tank)	S01180	60	80	-20	NIAMP5 Actual PE Update
Carnlough Road	S01435	9	6	3	NIAMP5 Actual PE Update
Carran Hill (WWTW)	S02256	3	11	-8	NIAMP5 Actual PE Update
Carricknaveagh (WWTW)	S00283	17	11	6	NIAMP5 Actual PE Update
Carrowdore	S00236	1434	1199	235	NIAMP5 Actual PE Update
Castlecaulfield (WWTW)	S02836	1069	1235	-167	NIAMP5 Actual PE Update
Castor Bay	S02380	24	35	-11	NIAMP5 Actual PE Update
Caugh Hill (WWTW)	S03047	9	15	-6	NIAMP5 Actual PE Update
Charlestown	S02399	102	76	26	NIAMP5 Actual PE Update
Chatham Road	S02023	6	12	-6	NIAMP5 Actual PE Update
Clabby (WWTW)	S03051	408	332	76	NIAMP5 Actual PE Update
Clarehill	S01039	337	455	-118	NIAMP5 Actual PE Update
Clattering Ford Road (12-16)	S00249	9	7	2	NIAMP5 Actual PE Update
Claudy	S03054	2722	2977	-254	NIAMP5 Actual PE Update
Clough (WWTW)	S00296	1060	908	152	NIAMP5 Actual PE Update
Coagh Road (20-22)	S02033	6	9	-3	NIAMP5 Actual PE Update
Commons School Road (8-10)	S02897	6	3	3	NIAMP5 Actual PE Update
Coolnagoppoge (WWTW)	S01176	37	52	-15	NIAMP5 Actual PE Update
Corkill (Tyrone)	S02032	6	16	-10	NIAMP5 Actual PE Update
Craigavole (WWTW)	S01144	21	28	-7	NIAMP5 Actual PE Update
Craigdarragh Road (85-87)	S00836	8	5	3	NIAMP5 Actual PE Update
Cranfield(Antrim)	S01418	183	155	28	NIAMP5 Actual PE Update
Crankill	S01438	9	5	4	NIAMP5 Actual PE Update
Creaghcor	S03066	30	22	8	NIAMP5 Actual PE Update
Creevangar	S03068	12	15	-3	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Crilly	S02903	9	13	-4	NIAMP5 Actual PE Update
Cross Lane 9-22 St	S05572	25	79	-54	NIAMP5 Actual PE Update
Culcrow	S01146	159	203	-44	NIAMP5 Actual PE Update
Cullaville	S02264	265	323	-58	NIAMP5 Actual PE Update
Culmore (WWTW)	S03071	133891	165653	-31761	NIAMP5 Actual PE Update Trade updated
Culnady Road (46-50)	S01798	9	6	3	NIAMP5 Actual PE Update
Culramoney Road (5)	S01740	6	9	-3	NIAMP5 Actual PE Update
Cushleake Road (37-39)	S01783	6	11	-5	NIAMP5 Actual PE Update
Derryork Road (33-35)	S04140	6	12	-6	NIAMP5 Actual PE Update
Diamond cottages (1)	S01772	43	29	14	NIAMP5 Actual PE Update
Donaghmore (WWTW)	S02840	2130	1780	350	NIAMP5 Actual PE Update Trade updated
Donard View	S00280	37	27	11	NIAMP5 Actual PE Update
Dorsy	S02267	59	49	10	NIAMP5 Actual PE Update
Downpatrick (WWTW)	S00771	17573	23735	-6161	NIAMP5 Actual PE Update Septic tank imports added Trade updated
Drapersfield (WWTW)	S01571	96	190	-94	NIAMP5 Actual PE Update
Dree Hill	S02125	12	6	7	NIAMP5 Actual PE Update
Dromara Road (Lacken)	S02126	12	8	4	NIAMP5 Actual PE Update
Dronehill Road	S02128	12	6	7	NIAMP5 Actual PE Update
Drumagarner Road (148-150)	S02026	6	12	-6	NIAMP5 Actual PE Update
Drumagarner Road (212-218)	S02027	12	16	-4	NIAMP5 Actual PE Update
Drumavoley Road (39-41)	S02022	6	11	-5	NIAMP5 Actual PE Update
Drumflugh Road (75-77)	S04101	6	14	-8	NIAMP5 Actual PE Update
Drumgay (1)	S03090	11	16	-5	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Drumgooland	S02131	6	9	-3	NIAMP5 Actual PE Update
Drumlegagh Church Road	S03987	92	124	-33	Actual PE updated following APT PE Review
Drumnaferry	S02405	122	182	-59	NIAMP5 Actual PE Update
Drumnakilly	S03096	122	100	22	NIAMP5 Actual PE Update
Drumreagh	S01106	6	9	-3	NIAMP5 Actual PE Update
Drumsurn	S03100	592	506	86	NIAMP5 Actual PE Update
Dungorbery	S01107	6	9	-3	NIAMP5 Actual PE Update
Dunnamore	S01574	312	369	-58	NIAMP5 Actual PE Update
Dunnyboe Road (85-93)	S04103	12	17	-5	NIAMP5 Actual PE Update
Dunserverick (Retention Tank)	S01185	50	90	-40	NIAMP5 Actual PE Update
Edencrannon (WWTW)	S02858	118	145	-27	NIAMP5 Actual PE Update
Edendoit Road (107-109)	S01598	6	9	-3	NIAMP5 Actual PE Update
Edergoole Road (87-89)	S04104	6	9	-3	NIAMP5 Actual PE Update
Eglish (Armagh)	S02578	87	149	-62	Actual PE Update-RWwIP PE Review
Eskragh	S03201	33	18	16	NIAMP5 Actual PE Update
Faughan	S03109	9	12	-3	NIAMP5 Actual PE Update
Foreglen Road (51-53)	S04097	6	9	-3	NIAMP5 Actual PE Update
Garryduff Church	S02024	9	14	-5	NIAMP5 Actual PE Update
Garvagh (WWTW)	S01154	2773	1990	784	NIAMP5 Actual PE Update
Garvaghy	S03116	266	225	41	NIAMP5 Actual PE Update
Glascar Road (28-30)	S02887	6	3	3	NIAMP5 Actual PE Update
Glassdrumman (Down)	S00302	260	341	-82	NIAMP5 Actual PE Update
Glen View (Down)	S02700	12	8	4	NIAMP5 Actual PE Update
Glenabbey (WWTW)	S03119	45	66	-21	NIAMP5 Actual PE Update
Glenagoorland	S03120	18	14	4	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Glenavy (WWTW)	S04188	2112	2636	-524	NIAMP5 Actual PE Update
Glenbush Road (31)	S01737	6	12	-6	NIAMP5 Actual PE Update
Glenhead Road	S02133	12	11	2	NIAMP5 Actual PE Update
Glenleary Road (22)	S01733	3	17	-14	NIAMP5 Actual PE Update
Glenmakeeran	S01188	6	11	-5	NIAMP5 Actual PE Update
Glenoe	S01462	160	199	-39	Actual PE updated following APT PE Review
Glenstaghey Road (11)	S01787	10	8	2	NIAMP5 Actual PE Update
Gortaclady (WWTW)	S01575	44	59	-15	NIAMP5 Actual PE Update
Gortnagallon Cottages (1-4)	S01777	12	14	-2	NIAMP5 Actual PE Update
Grange (Taylorstown)	S01442	570	642	-72	NIAMP5 Actual PE Update Trade updated
Greenhill (WWTW)	S01155	12	17	-5	NIAMP5 Actual PE Update
Greenville	S03133	24	29	-5	NIAMP5 Actual PE Update
Gulladuff (WWTW)	S01619	517	772	-255	NIAMP5 Actual PE Update
Hamiltonsbawn	S02603	1005	1282	-278	NIAMP5 Actual PE Update
Hillhead Road (127-131)	S01808	9	13	-4	NIAMP5 Actual PE Update
Hilltown (WWTW)	S02701	2056	2480	-424	NIAMP5 Actual PE Update Trade updated
Inishmagh	S02845	15	19	-4	NIAMP5 Actual PE Update
Irvinestown	S03137	2679	3667	-987	NIAMP5 Actual PE Update Trade updated
Jennys Lane	S02408	17	15	2	NIAMP5 Actual PE Update
Katesbridge Road (79-85)	S02110	12	15	-3	NIAMP5 Actual PE Update
Kearney (Retention Tank)	S00225	66	54	11	NIAMP5 Actual PE Update
Keenaghan (2)	S01579	12	6	6	NIAMP5 Actual PE Update
Kilbroney Park (1-4)	S02725	12	10	2	NIAMP5 Actual PE Update
Kilclean Road (80-82)	S04102	6	10	-4	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Killen	S03143	467	397	70	NIAMP5 Actual PE Update
Killeter (WWTW)	S03144	144	172	-28	NIAMP5 Actual PE Update Design PE updated following RWwIP upgrade
Killinchy (WWTW)	S00252	5877	2451	3426	NIAMP5 Actual PE Update Trade updated
Killinchy Road (96-100)	S04146	9	12	-3	NIAMP5 Actual PE Update
Killough (Retention Tank)	S00275	1511	1283	228	NIAMP5 Actual PE Update
Killygonlan (WWTW)	S02043	1314	1155	160	NIAMP5 Actual PE Update Trade updated
Killylane (WWTW)	S03147	103	87	16	NIAMP5 Actual PE Update
Killyrammer	S01113	188	155	32	Actual PE updated following APT PE Review
Killysavan	S02137	30	25	5	NIAMP5 Actual PE Update
Kilmachugh	S02583	27	21	5	NIAMP5 Actual PE Update
Kilmore (Armagh)	S02584	135	222	-87	NIAMP5 Actual PE Update
Kilskeery	S03148	47	72	-25	NIAMP5 Actual PE Update
Kircubbin (WWTW)	S04881	1361	1717	-356	NIAMP5 Actual PE Update
Knockmoyle	S03152	95	215	-120	Actual PE updated following APT PE Review
Knocknatavanna	S01190	22	31	-9	NIAMP5 Actual PE Update
Largy Cottages (1)	S01776	47	36	11	NIAMP5 Actual PE Update
Leeke Road	S04092	32	27	5	NIAMP5 Actual PE Update
Legcloghfin Road Cranagh	S05369	63	98	-36	NIAMP5 Actual PE Update
Leitrim (New)	S02705	150	203	-53	NIAMP5 Actual PE Update
Limestone (1)	S03164	3	7	-4	NIAMP5 Actual PE Update
Lisbarnet Road (47-53)	S00245	12	10	2	NIAMP5 Actual PE Update
Lisdoart (1)	S03166	58	74	-15	NIAMP5 Actual PE Update
Lismoyle	S01625	24	31	-7	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Lisnadill (WWTW)	S02586	21	38	-17	NIAMP5 Actual PE Update
Lisnagade Road (54-56)	S02161	8	14	-6	NIAMP5 Actual PE Update
Lisnagat Road (34)	S01738	6	15	-9	NIAMP5 Actual PE Update
Lisnagat Road (64)	S01745	6	12	-6	NIAMP5 Actual PE Update
Lisnakilly	S03168	33	42	-9	Actual PE Update-RWwIP PE Review
Lisnevanagh	S01421	31	41	-10	NIAMP5 Actual PE Update
Longs Glebe	S01160	55	80	-25	NIAMP5 Actual PE Update
Lough Bradan WTW (Septic Tank)	S03507	3	6	-3	NIAMP5 Actual PE Update
Lough Fea (WwTW)	S04087	3	9	-6	NIAMP5 Actual PE Update
Lower Rashee Road (15-21)	S05188	12	10	2	Actual PE updated following APT PE Review
Lurgancahone Road (57-59)	S02708	6	9	-3	NIAMP5 Actual PE Update
Lurganville	S02411	117	96	20	NIAMP5 Actual PE Update
Magheraville	S02589	12	18	-6	NIAMP5 Actual PE Update
Maghery (WWTW)	S02414	363	276	87	NIAMP5 Actual PE Update
Middle Braniel Road (80-90)	S00857	18	12	6	NIAMP5 Actual PE Update
Middle Braniel Road (80-90)	S00857	20	53	-33	NIAMP5 Actual PE Update
Milltown (Maghera)	S01630	5144	6302	-1159	NIAMP5 Actual PE Update
Moira	S02429	60	88	-28	NIAMP5 Actual PE Update
Moneydig	S01167	12	16	-4	Actual PE updated following APT PE Review
Moneynick Road (118)	S01757	6	62	-56	NIAMP5 Actual PE Update
Moss Road (76-78)	S00244	30	44	-14	NIAMP5 Actual PE Update
Mossvale Terrace	S02153	71	116	-45	NIAMP5 Actual PE Update
Mountain View (Drumintee)	S02278	4084	4914	-830	NIAMP5 Actual PE Update Trade updated
Moy (WWTW)	S02859	6	2	4	NIAMP5 Actual PE Update
New Road (37-39)	S00830	6	11	-5	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Newcastle Road (18-20)	S00841	6	9	-3	NIAMP5 Actual PE Update
Newry Road Rathfriland (80-83)	S02726	141	175	-34	NIAMP5 Actual PE Update
Newtown-Crommelin	S01447	107	31	75	NIAMP5 Actual PE Update
Old Green	S01448	12	9	3	NIAMP5 Actual PE Update
Old Holywood Road (190-196)	S00340	37	57	-20	NIAMP5 Actual PE Update
Orahilly Park	S02283	6	9	-3	NIAMP5 Actual PE Update
Orritor Craigs	S01592	15	9	6	NIAMP5 Actual PE Update
Point Road (29-33)	S01813	981	1242	-261	Actual PE updated following APT PE Review Trade updated
Pomeroy (WWTW)	S01593	12	8	4	NIAMP5 Actual PE Update
Portadown Road (Tandragee)	S02175	9	5	4	NIAMP5 Actual PE Update
Portaferry Road (96-100)	S00231	816	956	-140	NIAMP5 Actual PE Update
Poyntzspass (WWTW)	S02156	72	114	-42	NIAMP5 Actual PE Update
Priestland	S01169	6	18	-12	NIAMP5 Actual PE Update
Railway view(3)	S01785	1548	1738	-189	NIAMP5 Actual PE Update
Rasharkin	S01120	117	210	-93	Actual PE updated following APT PE Review
Rathlin Island (New) WWTW	S05624	877	755	122	NIAMP5 Actual PE Update
Rosslea (WWTW)	S03213	6	3	3	NIAMP5 Actual PE Update
Scotstown Road (7-9)	S04117	24	32	-8	NIAMP5 Actual PE Update
Seagahan	S02530	6	3	3	NIAMP5 Actual PE Update
Sentry Box Road (20-22)	S02165	298	398	-100	NIAMP5 Actual PE Update
Seskinore	S03217	6	10	-4	NIAMP5 Actual PE Update
Shaneoguestown Road (38)	S01782	61.000	90	-29	NIAMP5 Actual PE Update
Springfield	S03222	51.000	69	-18	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Difference* *(-ve indicates AIR21 figure larger)	Comments
Straid (Ballymena)	S01455	6	14	-8	NIAMP5 Actual PE Update
Straid Road (111)	S01719	617.218	938	-321	NIAMP5 Actual PE Update Trade updated
Tamnamore (WWTW)	S02862	11279.400	9677	1602	NIAMP5 Actual PE Update Trade updated
Tandragee	S02174	42.000	55	-13	NIAMP5 Actual PE Update
Tartaraghan	S02421	12.000	16	-4	NIAMP5 Actual PE Update
Teeraw	S02598	45.000	39	6	Actual PE updated following APT PE Review
The Oyster Yard WWTW	S05533	9.000	5	4	NIAMP5 Actual PE Update
The Skeagh	S02163	58.000	46	12	NIAMP5 Actual PE Update
Thorney Glen	S00284	6.260	16	-10	NIAMP5 Actual PE Update
Torr Head	S01196	52.000	69	-17	NIAMP5 Actual PE Update
Tully (WWTW)	S03232	6.000	11	-5	NIAMP5 Actual PE Update
Tullyelmer (WWTW)	S02599	6	12	-6	NIAMP5 Actual PE Update
Tullymore Road (43-45)	S04119	31	50	-19	NIAMP5 Actual PE Update
Tullynakill Road	S05280	24	38	-14	NIAMP5 Actual PE Update
Tummery	S03234	12	18	-6	NIAMP5 Actual PE Update
Upper Ballygelagh Road (12-18)	S00845	24	50	-26	NIAMP5 Actual PE Update
Upper Malone Road	S04026	6	11	-5	NIAMP5 Actual PE Update
Victoria Road (277-279)	S04111	15	12	3	NIAMP5 Actual PE Update
Whitechurch Road (45-53)	S00213	6	3	3	NIAMP5 Actual PE Update

***(-ve indicates AIR21 figure larger)**

The AIR definition on treatment categories states that Tertiary A2 can be defined as *Works with a secondary activated sludge process whose treatment methods also include* ***nutrient control using physico-chemical and biological methods****.* Likewise Tertiary B2 can be defined as *Works with a secondary biological process whose treatment methods also include* ***nutrient control using physico-chemical and biological methods.***

NIW has historically oversized secondary assets to meet tight ammonia consents and it is now felt that this falls within the definition of Tertiary Treatment described above i.e. ***nutrient control using physico-chemical and biological methods.*** In total NIW re-designated the treatment category for 33 WWTWs based on this definition for AIR14, changing 22 WWTWs from Sec Act to Ter A2 & 11 from Sec Bio to Ter B2. The treatment categories for these sites remain unchanged, following a review of the ammonia consents and treatment methods for AIR18.

NIW has a number of WWTWs (Belfast, Whitehouse and Carrickfergus) which have a total nitrogen (TN) standard in place, which is applicable to marine discharges, as opposed to an ammonia standard which is applied to freshwater discharges. Treatment category TA2 is applicable to these WWTWs as nutrient control is in place through the biological process.

The total load of 122,787.3kg BOD/day from all NIW (only) WWTWs reconciles with the Total load entering sewerage system (BOD/year) of 44,817.36*t BOD/year*, from Table 15 line 5.

The Total load receiving primary treatment in table 17d (line 7, column 1) of 583.8kg BOD/day is consistent (allowing for rounding up/down and conversions) with total load receiving primary treatment in table 15 (line 3) of 213.1*t BOD/yr.*

The Total load receiving secondary and tertiary treatment in table 17d (line 7, sum of columns 2–7) i.e. 120,644.6kg BOD/day is consistent (allowing for rounding up/down and conversions) with total load receiving secondary treatment in table 15 (line 2) i.e. 44,035.3 *t BOD/yr*.

The Total load receiving preliminary treatment in table 17d (line 7, column 8) of 1,235.5kg BOD/day is consistent (allowing for rounding up/down and conversions) with total load receiving preliminary treatment in table 15 (line 4) (both include non-resident population) of 450.9*t BOD/yr.*

The table below depicts changes in PEs at WWTWs from AIR20 to AIR21.

The following table depicts how PE changes have occurred at WWTWs during the last financial year.

Works where there has been a Band size change within year have been highlighted in bold in the Table below.

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
3 Sisters	S04027	18	14	3.9	Band 1	Band 1
Abbacy Road	S03947	34	32	2.4	Band 1	Band 1
Acton	S02111	74	84	-10.1	Band 1	Band 1
Aghadrumsee	S02988	30	37	-7.0	Band 1	Band 1
Aghagallon	S02393	1291	1420	-129.0	Band 3	Band 3
Aghalee	S02394	1111	1224	-113.4	Band 3	Band 3
Aghanloo (1)	S02989	841	869	-28	Band 3	Band 3
Aghinlig (WWTW)	S02554	225	225	0.0	Band 1	Band 1
Aghnaskew	S02990	12	11	0.6	Band 1	Band 1
Aghory	S02547	65	64	1.4	Band 1	Band 1
Agivey Road (199-201)	S01755	6	8	-2.5	Band 1	Band 1
Aikens Town Parks	S01602	39	41	-2.2	Band 1	Band 1
Altamuskin (WWTW)	S03998	118	125	-6.8	Band 1	Band 1
Altishane	S02993	12	14	-2.3	Band 1	Band 1
Altmore WTW (Septic Tank)	S02778	3	3	0.0	Band 1	Band 1
Altnahinch WTW (Septic Tank)	S00930	6	3	3.0	Band 1	Band 1
Altnamackan	S02247	27	29	-1.9	Band 1	Band 1
Annacloy (WWTW)	S00292	889	891	-2.3	Band 3	Band 3
Annaghhugh (WWTW)	S02602	323	353	-30.1	Band 2	Band 2
Annaghmore (WWTW)	**S02556**	**478**	**541**	**-62.5**	**Band 2**	**Band 3**
Annaghquinn Road (49)	S01718	6	16	-9.5	Band 1	Band 1
Annahilt (WWTW)	S00317	1750	1797	-47.0	Band 3	Band 3
Annalong (WWTW)	S00300	3224	3301	-77	Band 4	Band 4
Annsborough	S02687	5991	6086	-96	Band 4	Band 4
Antrim (WWTW)	S01422	66342	68648	-2306	Band 6	Band 6
Anville Crescent	S02391	42	41	0.9	Band 1	Band 1
Ardess	S02995	66	49	17.0	Band 1	Band 1
Ardgarvan (WWTW)	S02987	164	171	-7.0	Band 1	Band 1
Ardglass (WWTW)	S00268	2895	2401	495	Band 4	Band 4
Ardground	S02996	69	75	-6.0	Band 1	Band 1
Ardlough Road (40-42)	S04095	6	8	-2.2	Band 1	Band 1
Ardress (WWTW)	S02557	123	166	-42.9	Band 1	Band 1
Ardstraw (WWTW)	S02997	319	298	20.7	Band 2	Band 2
Armagh Road (144-146)	S02249	6	6	0.1	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Armagh Road (189-193)	S02251	9	9	0.1	Band 1	Band 1
Armagh Road (202-206)	S02250	9	9	0.1	Band 1	Band 1
Armoy (WWTW)	S01172	818	852	-34.0	Band 3	Band 3
Arney (WWTW)	S02999	212	227	-15.1	Band 1	Band 1
Artigarvan Lower	S03001	24	22	2.2	Band 1	Band 1
Arvalee	S03003	60	78	-18.0	Band 1	Band 1
Ashfield (Dromore)	S02112	42	37	4.7	Band 1	Band 1
Aughagash	S01458	12	17	-5.2	Band 1	Band 1
Aughakillymaud	S03004	24	22	2.0	Band 1	Band 1
Aughanduff	S02262	12	15	-3.0	Band 1	Band 1
Augher (WWTW)	S03005	570	660	-89.8	Band 3	Band 3
Aughnacleagh	S01428	38	35	3.2	Band 1	Band 1
Aughnacloy	S03007	1614	1921	-307.5	Band 3	Band 3
Aughnavallog	S02114	36	33	3.2	Band 1	Band 1
Backlower Road (111-115)	S01791	9	9	-0.3	Band 1	Band 1
Badoney	S03008	18	17	0.4	Band 1	Band 1
Ballee Road	S03009	15	14	1.0	Band 1	Band 1
Ballee Road (75-83)	S04091	7	8	-1.2	Band 1	Band 1
Balleevy	S02122	12	11	1.0	Band 1	Band 1
Ballinderry Road (45-49) Antrim	S04877	9	9	-0.1	Band 1	Band 1
Ballinlea Road (81)	S01748	9	8	1.5	Band 1	Band 1
Ballinmallard (WWTW)	S03010	1945	1780	164.6	Band 3	Band 3
Ballinrees WTW(Septic Tank)	S00931	6	3	3.0	Band 1	Band 1
Ballinteer	S01131	24	21	2.6	Band 1	Band 1
Ballintemple WTW (Septic Tank)	S02243	3	6	-3.0	Band 1	Band 1
Ballsmill	S02258	12	39	-26.7	Band 1	Band 1
Ballyagan	S01132	24	22	2.3	Band 1	Band 1
Ballyalton Rd (20-22)	S00849	6	5	1.3	Band 1	Band 1
Ballyardel	S02727	12	12	0.2	Band 1	Band 1
Ballybarnes Road (80-82)	S00776	3	5	-1.7	Band 1	Band 1
Ballybentragh(66-72)	S01760	6	10	-4.0	Band 1	Band 1
Ballybogy	**S01087**	**577**	**0**	**577.0**	**Band 3**	**#N/A**
Ballycairn (Down)	S00336	37	41	-4.1	Band 1	Band 1
Ballycarry	S00267	1754	1754	0.0	Band 3	Band 3

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Ballycassidy (WWTW)	**S03012**	**476**	**543**	**-67.1**	**Band 2**	**Band 3**
Ballycastle (WWTW)	S01071	12798	12798	0.0	Band 5	Band 5
Ballyclare	S01467	16707	20355	-3648	Band 5	Band 5
Ballycleagh	S01175	6	3	3.3	Band 1	Band 1
Ballycorr Grove	S01468	28	34	-5.5	Band 1	Band 1
Ballycoshone	S02689	6	6	-0.2	Band 1	Band 1
Ballycranbeg	S00218	275	351	-76.2	Band 2	Band 2
Ballycreelly Road (38-40)	S00333	12	14	-1.6	Band 1	Band 1
Ballycrochan Road	S00833	6	6	0.2	Band 1	Band 1
Ballydonaghy Cottages (1-4)	S01763	12	12	-0.2	Band 1	Band 1
Ballydrain Road (39-43)	S00238	12	7	4.8	Band 1	Band 1
Ballyeastborough Road (15-17)	S00221	6	10	-4.2	Band 1	Band 1
Ballyfrench Road (1-3)	S00220	6	5	0.9	Band 1	Band 1
Ballygalget Road (1)	S00840	6	5	0.7	Band 1	Band 1
Ballygarvigan	S00228	42	37	4.9	Band 1	Band 1
Ballygawley (WWTW)	S03013	1237	1537	-299.8	Band 3	Band 3
Ballygowan	S00247	3372	3528	-155.6	Band 4	Band 4
Ballygowan Road (140-142) Banbridge	S02890	6	6	0.4	Band 1	Band 1
Ballygowan Road (102-104)	S00251	6	5	0.3	Band 1	Band 1
Ballygowan Road (41-47)	S00243	12	14	-1.6	Band 1	Band 1
Ballygowans	S03014	12	12	0.0	Band 1	Band 1
Ballygruby	S01557	17	18	-1.2	Band 1	Band 1
Ballyhalbert Victoria	S05412	5834	5900	-65.9	Band 4	Band 4
Ballyheather Road (121-123)	S04112	6	3	3.2	Band 1	Band 1
Ballyhome (WWTW)	S01134	77	112	-34.2	Band 1	Band 1
Ballyhornan Outfall	S04090	911	690	221	Band 3	Band 3
Ballykeel Cottages (1-4)	S00834	13	16	-2.9	Band 1	Band 1
Ballykelly (DOWN)	S02169	21	20	1.3	Band 1	Band 1
Ballykelly (L/Derry)	S03016	3649	3986	-336	Band 4	Band 4
Ballykinler (WWTW)	S00299	1655	1655	0.0	Band 3	Band 3
Ballylintagh (New)	S01135	120	108	13	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Ballylumford Cottages	S00260	54	58	-4.3	Band 1	Band 1
Ballymacawley	S02560	21	19	2.4	Band 1	Band 1
Ballymacnab	S02561	30	35	-5.0	Band 1	Band 1
Ballymaconaghy Road	S02690	6	6	-0.2	Band 1	Band 1
Ballymaconaghy WTW (Septic Tank)	S02369	3	3	0.0	Band 1	Band 1
Ballymacormick	S01089	18	16	2.1	Band 1	Band 1
Ballymaderphy	S02728	66	69	-3.1	Band 1	Band 1
Ballymagorry (WWTW)	S03018	1787	1876	-89.5	Band 3	Band 3
Ballymaguigan	S01603	93	85	7.7	Band 1	Band 1
Ballymaguire Road (33-35)	S02031	6	6	0.1	Band 1	Band 1
Ballymarlagh	S01430	39	35	4.3	Band 1	Band 1
Ballymartin (Retention Tank)	S00770	24	24	0.0	Band 1	Band 1
Ballymena (WWTW)	S01456	68092	83750	-15657	Band 6	Band 6
Ballymiscaw road (37-41)	S00256	9	9	-0.9	Band 1	Band 1
Ballymore	S02117	15	13	2.3	Band 1	Band 1
Ballymoyer	S02252	42	57	-15.1	Band 1	Band 1
Ballynadolly	S00327	141	140	1.0	Band 1	Band 1
Ballynafie	S01431	70	98	-27.5	Band 1	Band 1
Ballynagalliagh (Armagh)	S02562	27	27	0.3	Band 1	Band 1
Ballynagard (Antrim)	S01173	9	14	-4.3	Band 1	Band 1
Ballynahaye Road (3)	S04115	6	6	0.1	Band 1	Band 1
Ballynahinch (Armagh)	S02563	42	40	1.2	Band 1	Band 1
Ballynahinch (Down)	S00311	7940	8107	-167	Band 4	Band 4
Ballynamullan	S03011	12	12	0.2	Band 1	Band 1
Ballynamullan Road (32-34)	S01764	6	6	-0.4	Band 1	Band 1
Ballynashee Road (71-77)	S01765	12	11	0.7	Band 1	Band 1
Ballynease	S01604	18	19	-1.0	Band 1	Band 1
Ballynease Road (160-164)	S01793	9	9	-0.2	Band 1	Band 1
Ballyquinn (WWTW)	S03021	101	89	12.6	Band 1	Band 1
Ballyrainey Road (65-67)	S00847	6	5	1.3	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Ballyrashane Road (21)	S01731	6	6	0.5	Band 1	Band 1
Ballyrashane Road (37-39)	S01126	6	6	0.5	Band 1	Band 1
Ballyrock	S01136	47	52	-5.0	Band 1	Band 1
Ballyronan (WWTW)	S01558	1000.37875	1000	0.0	Band 3	Band 3
Ballyroney Road (WWTW)	S02118	18	16	1.6	Band 1	Band 1
Ballyrussell	S02691	24	44	-20.0	Band 1	Band 1
Ballystrudder (Retention Tank)	S00264	5729	7608	-1879.2	Band 4	Band 4
Ballytrim	S00276	33	33	-0.1	Band 1	Band 1
Ballyutoag	S01417	6	6	-0.1	Band 1	Band 1
Ballyveely	S01090	6	13	-6.6	Band 1	Band 1
Ballyvelton Road (23)	S01734	15	14	1.2	Band 1	Band 1
Ballyvelton Road (45-51)	S04037	12	11	1.0	Band 1	Band 1
Ballyvoy	S01177	264	271	-7.6	Band 2	Band 2
Ballywalter(Retenti on Tank)	S05189	2223	2427	-204.1	Band 4	Band 4
Ballyward	S02120	6	3	3.1	Band 1	Band 1
Ballywhiskin (Retention Tank)	S00827	1149	1149	-0.2	Band 2	Band 2
Banbridge (WWTW)	S02102	20706	24199	-3493	Band 5	Band 5
Bankside Shinn	S02692	82	59	22.5	Band 1	Band 1
Bar Hall	S00229	22	24	-1.9	Band 1	Band 1
Battery Road (43-45)	S01802	6	6	0.2	Band 1	Band 1
Beagh	S01605	35	43	-8.4	Band 1	Band 1
Bearney Road (55-61)	S04143	12	12	0.3	Band 1	Band 1
Beech Hill South	S05182	54	54	-0.2	Band 1	Band 1
Belcoo (WWTW)	S03022	769	807	-37.7	Band 3	Band 3
Belfast (WWTW)	S00345	478618	484790	-6172	Band 6	Band 6
Belfast Road (56-58)	S04142	6	19	-12.9	Band 1	Band 1
Bellaghy (WWTW)	S01606	1765	1804	-39.0	Band 3	Band 3
Bellany (WWTW)	S01137	113	110	2.7	Band 1	Band 1
Belleek (Armagh)	S02253	472	461	10.9	Band 2	Band 2
Belleek (Fermanagh)	S03024	1755	1740	14.4	Band 3	Band 3
Belleek (WTW) Septic Tank	S03494	3	3	0.0	Band 1	Band 1
Bells hill(63-65)	S01795	6	6	-0.3	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Bellshill Road (83-85)	S01794	6	6	-0.3	Band 1	Band 1
Beltrim (WWTW)	S03025	15	15	0.0	Band 1	Band 1
Benburb (WWTW)	S02831	1078	1187	-109.0	Band 3	Band 3
Benvardin Road	S01093	6	5	0.8	Band 1	Band 1
Beragh (WWTW)	S03027	1416	1677	-260.8	Band 3	Band 3
Blackscull (WWTW)	S02397	495	431	64.1	Band 2	Band 2
Blackstaff (Septic Tank)	S00219	30	34	-4.4	Band 1	Band 1
Blackwatertown (WWTW)	S02552	754	803	-48.9	Band 3	Band 3
Blaney	S03028	18	16	1.5	Band 1	Band 1
Boghill (WWTW)	S01138	12	11	1.0	Band 1	Band 1
Boghill Road (52-54)	S01127	6	6	0.5	Band 1	Band 1
Bohulkin	S03029	7	11	-4.1	Band 1	Band 1
Bolea (WWTW)	S03030	113	128	-15.3	Band 1	Band 1
Boleran Road (Garvagh)	S02059	12	14	-1.8	Band 1	Band 1
Bonds Glen Road (149-151)	S04105	6	6	0.0	Band 1	Band 1
Bonds Glen Road (65-67)	S04099	6	6	0.0	Band 1	Band 1
Bonnanaboigh	S03031	273	274	-1.5	Band 2	Band 2
Bovean	S02793	24	30	-5.6	Band 1	Band 1
Boveedy	S01139	75	108	-33.4	Band 1	Band 1
Bovevagh Road (37-41)	S04121	6	9	-2.6	Band 1	Band 1
Brantry	S02832	26	29	-2.5	Band 1	Band 1
Bready (WWTW)	S03971	301	321	-20.0	Band 2	Band 2
Breaside Cottages(1-6)	S02049	18	19	-0.5	Band 1	Band 1
Bregagh Road (56-58)	S01742	6	6	0.0	Band 1	Band 1
Bregagh Road (60-62)	S01743	6	9	-3.0	Band 1	Band 1
Bregagh Road (68-70)	S01744	6	6	0.0	Band 1	Band 1
Bresagh	S00332	29	33	-4.5	Band 1	Band 1
Brisland Road (3-5)	S04141	6	5	0.7	Band 1	Band 1
Broagh	S01607	28	58	-30.2	Band 1	Band 1
Brockaghboy (WWTW)	S01140	173	182	-9.3	Band 1	Band 1
Brookeborough (WWTW)	S03032	664	784	-120.7	Band 3	Band 3
Buckna (WWTW)	S01432	33	35	-2.0	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Burnquarter	S01094	42	45	-2.7	Band 1	Band 1
Burren Road	S02686	12	12	0.2	Band 1	Band 1
Bushmills (WWTW)	S01178	5543	5950	-407	Band 4	Band 4
Cabragh (WWTW)	S02834	577	651	-73.9	Band 3	Band 3
Caledon (WWTW)	S02835	1427	1492	-65.5	Band 3	Band 3
Camus	S03034	95	96	-1.0	Band 1	Band 1
Capecastle	S01179	47	53	-5.5	Band 1	Band 1
Cappagh (WWTW)	S02857	131	126	5.2	Band 1	Band 1
Cargan (WWTW)	S01433	860	696	163.7	Band 3	Band 3
Cargin Road	S01322	30	41	-11.3	Band 1	Band 1
Carmean	S01608	43	43	-0.4	Band 1	Band 1
Carmean Road (42-46)	S01796	9	3	5.9	Band 1	Band 1
Carnalbanagh	S01459	60	62	-2.8	Band 1	Band 1
Carnalea Road	S03036	15	16	-0.9	Band 1	Band 1
Carnally	S02255	9	12	-2.7	Band 1	Band 1
Carnan	S01559	74	65	9.1	Band 1	Band 1
Carnbeg	S01434	15	5	9.6	Band 1	Band 1
Carnduff (Retention Tank)	S01180	60	80	-20.3	Band 1	Band 1
Carneyhough	S02682	6	6	-0.3	Band 1	Band 1
Carnlough Road	S01435	9	6	3.4	Band 1	Band 1
Carnteel Road (122-124)	S04162	6	6	0.2	Band 1	Band 1
Carran Hill (WWTW)	S02256	3	11	-8.2	Band 1	Band 1
Carrickfergus (WWTW)	S00261	32232	32296	-64	Band 6	Band 6
Carricklongfield Road (21-23)	S04093	6	6	0.2	Band 1	Band 1
Carrickmore (WWTW)	S03039	1286	1241	45.3	Band 3	Band 3
Carricknaveagh (WWTW)	S00283	17	11	5.8	Band 1	Band 1
Carrickrovaddy	S02257	23	26	-3.2	Band 1	Band 1
Carrig Place	S02254	18	18	0.2	Band 1	Band 1
Carrigenagh (WWTW)	S00314	12	11	0.6	Band 1	Band 1
Carrontreemall	S03040	39	41	-1.8	Band 1	Band 1
Carrowdore	S00236	1434	1199	235.0	Band 3	Band 3
Carrowdore Road (38-40)	S00832	6	5	1.1	Band 1	Band 1
Carrowreagh Road (68-70)	S04100	6	5	0.5	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Castle Archdale Country Park (WWTW)	S05877	849	829	20.4	Band 1	Band 1
Castlecaulfield (WWTW)	S02836	1069	1235	-166.6	Band 3	Band 3
Castlederg (WWTW)	S03042	3902	4588	-685.8	Band 4	Band 4
Castlenagree	S01181	33	31	2.1	Band 1	Band 1
Castlevennon	S02121	3	3	0.0	Band 1	Band 1
Castlevennon Road (49-51)	S02113	6	6	0.3	Band 1	Band 1
Castor Bay	S02380	24	35	-10.6	Band 1	Band 1
Caugh Hill (WWTW)	S03047	9	15	-5.6	Band 1	Band 1
Causeway Road (122)	S01723	6	5	1.2	Band 1	Band 1
Causeway Road (15)	S01726	6	5	1.2	Band 1	Band 1
Causeway Road (180)	S01730	6	5	1.2	Band 1	Band 1
Causeway Road (30)	S01736	6	5	1.2	Band 1	Band 1
Cavanacaw	S03048	140	141	-1.0	Band 1	Band 1
Cavanagrow	S02565	38	40	-2.1	Band 1	Band 1
Charlestown	S02399	102	76	25.6	Band 1	Band 1
Chatham Road	S02023	6	12	-6.0	Band 1	Band 1
Cherryvalley Road (24)	S01766	9	8	0.5	Band 1	Band 1
Church Hill	S03050	69	60	8.3	Band 1	Band 1
Clabby (WWTW)	S03051	408	332	75.6	Band 2	Band 2
Clady (Tyrone)	S04149	757	754	2.6	Band 3	Band 3
Cladymore	S02566	195	223	-28.3	Band 1	Band 1
Clare	S01560	47	47	-0.5	Band 1	Band 1
Clarehill	S01039	337	455	-118.1	Band 2	Band 2
Clarehill Road	S02428	12	11	1.2	Band 1	Band 1
Clattering Ford Road (12-16)	S00249	9	7	2.1	Band 1	Band 1
Claudy	S03054	2722	2977	-254.4	Band 4	Band 4
Clay Lake	S02531	3	3	0.0	Band 1	Band 1
Clogh (WWTW)	S01436	370	398	-28.3	Band 2	Band 2
Clogher (WWTW)	S03056	1184	1324	-140.3	Band 3	Band 3
Clough (WWTW)	S00296	1060	908	152.3	Band 3	Band 3
Cloughmills (WWTW)	S01096	1711	1828	-116.4	Band 3	Band 3
Cloughy (Retention Tank)	S00224	1381	1561	-179.6	Band 3	Band 3
Cluntoe (Richardson)	S04872	600	612	-11.9	Band 3	Band 3

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Coagh (WWTW)	S01562	1189	1249	-60.0	Band 3	Band 3
Coagh Road (20-22)	S02033	6	9	-2.8	Band 1	Band 1
Coalisland	S02828	10004	10757	-753	Band 5	Band 5
Cogry Road (25-27)	S01767	6	5	1.0	Band 1	Band 1
Comber Road (102-106)	S00848	5	5	-0.2	Band 1	Band 1
Commons School Road (8-10)	S02897	6	3	2.8	Band 1	Band 1
Concession Road	S02260	21	23	-1.6	Band 1	Band 1
Coneyisland (WWTW)	S00274	96	101	-5.5	Band 1	Band 1
Connaught Road (21)	S01768	15	15	0.0	Band 1	Band 1
Cookstown (WWTW)	S01582	20942	22569	-1627	Band 5	Band 5
Coole Glebe	S01143	24	23	1.2	Band 1	Band 1
Coolnagoppoge (WWTW)	S01176	37	52	-14.7	Band 1	Band 1
Coolsythe Road (23)	S01769	6	8	-2.5	Band 1	Band 1
Corbally Road (45)	S02021	6	6	0.5	Band 1	Band 1
Corbet	S02123	140	139	1.5	Band 1	Band 1
Corbrackey Road	S02392	12	11	0.2	Band 1	Band 1
Corchoney Lane (2-4)	S01563	6	10	-4.2	Band 1	Band 1
Corcreechy Road	S02696	9	9	-0.4	Band 1	Band 1
Corgary Cottages (New)	S02724	19	19	0.0	Band 1	Band 1
Corickbeg Road (15-17)	S04136	6	6	0.2	Band 1	Band 1
Corkill (Fermanagh)	S03059	24	21	2.2	Band 1	Band 1
Corkill (Tyrone)	S02032	6	16	-10.4	Band 1	Band 1
Cornakessagh	S03060	9	11	-2.4	Band 1	Band 1
Cornamuck	S03061	21	23	-2.1	Band 1	Band 1
Corrinure	S02261	6	6	-0.2	Band 1	Band 1
Corry (WWTW)	S03063	6	8	-1.9	Band 1	Band 1
Corvanaghan (WWTW)	S01565	18	19	-0.5	Band 1	Band 1
Craigaroddan Road (6-8)	S00227	6	8	-2.0	Band 1	Band 1
Craigaruskey Road (66-68)	S00254	6	8	-1.9	Band 1	Band 1
Craigavole (WWTW)	S01144	21	28	-6.5	Band 1	Band 1
Craigdarragh Road (85-87)	S00836	8	5	3.5	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Craigmore Road (139 - 145)	S01725	12	11	0.7	Band 1	Band 1
Craigmore Road (18-20)	S01124	6	8	-2.2	Band 1	Band 1
Craignasasonagh	S00308	15	15	-0.5	Band 1	Band 1
Craigywarren	S01437	157	154	2.6	Band 1	Band 1
Cranfield (Down)	**S02721**	**4140**	**4390**	**-250.1**	**Band 2**	**Band 3**
Cranfield(Antrim)	S01418	183	155	28.1	Band 1	Band 1
Crankill	S01438	9	5	3.6	Band 1	Band 1
Creagh	S01611	2046	2262	-215.6	Band 4	Band 4
Creaghcor	S03066	30	22	7.6	Band 1	Band 1
Crebarkey	S03067	24	23	1.0	Band 1	Band 1
Creevangar	S03068	12	15	-3.0	Band 1	Band 1
Creggan Road (27)	S01770	6	8	-2.5	Band 1	Band 1
Crilly	S02903	9	13	-3.7	Band 1	Band 1
Cross Lane 9-22 ST	S05572	25	79	-54.3	Band 1	Band 1
Crosskeys Road	S01439	9	6	3.0	Band 1	Band 1
Crossmaglen	S02273	2908	3311	-402.5	Band 4	Band 4
Crossnamoyle	S02568	18	16	1.6	Band 1	Band 1
Culcrow	S01146	159	203	-44.1	Band 1	Band 1
Cullaville	S02264	265	323	-57.7	Band 2	Band 2
Cullion (Bready)	S03070	79	80	-0.8	Band 1	Band 1
Cullyhanna (WWTW)	S02265	542	501	40.6	Band 3	Band 3
Cullyramer	S01147	6	5	0.3	Band 1	Band 1
Culmore (WWTW)	S03071	133891	165653	-31761	Band 6	Band 6
Culmore Point	S03334	18	19	-1.0	Band 1	Band 1
Culnady Road (46-50)	S01798	9	6	2.9	Band 1	Band 1
Culramoney Road (5)	S01740	6	9	-3.2	Band 1	Band 1
Curglasson	S01566	55	60	-5.1	Band 1	Band 1
Curran	S01613	154	164	-10.2	Band 1	Band 1
Cushendall	S01183	4006	4320	-314.2	Band 4	Band 4
Cushendun (WWTW)	S03929	693	727	-33.7	Band 3	Band 3
Cushleake Road (37-39)	S01783	6	11	-5.0	Band 1	Band 1
Darkley (WWTW)	S02569	438	439	-1.2	Band 2	Band 2
Dartress	S01148	20	20	0.4	Band 1	Band 1
Davagh Park	S02030	18	19	-0.5	Band 1	Band 1
Deffrick	S01184	71	75	-4.0	Band 1	Band 1
Dempsey Park	S01100	69	77	-8.3	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Derg (WTW) Septic Tank	S03499	3	3	0.0	Band 1	Band 1
Dernaflaw	S03072	394	356	38.0	Band 2	Band 2
Derryaghna	S03073	18	17	0.4	Band 1	Band 1
Derryanvil	S03911	12	11	0.2	Band 1	Band 1
Derrycrin	S01567	397	397	0.0	Band 2	Band 2
Derrygonnelly (WWTW)	S03074	907	1049	-142.6	Band 3	Band 3
Derrygortrevy	S02837	24	23	0.9	Band 1	Band 1
Derryhale	S02570	1165	1029	136	Band 3	Band 3
Derryhaw	S02571	10	12	-2.0	Band 1	Band 1
Derrykeighan	S01101	133	130	3.3	Band 1	Band 1
Derrylin (WWTW)	S03075	915	1004	-89.2	Band 3	Band 3
Derrymagowan	S02572	6	6	0.2	Band 1	Band 1
Derrymore (WWTW)	S02401	370	349	20.6	Band 2	Band 2
Derryork Road (33-35)	S04140	6	12	-5.5	Band 1	Band 1
Derrytrasna	S02402	431	451	-19.7	Band 2	Band 2
Dervock (WWTW)	S01102	969	1014	-44.9	Band 3	Band 3
Desertmartin	S01614	380	385	-5.4	Band 2	Band 2
Diamond cottages(1)	S01772	43	29	14.1	Band 1	Band 1
Diviny NEW ST	S05546	19	17	1.9	Band 1	Band 1
Donagheady (WWTW)	S03079	188	185	2.8	Band 1	Band 1
Donaghey (1)	S01568	6	6	0.1	Band 1	Band 1
Donaghey (2)	S01569	50	50	-0.3	Band 1	Band 1
Donaghmore (WWTW)	**S02840**	**2130**	**1780**	**350**	**Band 4**	**Band 3**
Donard View	S00280	37	27	10.8	Band 1	Band 1
Donemana	S03103	1040	1037	2	Band 3	Band 3
Donnelly Park	S01103	36	40	-3.5	Band 1	Band 1
Donnybrewer	S03080	5246	5381	-135	Band 4	Band 4
Donnybrewer Road (98)	S03278	6	5	0.4	Band 1	Band 1
Donnybrewer Road (99)	S03277	6	5	0.4	Band 1	Band 1
Dooish	S03081	128	136	-8.3	Band 1	Band 1
Doorless	S01570	12	15	-2.8	Band 1	Band 1
Dorsy	S02267	59	49	10.3	Band 1	Band 1
Dougan place	S02164	29	30	-0.5	Band 1	Band 1
Douglas Bridge	S03082	210	189	20.6	Band 1	Band 1
Downpatrick (WWTW)	S00771	17573	23735	-6161	Band 5	Band 5

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Drapersfield (WWTW)	S01571	96	190	-94.1	Band 1	Band 1
Draperstown	S01615	3270	3411	-141	Band 4	Band 4
Dree Hill	S02125	12	6	6.5	Band 1	Band 1
Dreenan Road (38-40)	S02028	6	9	-3.1	Band 1	Band 1
Drennans Road (6)	S01773	6	6	0.2	Band 1	Band 1
Dromara (WWTW)	S00316	1387	1503	-117	Band 3	Band 3
Dromara Road (Lacken)	S02126	12	8	3.9	Band 1	Band 1
Dromore (Down)	S02127	7509	8254	-744	Band 4	Band 4
Dromore (Tyrone)	S03083	1919	1867	51.3	Band 3	Band 3
Dromore Highlands	S03085	116	109	6.8	Band 1	Band 1
Dronehill Road	S02128	12	6	6.5	Band 1	Band 1
Drones	S01104	48	48	0.0	Band 1	Band 1
Drumagarner	S01149	18	16	1.7	Band 1	Band 1
Drumagarner Road (148-150)	S02026	6	12	-6.3	Band 1	Band 1
Drumagarner Road (212-218)	S02027	12	16	-4.1	Band 1	Band 1
Drumalig Road (62-64)	S04161	6	6	0.4	Band 1	Band 1
Drumaness (WWTW)	S00293	2649	2649	0.0	Band 4	Band 4
Drumaran Road	S02129	9	8	1.3	Band 1	Band 1
Drumard (Antrim)	S01616	15	18	-3.5	Band 1	Band 1
Drumard (Tyrone)	S02860	12	15	-3.1	Band 1	Band 1
Drumard Primate (WWTW)	S02404	33	35	-1.7	Band 1	Band 1
Drumaroad (WTW)	S00115	3	3	0.0	Band 1	Band 1
Drumaroad (WWTW)	S00312	217	218	-1.1	Band 1	Band 1
Drumavoley Road (39-41)	S02022	6	11	-5.0	Band 1	Band 1
Drumavoley Road (83)	S01749	6	5	0.5	Band 1	Band 1
Drumbeg (WWTW)	S00335	1789	1874	-85.9	Band 3	Band 3
Drumbolg Road (98-100)	S01800	6	6	-0.1	Band 1	Band 1
Drumconvis Road 58-62 WwTW	S05767	10	9	1.2	Band 1	Band 1
Drumconvis Road (16-18)	S01801	6	6	0.2	Band 1	Band 1
Drumcroon (WWTW)	S01151	6	5	0.3	Band 1	Band 1
Drumenny	S03088	75	74	1.0	Band 1	Band 1
Drumenny Road (120-128)	S02034	9	9	-0.3	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Drumflugh Road (75-77)	S04101	6	14	-8.3	Band 1	Band 1
Drumgay (1)	S03090	11	16	-4.7	Band 1	Band 1
Drumgay (2)	S03091	39	44	-5.0	Band 1	Band 1
Drumgooland	S02131	6	9	-2.6	Band 1	Band 1
Drumgrevagh	S02697	6	6	-0.2	Band 1	Band 1
Drumhillery	S02574	71	69	1.9	Band 1	Band 1
Drumhirk	S00246	24	22	2.3	Band 1	Band 1
Drumilly	S02268	53	59	-6.2	Band 1	Band 1
Drumintee	S02269	332	353	-20.8	Band 2	Band 2
Drumlegagh Church Road	S03987	92	124	-32.5	Band 1	Band 1
Drumlegagh Church Road (63-65)	S04098	6	5	0.7	Band 1	Band 1
Drumlegagh Road South	S03093	12	11	1.4	Band 1	Band 1
Drumlough	S00320	116	116	-0.5	Band 1	Band 1
Drummond	S03095	22	25	-3.4	Band 1	Band 1
Drumnacannon Road (20-22)	S01803	6	6	-0.1	Band 1	Band 1
Drumnaferry	S02405	122	182	-59.4	Band 1	Band 1
Drumnakilly	S03096	122	100	22.2	Band 1	Band 1
Drumnascamph	S02698	38	36	2.5	Band 1	Band 1
Drumneechy	S03097	20	23	-3.0	Band 1	Band 1
Drumquin (WWTW)	S03098	893	991	-98.2	Band 3	Band 3
Drumraighland	S03099	81	89	-8.2	Band 1	Band 1
Drumreagh	S01106	6	9	-2.9	Band 1	Band 1
Drumreagh Road (9-11)	S00248	6	5	0.8	Band 1	Band 1
Drumshambo	S01572	12	12	-0.4	Band 1	Band 1
Drumsough Road Randalstown ST	S05750	12	12	0.0	Band 1	Band 1
Drumsurn	S03100	592	506	85.9	Band 3	Band 3
Drumsurn Road (234-238)	S04120	9	8	0.5	Band 1	Band 1
Drumullan	S01573	190	210	-19.6	Band 1	Band 1
Dunboe Road (75-77)	S01747	6	5	0.6	Band 1	Band 1
Dundrod	S00326	192	210	-17.8	Band 1	Band 1
Dundrum (Armagh)	S02576	23	22	1.3	Band 1	Band 1
Dundrum (Down)	S00297	2243	2281	-38.4	Band 4	Band 4
Duneany (WWTW)	S01440	72	74	-2.4	Band 1	Band 1
Dungannon	S02850	81292	79561	1731	Band 6	Band 6

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Dungiven	S03101	4744	4609	135.5	Band 4	Band 4
Dungonnell WTW (Septic Tank)	S01472	3	3	0.1	Band 1	Band 1
Dungorbery	S01107	6	9	-3.0	Band 1	Band 1
Dunloy	S01108	1424	1578	-154.1	Band 3	Band 3
Dunmullan	S03102	63	67	-3.6	Band 1	Band 1
Dunmurry	S00346	46331	50186	-3855	Band 6	Band 6
Dunnamore	S01574	312	369	-57.6	Band 2	Band 2
Dunnyboe Road (85-93)	S04103	12	17	-5.1	Band 1	Band 1
Dunore WTW (Septic Tank No1)	S02057	3	3	0.0	Band 1	Band 1
Dunore WTW (Septic Tank No2)	S02057	3	3	0.0	Band 1	Band 1
Dunore WTW (Septic Tank No3)	S02057	3	3	0.0	Band 1	Band 1
Dunronan Road (25-27)	S01804	6	6	-0.1	Band 1	Band 1
Dunserverick (Retention Tank)	S01185	50	90	-39.9	Band 1	Band 1
Dyan	S02842	64	65	-0.7	Band 1	Band 1
Edencrannon (WWTW)	S02858	118	145	-27.1	Band 1	Band 1
Edenderry (Antrim)	S00343	458	458	0.0	Band 2	Band 2
Edenderry (Tyrone)	S03104	55	53	2.0	Band 1	Band 1
Edendoit Road (107-109)	S01598	6	9	-3.3	Band 1	Band 1
Edendoit Road (22-32)	S01805	18	19	-0.7	Band 1	Band 1
Edenmore Road	S03105	12	11	1.0	Band 1	Band 1
Edenreagh Road (39-41)	S04094	33	32	1.3	Band 1	Band 1
Edentirooory	S02132	9	10	-1.0	Band 1	Band 1
Edergoole Road (87-89)	S04104	6	9	-2.9	Band 1	Band 1
Ederney (WWTW)	S03106	858	868	-10.2	Band 3	Band 3
Eglish (Armagh)	S02578	87	149	-62.2	Band 1	Band 1
Eglish (Tyrone)	S02843	606	606	0.0	Band 3	Band 3
Enniskillen	S03218	25752	27074	-1323	Band 6	Band 6
Eskragh	S03201	33	18	15.7	Band 1	Band 1
Fallahogy	S01617	27	32	-4.7	Band 1	Band 1
Farmacaffley	S02579	62	63	-0.8	Band 1	Band 1
Farranflugh	S01420	6	6	0.2	Band 1	Band 1
Faughan	S03109	9	12	-3.2	Band 1	Band 1
Feeny	S03110	924	818	106.1	Band 3	Band 3
Ferris Bay (50)	S04084	11	12	-1.2	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Feumore (WWTW)	S02406	74	82	-8.1	Band 1	Band 1
Fincarn	S03111	87	104	-17.2	Band 1	Band 1
Fintona (WWTW)	S03112	1979	1929	50.3	Band 3	Band 3
Fivemiletown (WWTW)	S03113	2857	2968	-111	Band 4	Band 4
Florencecourt	S03114	289	283	5.8	Band 2	Band 2
Fofanny WTW(Septic Tank)	S02677	3	3	0.0	Band 1	Band 1
Foffanybane WTW (Septic Tank)	S02678	3	3	0.0	Band 1	Band 1
Foreglen	S03019	489	452	36.9	Band 2	Band 2
Foreglen Road (51-53)	S04097	6	9	-2.6	Band 1	Band 1
Forked Bridge WTW (Septic Tank)	S00003	3	3	0.0	Band 1	Band 1
Forkhill	S02270	1746	1826	-79.8	Band 3	Band 3
Fourmile	S02699	18	19	-0.8	Band 1	Band 1
Galbally	S02844	383	344	39.0	Band 2	Band 2
Gallrock	S02433	17	17	0.0	Band 1	Band 1
Garryduff Church	S02024	9	14	-5.4	Band 1	Band 1
Garvagh (WWTW)	**S01154**	**2773**	**1990**	**783.9**	**Band 4**	**Band 3**
Garvaghy	S03116	266	225	41.4	Band 1	Band 1
Garvetagh	S03117	66	67	-1.7	Band 1	Band 1
Gilford (WWTW)	S02162	2447	2722	-275.0	Band 4	Band 4
Glarryford (WWTW)	S01441	98	97	0.8	Band 1	Band 1
Glascar Road (28-30)	S02887	6	3	3.2	Band 1	Band 1
Glaskerbeg Road (11)	S04088	3	3	0.0	Band 1	Band 1
Glasmullen (WWTW)	S01187	9	8	0.8	Band 1	Band 1
Glassdrumman (Armagh)	S02271	215	195	19.9	Band 1	Band 1
Glassdrumman (Down)	S00302	260	341	-81.7	Band 2	Band 2
Glassdrummond	S00282	21	22	-1.1	Band 1	Band 1
Glen Cottages (1-6)	S00835	17	15	1.7	Band 1	Band 1
Glen View (Down)	S02700	12	8	3.9	Band 1	Band 1
Glenabbey (WWTW)	S03119	45	66	-21.0	Band 1	Band 1
Glenagoorland	S03120	18	14	3.8	Band 1	Band 1
Glenanne	S02259	9	8	1.0	Band 1	Band 1
Glenavy (WWTW)	S04188	2112	2636	-524.3	Band 4	Band 4
Glenavy Road (Antrim)	S00324	6	6	0.0	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Glenbush Road (31)	S01737	6	12	-6.0	Band 1	Band 1
Glenedra Road (109-111)	S04116	6	6	0.2	Band 1	Band 1
Glenhead Road	S02133	12	11	1.6	Band 1	Band 1
Glenhordial WTW (Septic Tank)	S03504	3	3	0.0	Band 1	Band 1
Glenleary Road (22)	S01733	3	17	-14.0	Band 1	Band 1
Glenmakeeran	S01188	6	11	-4.7	Band 1	Band 1
Glenmornan	S03121	166	190	-24.1	Band 1	Band 1
Glenoe	S01462	160	199	-39.2	Band 1	Band 1
Glenshesk Road (127)	S01724	3	5	-2.5	Band 1	Band 1
Glenstaghey Road (11)	S01787	10	8	2.5	Band 1	Band 1
Glenstall	S01109	20999	22353	-1354	Band 5	Band 5
Gorran Road (84)	S01750	6	6	0.3	Band 1	Band 1
Gortaclady (WWTW)	S01575	44	59	-15.1	Band 1	Band 1
Gortatray	S01576	12	12	0.2	Band 1	Band 1
Gortin (Tyrone)	S03124	717	741	-24.0	Band 3	Band 3
Gortin Road (12)	S01720	6	5	0.6	Band 1	Band 1
Gortnagallon Cottages(1-4)	S01777	12	14	-2.5	Band 1	Band 1
Gortnagola Road	S02889	6	6	0.0	Band 1	Band 1
Gortnagross Road (38-40)	S04114	6	6	0.2	Band 1	Band 1
Gortnahey (WWTW)	S03126	395	361	33.8	Band 2	Band 2
Gortnaskea Road (45-47)	S01807	6	6	0.1	Band 1	Band 1
Gortscreagan	S03127	68	79	-10.8	Band 1	Band 1
Gosheden (2)	S03129	92	92	-0.2	Band 1	Band 1
Grange (Taylorstown)	S01442	570	642	-72	Band 3	Band 3
Grange Blundel	S02581	18	18	-0.3	Band 1	Band 1
Grangemore	S02580	42	49	-6.9	Band 1	Band 1
Gransha Park (25-27)	S03130	6	5	0.5	Band 1	Band 1
Gransha Road (26-28)	S00829	3	5	-2.2	Band 1	Band 1
Greenan	S02171	12	14	-2.2	Band 1	Band 1
Greenans	S01189	9	8	1.2	Band 1	Band 1
Greencastle (Tyrone)	S03132	328	358	-30.4	Band 2	Band 2
Greenhill (WWTW)	S01155	12	17	-5.0	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Greenisland (WWTW)	S00263	12894	12733	162	Band 5	Band 5
Greenville	S03133	24	29	-4.9	Band 1	Band 1
Greyabbey (WWTW)	S00214	1147	1208	-60.5	Band 3	Band 3
Greysteel (WWTW)	S03123	2181	2079	101	Band 4	Band 4
Grove Park	S01443	27	26	1.1	Band 1	Band 1
Grove Road (21-23)	S04873	6	6	0.3	Band 1	Band 1
Gulladuff (WWTW)	S01619	517	772	-255.1	Band 3	Band 3
Hamiltonsbawn	S02603	1005	1282	-277.7	Band 3	Band 3
Hazelbank	S02134	24	23	1.0	Band 1	Band 1
Hillcrest (Antrim)	S01111	24	24	0.0	Band 1	Band 1
Hillhead Road (Down)	S02135	6	6	0.3	Band 1	Band 1
Hillhead Road (127-131)	S01808	9	13	-3.6	Band 1	Band 1
Hillside Road (7-9)	S04145	6	6	0.5	Band 1	Band 1
Hilltown (WWTW)	S02701	2056	2480	-423.6	Band 4	Band 4
Hollybank Road (10)	S01774	6	6	0.4	Band 1	Band 1
Hollybank Road (54)	S01775	14	14	-0.1	Band 1	Band 1
Horse Park (5-7)	S04086	6	6	-0.1	Band 1	Band 1
Hunter Bungalows	S03136	18	18	0.0	Band 1	Band 1
Inishargy Road (10-12)	S00210	6	5	1.3	Band 1	Band 1
Inishargy Road (2-8)	S00212	12	12	0.3	Band 1	Band 1
Inishargy Road (36-48)	S00211	29	32	-3.3	Band 1	Band 1
Inishmagh	S02845	15	19	-3.6	Band 1	Band 1
Irvinestown	S03137	2679	3667	-987.4	Band 4	Band 4
Jennys Lane	S02408	17	15	1.8	Band 1	Band 1
Jerrettspass (WWTW)	S02297	39	40	-0.2	Band 1	Band 1
Jonesborough (WWTW)	S02272	599	685	-85.5	Band 3	Band 3
Katesbridge	S02136	128	131	-2.5	Band 1	Band 1
Katesbridge Road (79-85)	S02110	12	15	-2.9	Band 1	Band 1
Keady (Armagh)	S02553	4569	5128	-559	Band 4	Band 4
Keady (Fermanagh)	S03138	18	18	0.0	Band 1	Band 1
Kearney(Retention Tank)	S00225	66	54	11.2	Band 1	Band 1
Keenaghan (2)	S01579	12	6	5.8	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Kesh (WWTW)	S03140	2679	2479	200.4	Band 3	Band 3
Kilbroney Park(1-4)	S02725	12	10	1.6	Band 1	Band 1
Kilclean Road (80-82)	S04102	6	10	-3.9	Band 1	Band 1
Kilcoo	**S02704**	**498**	**564**	**-65.3**	**Band 2**	**Band 3**
Kilgarrett	S03141	12	11	1.4	Band 1	Band 1
Kilkeel (WWTW)	S00313	14725	13385	1340	Band 5	Band 5
Killaloo	S03142	92	92	-0.2	Band 1	Band 1
Killaughey Road (252-254)	S00837	6	5	1.0	Band 1	Band 1
Killea WTW(Septic Tank)	S03505	3	3	0.0	Band 1	Band 1
Killeen (Armagh)	S02294	106	108	-1.7	Band 1	Band 1
Killeen (Tyrone)	S02846	568	607	-39.0	Band 3	Band 3
Killen	S03143	467	397	70.4	Band 2	Band 2
Killeter (WWTW)	S03144	144	172	-28.3	Band 1	Band 1
Killinchy (WWTW)	S00252	5877	2451	3426	Band 4	Band 4
Killinchy Road (96-100)	S04146	9	12	-3.1	Band 1	Band 1
Killogue	S01112	18	19	-0.7	Band 1	Band 1
Killough (Retention Tank)	S00275	1511	1283	228.1	Band 3	Band 3
Killybaskey	S01581	115	122	-6.9	Band 1	Band 1
Killycurry Road (30-32)	S04138	6	6	0.3	Band 1	Band 1
Killygonlan (WWTW)	S02043	1314	1155	160	Band 3	Band 3
Killygore	S01444	50	52	-2.0	Band 1	Band 1
Killylane (WWTW)	S03147	103	87	16.2	Band 1	Band 1
Killylane WTW(Septic Tank)	S01317	3	3	0.1	Band 1	Band 1
Killyleagh (WWTW)	S00273	7226	6722	504.2	Band 4	Band 4
Killyneese Road (14-16)	S01809	6	6	-0.3	Band 1	Band 1
Killyrammer	S01113	188	155	32.3	Band 1	Band 1
Killysavan	S02137	30	25	4.7	Band 1	Band 1
Kilmachugh	S02583	27	21	5.4	Band 1	Band 1
Kilmood	S00255	169	194	-25.4	Band 1	Band 1
Kilmore (Armagh)	S02584	135	222	-87.0	Band 1	Band 1
Kilrea	S01156	2659	2610	49	Band 4	Band 4
Kilross	S01622	72	83	-10.9	Band 1	Band 1
Kilskeery	S03148	47	72	-24.8	Band 1	Band 1
Kiltubbrid (WWTW)	S02588	23	24	-0.9	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Kinallen (WWTW)	S03981	1168	1308	-139.8	Band 3	Band 3
Kinawley	S03149	381	354	26.6	Band 2	Band 2
Kinego Cottages	S02856	12	11	0.6	Band 1	Band 1
Kinneyglass Road (87-89)	S01751	6	6	0.3	Band 1	Band 1
Kircubbin (WWTW)	S04881	1361	1717	-356.5	Band 3	Band 3
Knock Terrace	S02139	36	33	3.2	Band 1	Band 1
Knockanroe	S01585	12	12	0.2	Band 1	Band 1
Knockans (WWTW)	S01114	6	6	0.3	Band 1	Band 1
Knockbrack	S03151	22	20	1.9	Band 1	Band 1
Knockloughrim	S01623	289	304	-15.4	Band 2	Band 2
Knockmoyle	S03152	95	215	-119.8	Band 1	Band 1
Knocknarea Road	S02432	15	15	-0.3	Band 1	Band 1
Knocknatavanna	S01190	22	31	-9.4	Band 1	Band 1
Lack	S03154	181	160	20.8	Band 1	Band 1
Largy (WWTW)	S03155	151	158	-7.4	Band 1	Band 1
Largy Cottages(1)	S01776	47	36	11.2	Band 1	Band 1
Larne (WWTW)	S02044	25748	27462	-1714	Band 6	Band 6
Laurelvale Road	S02140	12	11	0.9	Band 1	Band 1
Lawrencetown	S02142	1051	1030	21.4	Band 3	Band 3
Leeke Road	S04092	32	27	5.4	Band 1	Band 1
Legacurry (Down)	S00321	158	156	1.6	Band 1	Band 1
Legaghory	S03157	30	29	1.6	Band 1	Band 1
Legatirriff	S02430	24	25	-1.5	Band 1	Band 1
Legcloghfin Road Cranagh	S05369	63	98	-35.6	Band 1	Band 1
Leitrim (New)	S02705	150	203	-52.7	Band 1	Band 1
Lessans	S00281	18	18	0.0	Band 1	Band 1
Letterbin (WWTW)	S03158	59	61	-1.4	Band 1	Band 1
Letterbreen	S05186	88	81	7.7	Band 1	Band 1
Letterkeen	S03161	12	13	-1.1	Band 1	Band 1
Limavady (WWTW)	S03162	16258	16566	-309	Band 5	Band 5
Limestone (1)	S03164	3	7	-3.5	Band 1	Band 1
Limestone (2)	S03163	6	7	-0.5	Band 1	Band 1
Lisbane Road (38-40)	S00839	6	5	0.7	Band 1	Band 1
Lisbarnet Road (47-53)	S00245	12	10	2.4	Band 1	Band 1
Lisbellaw (WWTW)	S03165	1461	1531	-70.2	Band 3	Band 3
Lisburn (New Holland)	S00329	71517	74652	-3135	Band 6	Band 6

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Liscolman	S01191	266	271	-5.0	Band 2	Band 2
Liscorran Road (3-5)	S02389	6	6	0.0	Band 1	Band 1
Lisdoart (1)	S03166	58	74	-15.3	Band 1	Band 1
Lisdoart (2)	S03167	16	15	1.3	Band 1	Band 1
Lisdown	S02585	22	21	1.1	Band 1	Band 1
Lislea (NEW)	S03980	204	205	-1.1	Band 1	Band 1
Lismoyle	S01625	24	31	-6.9	Band 1	Band 1
Lisnadill (WWTW)	S02586	21	38	-17.1	Band 1	Band 1
Lisnagade Road (54-56)	S02161	8	14	-6.1	Band 1	Band 1
Lisnagalt	S01157	6	6	0.5	Band 1	Band 1
Lisnagat Road (34)	S01738	6	15	-9.1	Band 1	Band 1
Lisnagat Road (64)	S01745	6	12	-6.1	Band 1	Band 1
Lisnagunogue	S01192	95	105	-10.6	Band 1	Band 1
Lisnahall	S01587	47	53	-5.7	Band 1	Band 1
Lisnakilly	S03168	33	42	-9.0	Band 1	Band 1
Lisnalea	S02274	75	71	4.2	Band 1	Band 1
Lisnamuck (Coleraine)	S01158	24	22	2.3	Band 1	Band 1
Lisnamuck (Magherafelt)	S01626	45	46	-1.2	Band 1	Band 1
Lisnaragh	S03169	24	23	1.2	Band 1	Band 1
Lisnarrick	S03170	290	298	-7.6	Band 2	Band 2
Lisnaskea (WWTW)	S03171	6706	6389	317	Band 4	Band 4
Lisnevanagh	S01421	31	41	-10.1	Band 1	Band 1
Lisnisk	S01159	15	14	1.2	Band 1	Band 1
Lisowan	S00287	50	52	-2.4	Band 1	Band 1
Locard Park	S02144	144	138	6.0	Band 1	Band 1
Longfield (Eglinton)	S03173	232	237	-5.4	Band 1	Band 1
Longfield (Moorside Villas)	S01627	93	99	-6.2	Band 1	Band 1
Longs Glebe	S01160	55	80	-25.4	Band 1	Band 1
Lough Bradan WTW (Septic Tank)	S03507	3	6	-2.8	Band 1	Band 1
Lough Fea (WwTW)	S04087	3	9	-5.6	Band 1	Band 1
Lough Island Reavy WTW (Septic Tank)	S02670	3	3	0.0	Band 1	Band 1
Lough Macrory (WWTW)	S03174	661	653	7.7	Band 3	Band 3

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Lough Macrory WTW (Septic Tank)	S03509	3	3	0.0	Band 1	Band 1
Lough Road (29-31)	S04139	9	9	0.3	Band 1	Band 1
Loughan Road (Tyrone)	S03175	27	29	-1.5	Band 1	Band 1
Loughgall (WWTW)	S02604	638	585	52.2	Band 3	Band 3
Loughguile	S01115	854	879	-24.5	Band 3	Band 3
Loughinisland (WWTW)	S00298	229	205	23.4	Band 1	Band 1
Loughries	S00230	280	280	0.0	Band 2	Band 2
Lower Ballinderry	S02410	1097	1038	58.8	Band 3	Band 3
Lower Grange Road (20-26)	S01811	12	11	1.4	Band 1	Band 1
Lower Rashee Road (15-21)	S05188	12	10	2.0	Band 1	Band 1
Luney	S01628	17	18	-0.5	Band 1	Band 1
Lurganare	S02298	407	424	-16.9	Band 2	Band 2
Lurgancahone Road (35-39)	S02707	9	9	-0.3	Band 1	Band 1
Lurgancahone Road (57-59)	S02708	6	9	-3.3	Band 1	Band 1
Lurganville	S02411	117	96	20.4	Band 1	Band 1
Macfin	S01116	127	130	-2.5	Band 1	Band 1
Macosquin	S01161	810	841	-30.6	Band 3	Band 3
Madden (WWTW)	S02587	144	149	-4.2	Band 1	Band 1
Magee Terrace	S02292	15	15	0.0	Band 1	Band 1
Maghaberry	S02412	4597	4597	0.0	Band 4	Band 4
Maghera (Down)	S00305	340	358	-17.8	Band 2	Band 2
Maghera (L/Derry)	S01629	6753	6646	107	Band 4	Band 4
Magheracoltan	S03176	21	18	2.5	Band 1	Band 1
Magherafelt (WWTW)	S01621	18307	19702	-1394	Band 5	Band 5
Magherafelt Road (24-28)	S01788	9	9	0.5	Band 1	Band 1
Magherahoney	S01117	86	88	-2.0	Band 1	Band 1
Magheramason	S03177	591	654	-62.7	Band 3	Band 3
Magheramore Road (89)	S01753	9	8	1.5	Band 1	Band 1
Magheramourne (WWTW)	S01464	75	80	-4.9	Band 1	Band 1
Magheraveely	S03178	89	90	-0.6	Band 1	Band 1
Magheraville	S02589	12	18	-5.9	Band 1	Band 1
Maghery (WWTW)	S02414	363	276	87.4	Band 2	Band 2
Magilligan Point Road WWTW	S05593	5674	5674	0.0	Band 4	Band 4

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Maglion Terrace	S02147	36	34	2.3	Band 1	Band 1
Main Road Cloughy (103-111)	S00223	15	13	1.9	Band 1	Band 1
Manse Road (Antrim)	S01710	6	6	0.2	Band 1	Band 1
Manse Road (Down)	S02148	12	14	-2.3	Band 1	Band 1
Markethill	S02591	2585	2585	0.0	Band 4	Band 4
Marlacoo Road	S02149	26	29	-3.0	Band 1	Band 1
Martinstown	S01445	578	519	59.3	Band 3	Band 3
Mayboy	S01163	235	203	32.4	Band 1	Band 1
Mayoghill (WWTW)	S01164	6	5	0.6	Band 1	Band 1
Maytown Road	S02275	6	6	-0.2	Band 1	Band 1
McCandless Terrace	S02150	33	34	-1.2	Band 1	Band 1
McCleary	S01165	6	5	0.6	Band 1	Band 1
McKinley Park	S02276	54	63	-9.3	Band 1	Band 1
Meigh (WWTW)	S02277	1024	1083	-58.9	Band 3	Band 3
Middle Braniel Road (80-90)	S00857	18	12	6.0	Band 1	Band 1
Middletown (WWTW)	S02592	557	525	32.3	Band 3	Band 3
Milltown (Aghory)	S02593	179	192	-12.8	Band 1	Band 1
Milltown (Burndennet)	S03184	49	51	-2.3	Band 1	Band 1
Milltown (Maghera)	S01630	20	53	-32.8	Band 1	Band 1
Milltown (Maghery)	S02416	126	111	14.5	Band 1	Band 1
Milltown(Artigarvan)	S03183	12	11	1.1	Band 1	Band 1
Minterburn Road (115-117)	S04134	6	6	0.1	Band 1	Band 1
Moira	S02429	5144	6302	-1158.6	Band 4	Band 4
Molenan	S03185	36	35	0.8	Band 1	Band 1
Monea (WWTW)	S03186	306	350	-43.9	Band 2	Band 2
Moneybrannon Road (89)	S01754	6	6	0.7	Band 1	Band 1
Moneycanon	S03188	37	37	0.0	Band 1	Band 1
Moneycarrie (WWTW)	S01166	15	17	-1.8	Band 1	Band 1
Moneydig	S01167	60	88	-27.9	Band 1	Band 1
Moneyglass	S01423	126	142	-15.6	Band 1	Band 1
Moneymore (WWTW)	S01589	2832	3043	-211	Band 4	Band 4
Moneyneany (WWTW)	S01631	289	309	-19.9	Band 2	Band 2
Moneynick Road (118)	S01757	12	16	-3.9	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Moneynick Road (94)	S01761	12	10	2.5	Band 1	Band 1
Moneyreagh (WWTW)	S00337	2387	2381	5.8	Band 4	Band 4
Moneyreagh Road (51-55)	S00338	9	8	1.2	Band 1	Band 1
Moneyreagh Road (139-141)	S00852	6	5	0.6	Band 1	Band 1
Moneyscalp	S02710	23	24	-0.7	Band 1	Band 1
Moneyslane (WWTW)	S02151	427	396	30.9	Band 2	Band 2
Monmurry	S03189	24	26	-1.6	Band 1	Band 1
Moorfield	S03190	18	18	0.0	Band 1	Band 1
Moorfields	S01446	273	271	1.8	Band 2	Band 2
Moss Road (76-78)	S00244	6	62	-55.6	Band 1	Band 1
Moss-side (WWTW)	**S01194**	**509**	**481**	**27.8**	**Band 3**	**Band 2**
Mossvale Terrace	S02153	30	44	-13.9	Band 1	Band 1
Mount Ida	S02154	6	5	1.1	Band 1	Band 1
Mountain View (Drumintee)	S02278	71	116	-45.0	Band 1	Band 1
Mountain View (Tullymurry)	S02712	36	38	-1.2	Band 1	Band 1
Mountfield (WWTW)	S03192	485	485	0.0	Band 2	Band 2
Mountjoy (Dungannon)	S02849	487	437	50.2	Band 2	Band 2
Mountjoy (Omagh)	S03193	143	135	8.0	Band 1	Band 1
Mountnorris	S02248	894	989	-95.5	Band 3	Band 3
Movenis Road (17)	S01728	6	5	0.6	Band 1	Band 1
Movilla Road (136-140)	S00232	9	8	1.4	Band 1	Band 1
Moy (WWTW)	S02859	4084	4914	-830	Band 4	Band 4
Moyagall Road (115-117)	S01799	6	6	-0.1	Band 1	Band 1
Moyarget Road (178)	S01729	6	5	1.0	Band 1	Band 1
Mulderg (WWTW)	S03194	55	52	2.9	Band 1	Band 1
Mullaghbane (Armagh)	S02594	29	32	-3.3	Band 1	Band 1
Mullaghboy	**S00259**	**488**	**535**	**-47.3**	**Band 2**	**Band 3**
Mullaghboy Road (136-138)	S01812	6	6	-0.3	Band 1	Band 1
Mullaghglass (Antrim)	S00325	183	197	-13.9	Band 1	Band 1
Mullaghglass (Newry)	S02280	168	189	-20.6	Band 1	Band 1
Mullaghmore	S02281	132	115	17.2	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Mullahead Road (WWTW)	S02418	9	8	1.5	Band 1	Band 1
Mullan Road (35)	S01739	6	6	0.3	Band 1	Band 1
Mullans (Antrim)	S01118	260	299	-39.7	Band 2	Band 2
Mullans (Fermanagh)	S03196	6	10	-4.5	Band 1	Band 1
Mullynaburtlan	S03197	18	18	0.0	Band 1	Band 1
Mullyroddan	S02851	20	23	-3.3	Band 1	Band 1
Munie (WWTW)	S01466	33	38	-5.3	Band 1	Band 1
Murdocks Lane(1-6)	S00850	17	16	1.2	Band 1	Band 1
Myroe (WWTW)	S03198	178	172	6.5	Band 1	Band 1
Navery Road	S01119	12	14	-2.4	Band 1	Band 1
New Road (37-39)	S00830	6	2	3.5	Band 1	Band 1
Newcastle (WWTW)	S00303	16227	17281	-1053.5	Band 5	Band 5
Newcastle Road (18-20)	S00841	6	11	-4.6	Band 1	Band 1
Newmills (WWTW)	S02852	723	820	-97	Band 3	Band 3
Newmills Road (70-72)	S01128	6	6	0.5	Band 1	Band 1
Newry (WWTW)	S02685	63554	64893	-1339	Band 6	Band 6
Newry Road Rathfriland (80-83)	S02726	6	9	-3.3	Band 1	Band 1
Newtownbreda (WWTW)	S00342	34494	36683	-2189	Band 6	Band 6
Newtownbutler (WWTW)	S03200	1294	1502	-208	Band 3	Band 3
Newtown-Crommelin	S01447	141	175	-33.9	Band 1	Band 1
Newtownhamilton	S02282	1378	1569	-190.1	Band 3	Band 3
Newtownstewart (WWTW)	S03202	2168	2507	-338.6	Band 4	Band 4
Nixons Corner (WWTW)	S03203	285	256	29.0	Band 2	Band 2
Noones Vale	S01632	56	62	-5.7	Band 1	Band 1
North Coast (WWTWs)	S04150	77106	82014	-4908	Band 6	Band 6
Oaklands (Broughshane)	S01207	3	3	0.0	Band 1	Band 1
Old Green	S01448	107	31	75.5	Band 1	Band 1
Old Holywood Road (190-196)	S00340	12	9	2.9	Band 1	Band 1
Oldstone Terrace(8)	S01779	24	23	0.9	Band 1	Band 1
Oliver Plunkett Park	S02284	81	94	-13.0	Band 1	Band 1
Omagh (WWTW)	S03999	34061	33008	1053	Band 6	Band 6
Oneill Terrace	S02263	33	33	0.0	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Orahilly Park	S02283	37	57	-20.0	Band 1	Band 1
Orritor (WWTW)	S01591	291	291	0.4	Band 2	Band 2
Orritor Craigs	S01592	6	9	-3.1	Band 1	Band 1
Orritor Road (182)	S02017	12	10	2.1	Band 1	Band 1
Owenbeg (WWTW)	S03206	30	29	0.8	Band 1	Band 1
Park (WWTW)	S03207	766	738	28.1	Band 3	Band 3
Parsonage Road (110-120)	S00831	18	16	2.2	Band 1	Band 1
Pharis Road (15)	S01727	12	12	0.0	Band 1	Band 1
Plumbridge (WWTW)	S03210	449	451	-2.1	Band 2	Band 2
Point Road (29-33)	S01813	15	9	5.5	Band 1	Band 1
Pomeroy (WWTW)	S01593	981	1242	-261	Band 3	Band 3
Pomeroy Road	S02901	20	18	1.9	Band 1	Band 1
Pomeroy Road (47-49)	S01814	6	6	-0.2	Band 1	Band 1
Portadown Road (Tandragee)	S02175	12	8	4.4	Band 1	Band 1
Portaferry (2)	S05200	3802	3675	127	Band 4	Band 4
Portaferry Road (96-100)	S00231	9	5	4.0	Band 1	Band 1
Portglenone (WWTW)	S01449	3488	3743	-254.7	Band 4	Band 4
Poyntzspass (WWTW)	S02156	816	956	-140.1	Band 3	Band 3
Priestland	S01169	72	114	-41.9	Band 1	Band 1
Priestland Road (51-53)	S04096	6	6	-0.2	Band 1	Band 1
Procklis	S01450	92	92	0.1	Band 1	Band 1
Quarter Road	S00222	9	8	1.1	Band 1	Band 1
Racavan	S01451	37	37	0.3	Band 1	Band 1
Railway view(3)	S01785	6	18	-12.3	Band 1	Band 1
Rasharkin	S01120	1548	1738	-189.5	Band 3	Band 3
Rathfriland (WWTW)	S02713	4074	4036	38	Band 4	Band 4
Rathlin Island (New) WWTW	S05624	117	210	-92.9	Band 1	Band 1
Ravara Road (9-19)	S00242	18	16	1.7	Band 1	Band 1
Ravarnet	S00319	609	617	-8.0	Band 3	Band 3
Redford	S02853	278	312	-33.9	Band 2	Band 2
Rehaghy Road (64-66)	S04144	6	6	0.2	Band 1	Band 1
Rickamore Road (36-38)	S01780	6	8	-1.5	Band 1	Band 1
Ringneill (WWTW)	S00237	673	743	-69.6	Band 3	Band 3

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Ringneill Road (1-5)	S00240	9	8	1.1	Band 1	Band 1
Ringsend	S01170	76	73	2.7	Band 1	Band 1
Ringsend Road	S02158	6	8	-2.6	Band 1	Band 1
Ritchies Villas	S01634	12	16	-3.5	Band 1	Band 1
Robinsonstown	S02419	532	532	0.1	Band 3	Band 3
Rock Cottages	S02172	15	15	-0.4	Band 1	Band 1
Rornashane	S01121	42	41	0.5	Band 1	Band 1
Rosevale Road	S02176	12	10	1.8	Band 1	Band 1
Rosscolban	S03211	3	3	0.0	Band 1	Band 1
Rosscor	S03212	8	11	-2.8	Band 1	Band 1
Rosslea (WWTW)	S03213	877	755	121.9	Band 3	Band 3
Roughfort (WWTW)	S01470	482	471	11	Band 2	Band 2
Rousky	S03214	33	41	-7.7	Band 1	Band 1
Saintfield (WWTW)	S00290	5048	5377	-328.9	Band 4	Band 4
Saval More Cottages	S02715	19	19	0.0	Band 1	Band 1
Scotstown Road (7-9)	S04117	6	3	3.1	Band 1	Band 1
Scribbagh (WWTW)	S03216	14	16	-2.2	Band 1	Band 1
Seacon	S01122	95	102	-6.6	Band 1	Band 1
Seagahan	S02530	24	32	-7.9	Band 1	Band 1
Seahill (WWTW)	S00774	6794	6772	22.1	Band 4	Band 4
Sentry Box Road (20-22)	S02165	6	3	3.4	Band 1	Band 1
Seskinore	S03217	298	398	-99.6	Band 2	Band 2
Seven Mile Straight(177)	S01781	12	12	-0.2	Band 1	Band 1
Seven Mile Straight(78)	S02018	6	6	0.2	Band 1	Band 1
Seven Mile Straight(82)	S02019	6	6	0.2	Band 1	Band 1
Seven Mile Straight(86)	S02020	6	6	0.2	Band 1	Band 1
Shaneoguestown Road (38)	S01782	6	10	-3.8	Band 1	Band 1
Sherrigrim	S01596	18	16	2.1	Band 1	Band 1
Shinn Road	S02716	18	19	-0.6	Band 1	Band 1
Shinny Road (20-22)	S01125	6	6	0.3	Band 1	Band 1
Shore Road (Castle View)	S01797	12	12	-0.2	Band 1	Band 1
Silent Valley (Septic Tank 1)	S00174	3	7	-3.8	Band 1	Band 1
Silent Valley (Septic Tank 2)	S00174	3	7	-3.8	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Silent Valley (Septic Tank 3)	S00174	3	7	-3.8	Band 1	Band 1
Silent Valley (Septic Tank 4)	S00174	3	7	-3.8	Band 1	Band 1
Silent Valley (Septic Tank 5)	S00174	3	7	-3.8	Band 1	Band 1
Silverbridge	S02285	170	157	13.0	Band 1	Band 1
Sion Mills	S03219	3544	3483	60.6	Band 4	Band 4
Skernahergney	S01597	12	12	-0.4	Band 1	Band 1
Skerry View	S01452	33	34	-0.8	Band 1	Band 1
Slaght	S01453	124.000	133	-9.3	Band 1	Band 1
Soldierstown	S02431	32.000	31	0.9	Band 1	Band 1
Spamount	S03221	907.000	903	4.4	Band 3	Band 3
Spelga Dam ST	S02676	4	3	1.0	Band 1	Band 1
Springfield	S03222	61.000	90	-28.8	Band 1	Band 1
Springhill Road (1)	S01713	14.000	12	1.8	Band 1	Band 1
Springwell Cresent(1-6)	S04135	21.000	19	2.2	Band 1	Band 1
St Annes Terrace	S02722	17.800	18	0.0	Band 1	Band 1
St Bridgids Villas	S02286	27.000	30	-3.0	Band 1	Band 1
St James	S00322	178.526	167	11.9	Band 1	Band 1
St Johns Terrace (Kilcoo)	S02717	29.000	30	-0.6	Band 1	Band 1
St Marys Terrace	S02718	18.000	18	0.2	Band 1	Band 1
St Patricks Villas	S02719	26.912	25	2.1	Band 1	Band 1
Staffordstown Road	S01426	6	6	0.4	Band 1	Band 1
Station Road (155-157)	S00854	6	5	0.6	Band 1	Band 1
Stewartstown	S01599	1360.000	1324	36.1	Band 3	Band 3
Stoneyford Beeches One WwTW	S05705	695.000	693	2.1	Band 3	Band 3
Stoneyford Beeches Two WwTW	S05705	3.000	3	0.0	Band 1	Band 1
Strabane	S03223	23530.333	22261	1269	Band 5	Band 5
Stradreagh (Septic Tank)	S03131	11.880	11	0.9	Band 1	Band 1
Straid (Ballymena)	S01455	51.000	69	-17.5	Band 1	Band 1
Straid Road (111)	S01719	6	14	-8.0	Band 1	Band 1
Straid Road (12)	S01721	6	8	-1.5	Band 1	Band 1
Stranagard	S01815	6	6	0.2	Band 1	Band 1
Strangford	S00226	1236.000	1220	16.1	Band 3	Band 3
Stranocum	S01123	544.000	613	-68.8	Band 3	Band 3

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Swatragh (WWTW)	S01637	717.460	741	-23.3	Band 3	Band 3
Tamlaght (WWTW)	S03224	428.000	478	-50.2	Band 2	Band 2
Tamlaght O Crilly	S01638	206.567	237	-30.8	Band 1	Band 1
Tamnaherin	S03226	393.000	359	33.6	Band 2	Band 2
Tamnamore (WWTW)	S02862	617.218	938	-321	Band 3	Band 3
Tandragee	**S02174**	**11279.400**	**9677**	**1602**	**Band 5**	**Band 4**
Tartaraghan	S02421	42.000	55	-12.8	Band 1	Band 1
Tattysallagh	S03227	70.180	79	-8.8	Band 1	Band 1
Teeraw	S02598	12.000	16	-4.0	Band 1	Band 1
Tempo (WWTW)	S03229	921.000	1029	-108.0	Band 3	Band 3
The Demesne	S00289	6	5	0.8	Band 1	Band 1
The Loup (WWTW)	S01588	255.000	274	-19.0	Band 2	Band 2
The Oyster Yard WWTW	S05533	45.000	39	5.7	Band 1	Band 1
The Rock	S01594	136.710	150	-13.5	Band 1	Band 1
The Skeagh	S02163	9.000	5	3.6	Band 1	Band 1
Thorney Glen	S00284	58.000	46	12.4	Band 1	Band 1
Tibaran Cottages	S04127	24.000	23	1.4	Band 1	Band 1
Tirquin	S03230	28.000	24	4.0	Band 1	Band 1
Toberkeagh	S01195	26.627	26	0.9	Band 1	Band 1
Tobermore (WWTW)	S01640	1204.008	1226	-21.6	Band 3	Band 3
Tobermore Road (144-146)	S01817	6	6	0.2	Band 1	Band 1
Torr Head	S01196	6.260	16	-10.2	Band 1	Band 1
Trench Road (66-70)	S04118	11.000	11	-0.2	Band 1	Band 1
Trillick (WWTW)	S03231	602.336	622	-20	Band 3	Band 3
Tromra	S01197	33.000	36	-2.6	Band 1	Band 1
Tubber Road (10-16)	S00207	12	11	1.5	Band 1	Band 1
Tullaghmore Road (41-43)	S01818	6	6	0.1	Band 1	Band 1
Tully (WWTW)	S03232	52.000	69	-17.2	Band 1	Band 1
Tully Road Headworks	S03975	3226.6	3547	-320.7	Band 4	Band 4
Tullyard (Tyrone)	S03233	11.896	11	0.5	Band 1	Band 1
Tullyelmer (WWTW)	S02599	6.000	11	-4.7	Band 1	Band 1
Tullygrawley	S01457	33.000	38	-4.5	Band 1	Band 1
Tullyhubbert Road (75-81)	S00258	12	11	1.1	Band 1	Band 1
Tullyleek	S02855	24.000	24	-0.2	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Tullymore Road (43-45)	S04119	6	12	-6.5	Band 1	Band 1
Tullynakill Road	S05280	31	50	-18.8	Band 1	Band 1
Tullyreavy	S01600	18	19	-0.7	Band 1	Band 1
Tullyroan	S02600	40	41	-1.1	Band 1	Band 1
Tulnacross Road (44-46)	S01820	6	6	-0.2	Band 1	Band 1
Tummery	S03234	24	38	-13.5	Band 1	Band 1
Tureagh	S01198	27	27	-0.4	Band 1	Band 1
Turraloskin	S01199	23	20	2.9	Band 1	Band 1
Tursallagh	S03235	18	19	-1.1	Band 1	Band 1
Upper Ballinderry	S02422	308	309	-0.2	Band 2	Band 2
Upper Ballygelagh Road (12-18)	S00845	12	18	-6.4	Band 1	Band 1
Upper Cranlome Road	S02893	6	6	0.1	Band 1	Band 1
Upper Malone Road	S04026	24	50	-25.5	Band 1	Band 1
Upperlands (WWTW)	S01642	957	1042	-84.4	Band 3	Band 3
Victoria Bridge (WWTW)	S03236	503	540	-36.6	Band 3	Band 3
Victoria Road (277-279)	S04111	6	11	-5.2	Band 1	Band 1
Waringstown	S02423	7230	6917	312.7	Band 4	Band 4
Warrenpoint (WWTW)	S02720	16050	15948	102	Band 5	Band 5
Waterfoot Road (WWTW)	S01643	198	221	-22.6	Band 1	Band 1
When Road (21-23)	S04122	6	6	0.3	Band 1	Band 1
Whitechurch Road (45-53)	S00213	15	12	3.3	Band 1	Band 1
Whitegate Road	S02167	9	11	-1.8	Band 1	Band 1
Whitehouse	S00265	87929	88141	-212	Band 6	Band 6
Whitelough Road (29-31)	S04137	6	6	0.2	Band 1	Band 1
Whitepark Road (211)	S01732	6	5	1.2	Band 1	Band 1
Whitepark Road (56)	S01741	12	10	2.0	Band 1	Band 1
Whitepark Road (71)	S01746	6	5	1.0	Band 1	Band 1
Windmill Road (24-32)	S00235	15	13	2.4	Band 1	Band 1
Windmill Road (71-73)	S04159	6	3	3.5	Band 1	Band 1
Woaghternerry	S03239	30	34	-3.8	Band 1	Band 1

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	Diff*	AIR20 Band	AIR21 Band
Woodburn/Dorisland WTW (Septic Tank)	S00011	3	3	0.3	Band 1	Band 1
Ballintoy New WwTW	S05672	332	361	-29	Band 1	Band 1
			TOTAL	-99409.3		

***(-ve indicates AIR21 figure larger)**
The change in PE equates to an increase in load of 5,964.6kg BOD/day (i.e. 99,409.3 x 0.06 for 60g/hd/day) from AIR20 to AIR21

Difference between AIR21 and AIR20 for the total load entering WWTWs as shown in Table 17d - column 11, row 7

Total Load Received at WWTWs for AIR21 -	**122,787**
Total Load Received at WWTWs for AIR20 -	**116,823**
Total Difference -	**5,964**

The differences between the above totals is due to rounding.

The interpretation of the treatment categories is as below:-

AIR21 Treatment Category	Highest Form of Treatment at WWTWs	Treatment Category Abbreviation
Primary	Primary Settlement Septic Tank	Prim
Secondary Activated Sludge (Whether followed by Final settlement or not)	Oxidation Ditch Extended Aeration Activated Sludge SAF BAF MBR SBR	Sec Act
Secondary Biological (Whether followed by Final settlement or not)	Biological Filter RBC RBC Package Bioclere Package ; Reed Bed (If used as secondary treatment stage)	Sec Bio
Tertiary A1	Secondary Activated Sludge processes whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), drum filters, microstrainers, slow sand filters, tertiary nitrifying filters, Lockertex screens, gravel clarifiers, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage;	Ter A1

AIR21 Treatment Category	Highest Form of Treatment at WWTWs	Treatment Category Abbreviation
Tertiary A2	Secondary Activated Sludge processes whose methods also include phosphorous reduction, rapid-gravity sand filters, moving bed filters, pressure filters, nutrient control using physico-chemical and biological methods, disinfection, hard COD and colour removal and MBRs where used as a tertiary treatment stage;	Ter A2
Tertiary B1	Secondary Biological processes whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), drum filters, microstrainers, slow sand filters, tertiary nitrifying filters, Lockertex screens, gravel clarifiers, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage;	Ter B1
Tertiary B2	Secondary Biological processes whose methods also include phosphorous reduction, rapid-gravity sand filters, moving bed filters, pressure filters, nutrient control using physico-chemical and biological methods, disinfection, hard COD and colour removal and MBRs where used as a tertiary treatment stage;	Ter B2
Sea Outfalls	Where a load is discharged to sea having received only Preliminary treatment (including Grit removal and screenings conditioning) or simple screening (Bar Screen) or no screening or no treatment (Includes Retention Tanks)	Sea Out Prel Sea Out Screen Sea Out Unscreen

Changes in Line 8 - Small works with ammonia consent (between 5 and 10) from AIR20 to AIR21

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Annaghhugh (WWTW)	S02602	323	353	-30	TE Updated
Beragh (WWTW)	S03027	1416	1677	-261	TE Updated
Claudy	S03054	2722	2977	-254	TE Updated
Clogher (WWTW)	S03056	1184	1324	-140	TE Updated

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Cluntoe (Richardson)	S04872	600	612	-12	TE Updated
Darkley (WWTW)	S02569	438	439	-1	TE Updated
Derrygonnelly (WWTW)	S03074	907	1049	-143	TE Updated
Derryhale	S02570	1165	1029	136	TE Updated. Sludge import/export PE updated
Derrytrasna	S02402	431	451	-20	
Donaghmore (WWTW)	S02840	2130	1780	350	
Draperstown	S01615	3270	3411	-141	
Dromore (Tyrone)	S03083	1919	1867	51	
Drumquin (WWTW)	S03098	893	991	-98	
Ederney (WWTW)	S03106	858	868	-10	
Fintona (WWTW)	S03112	1979	1929	50	
Forkhill	S02270	1746	1826	-80	
Garvaghy	S03116	266	225	41	
Gortnahey (WWTW)	S03126	395	361	34	
Greencastle (Tyrone)	S03132	328	358	-30	
Hilltown (WWTW)	S02701	2056	2480	-424	
Jonesborough (WWTW)	S02272	599	685	-85	
Kesh (WWTW)	S03140	2679	2479	200	
Killen	S03143	467	397	70	
Kinallen (WWTW)	S03981	1168	1308	-140	
Kinawley	S03149	381	354	27	
Liscolman	S01191	266	271	-5	
Lisnaskea (WWTW)	S03171	6706	6389	317	
Lower Ballinderry	S02410	1097	1038	59	
Macosquin	S01161	810	841	-31	
Maghera (L/Derry)	S01629	6753	6646	107	
Moss-side (WWTW)	S01194	509	481	28	
Mountnorris	S02248	894	989	-95	

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Newtownstewart (WWTW)	S03202	2168	2507	-339	
Park (WWTW)	S03207	766	738	28	
Ravarnet	S00319	609	617	-8	
Rosslea (WWTW)	S03213	877	755	122	
Strabane	S03223	23530.333	22261	1269	
Swatragh (WWTW)	S01637	717.460	741	-23	
Tamlaght (WWTW)	S03224	428.000	478	-50	
			Total	469	

***(-ve Indicates AIR20 PE Higher)**

The change in PE equates to a load change of 28.1kg/d (i.e. 469 x 0.06 for 60g/hd/day) from AIR20 to AIR21, for line 8.

Total Load rec'd by small WWTWs with NH3 consents (5-10mg/l) for AIR21-	**5,099**
Total Load rec'd by small WWTWs with NH3 consents (5-10mg/l) for AIR20-	**5,127**
Total Difference –	**28**

Changes in Line 9 - Small works with ammonia consent (between 0 and 5) from AIR20 to AIR21

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Annahilt (WWTW)	S00317	1750	1797	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Annsborough	S02687	5991	6086	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Ballinmallard (WWTW)	S03010	1945	1780	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Ballybogy	S01087	577	0	Transfer of flows to Glenstall catchment. PE added to Glenstall	Transfer of flows to Glenstall catchment. PE added to Glenstall
Ballyclare	S01467	16707	20355	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Ballycranbeg	S00218	275	351	NIAMP5 Actual PE Update Design PE updated	NIAMP5 Actual PE Update Design PE updated
Ballygowan	S00247	3372	3528	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Ballynahinch (Down)	S00311	7940	8107	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Ballyvoy	S01177	264	271	NIAMP5 Actual PE Update Design PE Updated	NIAMP5 Actual PE Update Design PE Updated
Banbridge (WWTW)	S02102	20706	24199	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Bellaghy (WWTW)	S01606	1765	1804	Actual PE updated following APT PE Review	Actual PE updated following APT PE Review
Cargan (WWTW)	S01433	860	696	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Carrowdore	S00236	1434	1199	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Castlecaulfield (WWTW)	S02836	1069	1235	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Clabby (WWTW)	S03051	408	332	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Clough (WWTW)	S00296	1060	908	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Cloughmills (WWTW)	S01096	1711	1828	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Coalisland	S02828	10004	10757	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Cookstown (WWTW)	S01582	20942	22569	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Crossmaglen	S02273	2908	3311	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Downpatrick (WWTW)	S00771	17573	23735	NIAMP5 Actual PE Update Septic tank imports added Trade updated	NIAMP5 Actual PE Update Septic tank imports added Trade updated
Dromara (WWTW)	S00316	1387	1503	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Dromore (Down)	S02127	7509	8254	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Drumintee	S02269	332	353	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Drumsurn	S03100	592	506	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Dungiven	S03101	4744	4609	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Dunloy	S01108	1424	1578	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Feeny	S03110	924	818	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Galbally	S02844	383	344	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Garvagh (WWTW)	S01154	2773	1990	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Glenavy (WWTW)	S04188	2112	2636	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Grange (Taylorstown)	S01442	570	642	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Hamiltonsbawn	S02603	1005	1282	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Irvinestown	S03137	2679	3667	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Keady (Armagh)	S02553	4569	5128	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Killinchy (WWTW)	S00252	5877	2451	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Limavady (WWTW)	S03162	16258	16566	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Lough Macrory (WWTW)	S03174	661	653	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Loughguile	S01115	854	879	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Magherafelt (WWTW)	S01621	18307	19702	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Meigh (WWTW)	S02277	1024	1083	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Monea (WWTW)	S03186	306	350	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Moneymore (WWTW)	S01589	2832	3043	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Moneyreagh (WWTW)	S00337	2387	2381	NIAMP5 Actual PE Update Design PE updated Trade updated	NIAMP5 Actual PE Update Design PE updated Trade updated
Mountjoy (Dungannon)	S02849	487	437	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Mullans (Antrim)	S01118	260	299	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Newtownbutler (WWTW)	S03200	1294	1502	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Newtownhamilton	S02282	1378	1569	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Pomeroy (WWTW)	S01593	981	1242	Actual PE updated following APT PE Review Trade updated	Actual PE updated following APT PE Review Trade updated
Poyntzspass (WWTW)	S02156	816	956	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Rathfriland (WWTW)	S02713	4074	4036	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
Ringneill (WWTW)	S00237	673	743	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Saintfield (WWTW)	S00290	5048	5377	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Stoneyford Beeches One WwTW	S05705	695.000	693	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Tamnaherin	S03226	393.000	359	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update

Name of Works	CAR ID	AIR20 Actual PE	AIR21 Actual PE	PE Change*	Comments
Tandragee	S02174	11279.400	9677	NIAMP5 Actual PE Update Trade updated	NIAMP5 Actual PE Update Trade updated
The Loup (WWTW)	S01588	255.000	274	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
Waringstown	S02423	7230	6917	NIAMP5 Actual PE Update	NIAMP5 Actual PE Update
			Total	-16,408	

***(-ve Indicates AIR21 PE Higher)**

The change in PE equates to a load change of 984.5kg/d (i.e. 16,408x 0.06 for 60g/hd/day) from AIR20 to AIR21 for line 9.

Total Load rec'd by small WWTWs with NH3 consents (0-5mg/l) for AIR21-	**15,165.6**
Total Load rec'd by small WWTWs with NH3 consents (0-5mg/l) for AIR20-	**14,181.2**
Total Difference -	**984.4**

PPP

Lines 1 – 7

The variation in load data from AIR10 is solely due to the variation in influent loads received by the same PPP works from the NI Water catchments over the AIR21 Period. With the additional consideration as to the affected sampling arrangements in April – June 2020 arising from initial Covid-19 pandemic restrictions on sampling.

While in some cases there has been little difference in loading at PPP sites; the North Down WwTW has experienced a 8.1% Decrease in averaged Daily BOD over the entire year, Richhill WwTW has experienced a 10.2% Decrease in averaged Daily BOD over the entire year, which returns it to a more recognised loading profile, while Armagh has seen an Increase of 7.9%. This issue has been re-checked and the calculations verified. The prevailing rainfall does not provide an explanation, as the AIR21 period experienced 1248.4mm while the AIR20 period experienced 1293.1mm of rainfall which is a 3.5% Decrease during the AIR21 period; while the 100 year average [AREAL series] for Northern Ireland is 1100mm.

The Contractor has reported there were no apparent operational reasons for the Decreases/Increases. The fact that the Ballynacor WwTW experienced a 17.3% Deduction in averaged Daily BOD during the same period demonstrates the variability of loading that can be experienced by WwTW's irrespective of climatic conditions, and in the case of Ballynacor likely reflects variances in trade effluent loading from within the large industrial catchment, potentially caused by the Covid-19 Pandemic trade impacts. The Kinnegar WwTW has seen a 13.6% Increase in averaged Daily BOD load over the AIR21 period.

The load attributed to Richhill STW has decreased from last year but the Categorisation remains as Category 4.

Line 9

The variation in load data is due to the variation in influent loads received by the Richhill STW over the AIR21 Period.

Specific company commentary;

- The category of Richhill STW is Category 4.
- There are currently the following Capital Works Project plans which could close, or divert flows arriving to, PPP operated works.
- There are currently a number of Capital Works Projects proposed or on-going in PPP catchments;

KI559	PC15 Year 1 WWTW Base Maintenance - East Region
KR417	Ormeau Avenue Sewerage upgrade for pollution resolution
KR576	Belfast WWTW PLC Upgrade
KR480	Holywood Sewer Network Improvements
KF330	Armagh DAP Stage 1
KR504	Portaferry Road, N'Ards WWPS Upgrade
KF397	Killylea Road WWPS, Armagh, Upgrade.
KR689	Holywood A to Kinnegar PM
KR640	Holywood Sewer Network Improvements- Phase 2
KF396	Milford WWPS, Armagh, Upgrade.
KR443	Sydenham WWPS Remedial Works
KR594	Springwell Park, Groomsport
KG189	Cornakinnegar Road, Lurgan Foul & Storm Sewer Extension
KR444	Sydenham WWPS Strategic Investigations
KS914	Scrabo Road, Newtownards, WWPS Upgrade
KS867	Copeland Road, Comber, Tank Sewer
KG129	Loughgall Road Portadown Storm and Foul Sewer Extensions
KS873	Bangor DAP Work Package 2: Rathmore Stream UIDs
KR499	Belfast Terminal Pumping Station – Cooling Water Tank Feasibility Study
KS845	Bangor DAP Stage 1
KS878	Bangor DAP Works Package 7: Orlock, Sandeel , Seacliff Road & Orlock Caravan Park WWPSs - UID
KS882	Upper Crescent WwPS Comber Pumping Main Replacement
KS901	Movilla Street, Newtownards, Replacement Sewer
KT417	Mount Eagles, Lisburn, Foul Sewer
KG184	Portadown Drainage Area Network Improvements - Obins Street and Park Road
KS850	Quarry Heights, Newtownards, Foul and Storm Sewer Extension
KS879	Bangor DAP Work Package 4: Bangor Marina UIDs
KS875	Bangor DAP Works Package 6: Lukes Point WWPS UID
KG183	Portadown Drainage Area Network Improvements - Meadow Lane and Bann Street
KS872	Bangor DAP Work Package 1: Carnalea Stream UID

KI601	Strategic Sewerage Network Modelling, Bathing Waters Excluding Belfast Lough
KS874	Bangor DAP Works Package 3 - Belfast Lough UIDs
KI607	NI Long Term Sludge Strategy
KL460	Foyle Springs, Derry Flood Alleviation
KS913	Upper Crescent WWPS Upgrade
KA270	Neillsbrook WwPS Upgrade Appraisal

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17f SEWERAGE EXPLANATORY FACTORS

SEWAGE TREATMENT WORKS - COSTS (NIW Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11
				TREATMENT CATEGORY										TOTAL
				PRIMARY	SECONDARY		TERTIARY				SEA OUTFALLS			
					ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	
A	**SMALL WORKS**													
1	Direct costs of STWs in size band 1	£000	3	52.827	65.121	492 501	0.000	0.000	18.111	14.057	0.000	0.000	3.671	646.287
2	Direct costs of STWs in size band 2	£000	3	0.000	50.975	237.458	31.897	14.938	99.028	56.105	0.000	23.320	0.000	513.721
3	Direct costs of STWs in size band 3	£000	3	16.478	545.464	971.461	150.235	465.943	317.531	256.157	80.150	0.000	8.942	2,812.361
4	Direct costs of STWs in size band 4	£000	3	27.135	897.658	275.665	38.583	1,664.633	52.502	172.193	87.363	5.722	0.000	3,221.454
5	Direct costs of STWs in size band 5	£000	3	0.000	683.058	0.000	300.252	1,460 980	0.000	165.143	0.000	0.000	0.000	2,609.433
B	**LARGE WORKS**													
6	Direct costs of STWs in size band 6	£000	3	0.000	1,122.679	0.000	0.000	5,210.129	0.000	0.000	0.000	0.000	0.000	6,332.808
C	**ALL WORKS**													
7	Total direct costs of STWs - all sizes	£000	3	96.441	3,364.955	1,977.085	520.966	8,816.624	487.171	663.655	167.513	29.042	12.612	16,136.064
8	Sludge Treatment and Disposal Adjustments	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	Sewage Treatment: Direct costs	£000	3	96.441	3,364.955	1,977 085	520.966	8,816.624	487.171	663.655	167.513	29.042	12.612	16,136.064
10	Sewage Treatment: Power costs	£000	3	6.363	1,791.205	553.455	267.493	4,980 003	86.083	252.231	71.210	1.280	0.305	8,009.627
11	Sewage Treatment: service charges	£000	3	8.560	150.326	143.688	24.161	338.252	38.793	41.395	9.805	2.703	1.071	758.755
12	Sewage Treatment: General and Support	£000	3	149.237	2,620.966	2,505 235	421.257	5,889 308	676.364	721.735	179.144	47.127	18.665	13,229.037
13	Sewage Treatment: Functional Expenditure	£000	3	245.677	5,985.921	4,482 319	942.223	14,705 932	1,163.536	1,385.391	346.657	76.169	31.277	29,365.101

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17f SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - COSTS (PPP only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11
				TREATMENT CATEGORY										TOTAL
				PRIMARY	SECONDARY		TERTIARY				SEA OUTFALLS			
					ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	
A	SMALL WORKS													
1	Direct costs of STWs in size band 1	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	Direct costs of STWs in size band 2	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	Direct costs of STWs in size band 3	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	Direct costs of STWs in size band 4	£000	3	[redacted]										
5	Direct costs of STWs in size band 5	£000	3	[redacted]										
B	LARGE WORKS													
6	Direct costs of STWs in size band 6	£000	3	0.000	0.000	0.000	0.000	2,111.089	0.000	0.000	0.000	0.000	0.000	2,111.089
C	ALL WORKS													
7	Total direct costs of STWs - all sizes	£000	3	[redacted]										
8	Sludge Treatment and Disposal Adjustments	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	Sewage Treatment: Direct costs	£000	3	0.000	0.000	0.000	42.802	2,236.944	0.000	0.000	0.000	0.000	0.000	2,279.746
10	Sewage Treatment: Power costs	£000	3	0.000	0.000	0.000	42.802	2,236.944	0.000	0.000	0.000	0.000	0.000	2,279.746
11	Sewage Treatment: service charges	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	Sewage Treatment: General and Support (NIW)	£000	3	0.000	31.580	0.000	24.757	99.028	0.000	0.000	0.000	0.000	0.000	155.365
13	Sewage Treatment: Functional Expenditure	£000	3	[redacted]										

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17f SEWERAGE EXPLANATORY FACTORS
SEWAGE TREATMENT WORKS - COSTS (Total)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11
				TREATMENT CATEGORY										TOTAL
					SECONDARY		TERTIARY				SEA OUTFALLS			
				PRIMARY	ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	
A	SMALL WORKS													
1	Direct costs of STWs in size band 1	£000	3	52.827	65.121	492.501	0.000	0 000	18.111	14.057	0.000	0.000	3.671	646.287
2	Direct costs of STWs in size band 2	£000	3	0.000	50.975	237.458	31.897	14.938	99.028	56.105	0.000	23.320	0.000	513.721
3	Direct costs of STWs in size band 3	£000	3	16.478	545.464	971.461	150.235	465.943	317.531	256.157	80.150	0.000	8.942	2,812.361
4	Direct costs of STWs in size band 4	£000	3	[redacted]										
5	Direct costs of STWs in size band 5	£000	3	[redacted]										
B	LARGE WORKS													
6	Direct costs of STWs in size band 6	£000	3	0.000	1,122.679	0.000	0.000	7,321.218	0.000	0.000	0.000	0.000	0.000	8,443.897
C	ALL WORKS													
7	Total direct costs of STWs - all sizes	£000	3	[redacted]										
8	Sludge Treatment and Disposal Adjustments	£000	3	0.000	0.000	0.000	0.000	0 000	0.000	0.000	0.000	0.000	0.000	0.000
9	Sewage Treatment: Direct costs	£000	3	96.441	3,364.955	1,977.085	563.768	11,053.568	487.171	663.655	167.513	29.042	12.612	18,415.810
10	Sewage Treatment: Power costs	£000	3	6.363	1,791.205	553.455	310.295	7,216.947	86.083	252.231	71.210	1.280	0.305	10,289.373
11	Sewage Treatment: service charges	£000	3	8.560	150.326	143.688	24.161	338.252	38.793	41.395	9.805	2.703	1.071	758.755
12	Sewage Treatment: General and Support	£000	3	149.237	2,652.546	2,505.235	446.014	5,988.336	676.364	721.735	179.144	47.127	18.665	13,384.402
13	Sewage Treatment: Functional Expenditure	£000	3	[redacted]										

Table 17f - Sewage Treatment Works (NIW only)

An updated Population Equivalent (PE) database with treatment type by WWTW's was sent from Asset Delivery on the 4th June 2021 which was used to populate Line 1-13. No PPP sites are included in this table. The same 15 sites in Band 6 still apply in AIR21.

Table 17f has been completed based on the figures available at for the year ended 31 March 2021 for sewage treatment – Activity 510 less M&E expenditure which is treated as general & support.

A Small Works

Line 1-4 – Size band 1-4

Each WWTW's was assigned a finance location code, W or X. W codes are for a specific works and X codes include the costs of a number of small works. Nearly 90% of the costs can be directly allocated to WWTW's through the further implementation of Cost to Serve and the remaining direct costs are apportioned across the appropriate WWTW's based on PE or direct labour.

Direct Costs include power 521x, contractors 531x, other contractors 532x, materials 541x, chemicals 548x, cost reallocations 611x (this includes direct labours costs and & overhead charges) and service charges.

Through the cost to serve project all power costs are allocated to individual sites and a report was taken from EAM to get the full year power cost per WWTW's. There is one electric meter at each site and all the power costs are coded to each individual works to sewage treatment. The Field Managers responsible for each WWTW's estimated the percentage use for sludge treatment and sewage treatment at each WWTW's. This was multiplied by the Power costs at the site to calculate the portion relating to sewage treatment.

The type of treatment at each WWTW's was provided by Asset Management and this was used to assign costs to Column 1-10.

In total the costs have increased in Lines 1-4 from AIR20 by circa £0.8M.

Line 5 – Size band 5

Direct costs for sewage treatment, at each location in Size Band 5, were recorded and matched to the appropriate type of treatment.

The costs have decreased from AIR20 by circa £0.2M.

B Large Works

Line 6 – Size band 6

This line agrees with Line 9 in Table 17b. No PPP sites have been included.

The costs have decreased from AIR20 by circa £0.3M. See Table 17b commentary.

C All Works

Line 7 – Total Direct Costs

This is a calculated line and it's the total of Line 1-6. This figure agrees with Table 22, Column 2 Line 9.

The total direct costs have increased since AIR20 by circa £0.3M. This is due to the movements in the costs of band sizes commented on above.

Line 8 – Sludge Treatment & Disposal Adjustment

These costs are not included in the total of Line 7 therefore this line is zero.

Line 9 – Direct Costs

This line is equal to Line 7 and is the total direct costs for each type of treatment. This figure agrees with Table 22, Column 2 Line 9.

Line 10 – Power Costs

Through the cost to serve project all power costs are allocated to individual sites and a report was provided by the Energy Finance Business Partner for the full year power cost per WWTW's. Power costs have increased from AIR20 by £0.1m. This figure agrees with Table 22, Column 2 Line 2.

Line 11 – Service Charges

£0.7M of environmental regulatory charges are included in Sewage, this is in line with AIR20.

Line 12 – General & Support

The Total General & Support expenditure was taken directly from Table 22 (NIW only) Line 10 Column 2 (see Table 22 commentary) and apportioned across the locations based on direct costs.

This figure has increased by £2.5M from AIR20. The apportionment of General and Support costs to Sewage Treatment has decreased. See commentary on Table 22 for further breakdown and explanation.

Line 13 – Functional Expenditure

This is a calculated line and is the total of Line 9 and Line 12. The total agrees to Table 22 (NIW Only) Column 2 Line 11. The total costs have increased from AIR20 by circa £2.9M for all the reasons mentioned under the lines above. Refer to Table 22 commentary for further explanation.

PPP Only

Lines 1- 3 – Size bands 1- 3

There are no PPP sites sized within these categories. Therefore, this is a nil return for these size bands.

Line 4 – Size band 4

Direct costs associated with Richhill (TA1) include power costs only derived from the Oracle system using the appropriate location code.

Line 5 – Size band 5

Direct costs associated with Armagh (TA2) include power costs only derived from the Oracle system using the appropriate location code.

Line 6 – Size band 6

No costs are reported for Kinnegar (SAS) direct costs as Kinnegar power costs are part of the Concessionaire's payment to the Operating Company.

Costs for North Down, Ballyrickard and Ballynacor (all TA2) include power costs only derived from the Oracle system using appropriate location codes.

Line 9 - Direct costs

This refers to power only. See comments on Line 10 below.

Line 10 - Power

Kinnegar (SAS) remains unreported as power costs are not incurred by NIW directly but through the Concessionaire payments.

Power costs have reduced slightly from AIR20 as a result of lower average tariffs and marginally lower wastewater volumes.

The total of this line reconciles to table 22 line 2 column 2.

Line 12 – General & support

General and support costs have been calculated using all staff and overhead costs for the contracts management team together with PPP related professional managed service costs – PPP Professional Advisors. Costs have been attributed to schemes in accordance with management's estimated time spent by each member of staff on each contract, with such costs spread equally on schemes therein. Professional Advisors costs are attributable to a contract by invoice. General and support costs have been allocated to facilities on a straight line basis according to the number of facilities in each scheme.

The total on this line reconciles to table 22 line 10 column 2.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17g SEWERAGE EXPLANATORY FACTORS
SLUDGE TREATMENT AND DISPOSAL INFORMATION (NIW Only)

	DESCRIPTION	UNITS	DP	1 FARMLAND UNTREATED	G	2 FARMLAND CONVENTIONAL	G	3 FARMLAND ADVANCED	G	4 INCINERATION	G	5 TO PPP	G	6 LANDFILL	CG	7 COMPOSTED	G	8 LAND RECLAMATION	CG	9 OTHER	G	10 TOTAL	G
1	Resident population served	000	1									1,507.4	C3	28.2	C3					7.3	C3	1,543.0	C3
2	Amount of sewage sludge	ttds	1									34.8	A2	0.651	B2					0.2	B2	35.6	B2
3	Sludge treatment: direct costs	£000	3									0.000		0.000						3,388.834		3,388.834	
4	Sludge disposal: direct costs	£000	3									2,282.250		62.581						62.017		2,406.847	
5	Sludge treatment & disposal: direct costs	£000	3									2,282.250		62.581						3,450.851		5,795.681	
6	Sludge treatment & disposal: power costs	£000	3									0.000		0.000						2,593.572		2,593.572	
7	Sludge treatment & disposal: service charges	£000	3									0.000		0.000						280.438		280.438	
8	Sludge treatment & disposal: general & support exp.	£000	3									0.000		0.000						2,619.588		2,619.588	
9	Sludge treatment & disposal: functional expenditure	£000	3									2,282.250		62.581						6,070.439		8,415.270	

Table 17g - Sewerage explanatory factors - sludge treatment and disposal information

The methodology has not changed from AIR20. All Sludge is transported and disposed of at the Incinerator or another PPP site. The costs in Table 17g are populated with the information available for the year ended 31 March 2021.

The costs in Table 17g are populated with the information available for the year ended 31 March 2021.

Line 1 - Resident population served

The resident population served is that reported in T17a:L1 as required in the Utility Regulator's guidance documentation

Lines 1.5, 1.6 & 1.9 have been estimated using a pro-rata value based on the total sewage sludge disposal data from SLS and the WW Sludge Management monthly report. The pro-rata population figures have been assigned CGs of C3 accordingly based on the C3 CG of the base population data.

Line 2 – Amount of sewage sludge

This is the total sewage sludge produced (NIW Only) for 2020/21 (tds) as recorded by PPP and monthly by Ww Area Sludge Officers (reconciled using the SLS) and presented in the monthly Sludge Management Report (copy attached) along with an estimated quantity of WwTW & WwPS grit & screenings removed as part of the treatment process and disposed of under Tender C821.

Line 2.5 has been based on the total sewage sludge disposal (NIW Only) data from SLS and the WW Sludge Management monthly report.

Line 2.6 is an estimated quantity of WwTW's & WwPS's grit & screenings removed as part of the treatment process and disposed of under Tender C821.

Line 2.9 is an estimated quantity of WwTW's & WwPS's grit removed as part of the treatment process and collected under Tender C821. This element of grit is sent to ReCon who treat and process the grit into a re-usable material - for use in concrete products.

Line 3 – Sludge Treatment: Direct Costs

Expenditure has been input in Column 9. These costs have remained at AIR20 levels.

Sludge treatment costs for WWTW's are coded using activity 621 and can be separately identified to populate Column 9.

Power costs in AIR21 do not include the Incinerator or any PPP sites.

Line 4 - Sludge Disposal: Direct Costs

Columns 5, 6 and 9 have been populated on this line. The direct costs have decreased by £0.2m since AIR20.

Line 5 - Sludge Treatment & Disposal: Direct Costs

This is a calculated line and is the total of line 3 and line 4. The figure agrees with Table 22 (NIW Total) column 3 line 9. Costs have decreased by £0.2m since AIR20.

Line 6 – Sludge Treatment & Disposal: Power Costs

Power costs associated with Sludge Treatment are used to populate Column 9. Power costs have been allocated to every site through cost to serve. There is only one electric metre at each WWTW's so an estimate was received for each WWTW's from the wastewater field mangers so that a split could be calculated at each works between sludge and sewage treatment at the sites where both activities occur. The power team supplied a split between the Incinerators and Belfast WWTW's which was used apportion a cost to the works. The split for this in AIR20 was 48:52 and in AIR21 is 45:55 for the Belfast and Incinerators (based on an estimated KWhr usage and a number of sub-meters). No costs for the Incinerator have been included in this table in AIR21.

Line 7 - Sludge treatment & disposal: Service Charges

The Service Charges figure is approx. £0.3m in AIR21 and this is similar to what the costs were in AIR20. PPC (Pollution Prevention Control) Permits are included as Sludge Treatment and therefore included in Column 9. The Service Charges figure agrees to Table 22, Line 7 Column 3.

Line 8 - Sludge treatment & disposal: General & Support

This figure was taken directly from Table 22 (NIW only) Column 3 Line 10 and apportioned across the columns in Table 17g based on direct labour costs. This is following the same methodology as AIR20. Overall General and Support costs have increased by £0.3m since AIR20. See Table 22 commentary. A detailed breakdown of general & support is included in the commentary for Table 21 & 22.

Line 9 – Sludge treatment & disposal: Functional Expenditure

This is a calculated line and is the total of Line 5 and Line 8. Total costs have increased by £0.1M due to the reasons given above.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 18 REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)

PROFIT AND LOSS ACCOUNT FOR YEAR ENDING 31 MARCH

				1	2	3	4	5	6	7	8	9
	DESCRIPTION	**UNITS**	**DP**	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
1	Turnover	£m	3	366.398	361.313	364.407	367.287	372.851	381.099	409.662	422.314	412.533
2	Operating costs (excluding HCD)	£m	3	-202.316	-209.933	-205.450	-207.727	-210.758	-219.231	-186.971	-195.772	-209.681
3	Historical cost depreciation	£m	3	-44.871	-48.580	-47.523	-54.364	-55.773	-56.418	-82.165	-84.274	-88.080
4	Operating income	£m	3	0.334	0.276	0.525	0.799	0.656	1.035	0.551	0.467	0.193
5	Operating profit	£m	3	119.545	103.076	111.959	105.995	106.976	106.485	141.077	142.735	114.965
6	Other income	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	Net interest receivable less payable	£m	3	-55.067	-48.580	-51.957	-53.609	-53.804	-56.253	-63.684	-64.374	-62.362
8	Profit on ordinary activities before taxation	£m	3	64.478	54.496	60.002	52.386	53.172	50.232	77.393	78.361	52.603
9	Current tax	£m	3	0.000	0.000	-0.017	-0.017	-0.012	-0.009	0.000	-0.405	0.405
10	Deferred tax	£m	3	-24.872	13.798	-24.037	2.536	-6.430	-18.286	-14.018	-35.032	-11.798
11	Profit on ordinary activities after taxation	£m	3	39.606	68.294	35.948	54.905	46.730	31.937	63.375	42.924	41.210
12	Extraordinary items	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	Profit for the year	£m	3	39.606	68.294	35.948	54.905	46.730	31.937	63.375	42.924	41.210
14	Dividends	£m	3	-26.587	-21.391	-21.562	-22.888	-21.510	-21.153	-23.759	-25.185	-26.619
15	Retained profit for the year	£m	3	13.019	46.903	14.386	32.017	25.220	10.784	39.616	17.739	14.591
	ADDITIONAL DISCLOSURES											
16	IFRIC 18 Income	£m	3							12.303	12.895	9.934
17	IFRS 15 Income	£m	3							34.295	46.713	40.680

Table 18 – HC Profit and Loss account for the year ending 31 March 2021

- Results of unappointed activities are shown separately in the published regulatory accounts.
- There are no exceptional charges or income.
- There are no minority interests.
- PPP charges for 2020/21 can be analysed as follows:

	Gross Charge	Lease repayment	Capital maintenance	HC Depreciation	Net P&L Charge
	£m	£m	£m	£m	£m
[redacted]	20.681	(3.268)	(1.516)	3.953	19.850
[redacted]	29.409	(3.693)	(2.018)	4.412	28.110
[redacted]	2.994	(0.856)	(0.124)	0.381	2.395
Total	**53.084**	**(7.817)**	**(3.658)**	**8.746**	**50.355**

* includes lease interest of Alpha [redacted], Omega [redacted], Kinnegar of [redacted] – shown in line 7 of Table 18.

- PPP elements of line 2 'Operating Costs' are [redacted].
  Additionally within Line 3 'HCD' there are depreciation costs for the Alpha Project of [redacted], Omega [redacted] and Kinnegar of [redacted].

The Current and Deferred tax charge

Factors affecting the tax charge for the current period

The income tax expense in the statutory accounts for the period is £11.246m which is lower than the charge based on the standard rate of corporation tax in the UK (19%). The differences are explained below:

Reconciliation of effective tax rate	**2021 £m**	**2020 £m**
Profit for the year	44.475	46.011
Income tax expense	11.246	35.584
Profit before income tax	**55.721**	**81.595**
Income tax using the Company's domestic tax rate (19%)	10.587	15.505
Reduction in tax rate	-	19.745
Non-deductible expenses	0.397	0.347
Other timing differences	-	-
Adjustment to prior years	0.228	(0.013)
Group relief not chargeable	0.034	-
	11.246	**35.584**

The statutory accounts income tax expense of £11.246m can be shown as follows:

Tax recognised in profit and loss

	2021 £m	**2020 £m**
Current tax expense		
Current year	(1.223)	0.552
Adjustment for prior years	0.671	-
	(0.552)	0.552
Deferred Tax		
(Origination)/ reversal of timing differences	12.241	15.300
Adjustment to prior years	(0.443)	(0.013)
Reduction in tax rate	-	19.745
Tax charge on profit on ordinary activities	**11.246**	**35.584**

This statutory income tax expense of £11.246m under IFRS is shown in the Regulatory Accounts as follows:

	Appointed activities	**Unappointed activities**	**Total**
	£m	**£m**	**£m**
Current tax	(0.405)	(0.147)	(0.552)
Deferred tax	11.798	-	11.798
Total	**11.393**	**(0.147)**	**11.246**

The statutory accounts deferred tax expense of £11.798m is wholly allocated to appointed activities since the temporary tax timing differences associated with the deferred tax charge reside only in the appointed part of the business.

The statutory deferred tax liability at 31st March 2021 is £204.681m. Table 19 shows a deferred tax liability on the appointed balance sheet of £218.763m (with zero balance at 31st March 2021 for unappointed activities). This liability reconciles to the IFRS based statutory accounts balance at 31st March 2021 of £204.681m as the Accounts are required to show the deferred tax asset of £14.082m associated with the pension liability within the deferred tax balance rather than the approach of showing this amount separately within the pension account. The regulatory accounts balance of £204.681m can be summarised as follows:

	2021 £m Excluding Pension	2021 £m Pension	**2021 £m Total**
Opening liability	206.587	(8.078)	**198.509**
Current year deferred tax charge/(credit) to profit and loss account	12.176	(0.378)	**11.798**
Current year deferred tax rate change to the Statement of Total Recognised Gains and Losses (17% to 19%)	-	-	**-**
Current year deferred tax charge to the Statement of Total Recognised Gains and Losses	-	(5.626)	**(5.626)**

Closing liability	218.763	(14.082)	**204.681**

Deferred tax is shown separately in the Regulatory Accounts and rolled up into the balance shown within the pension asset on the balance sheet as follows:

	2021
	£m
Benefit obligation at end of year	(356.202)
Fair value of plan assets at end of year	293.575
Net liability	(62.627)
Less deferred tax	14.082
Pension liability after deferred tax	**(48.545)**

The actuarial assumptions underpinning the valuation of the NIW defined benefit scheme assets and liabilities can be shown as follows:

Weighted average assumptions used to determine benefit obligations at:	**31-Mar-21**	**31-Mar-20**
Discount rate	2.20%	2.30%
Rate of compensation increase	2.60% for the next 2 years, 3.60% thereafter	2.00% for the next 3 years, 3.00% thereafter
Rate of increase in pensions in payment	3.10%	2.50%
Rate of increase in pensions in deferment	3.10%	2.50%
Inflation RPI	3.00%	2.40%
Inflation CPI	2.60%	2.00%
Weighted average assumptions used to determine net pension cost for year ended:	**31-Mar-21**	**31-Mar-20**
Discount rate	2.30%	2.50%
Rate of compensation increase	2.00% for the next 3 years 3.00% thereafter	2.10% for 4 years 3.10% thereafter
Rate of increase in pensions in payment	2.50%	3.15%
Inflation	2.40%	3.10%

Any changes to the assumptions from 2020 to 2021 have been advised by the independent actuaries.

There is a pension liability at 31 March 2021 of £48.545m (after deferred tax).
A dividend of £29.885m was proposed, approved and paid in 2020/21 and thus there is a dividend in Table 18 for the current year.

The approach to dividends is to allocate an amount of dividend to unappointed activities in the year that will reduce the ongoing build-up of cash balances within the unappointed balance sheet. This is achieved by allocating dividend to unappointed activities to achieve nil profit on these activities.

In the year ended 31st March 2021 £26.619m of the statutory dividend of £29.885m was allocated to appointed activities and £3.266m allocated to unappointed activities.

Operating Costs

Cost components in Operating Costs

The following cost components of Line 2 (£209.681m) are provided below:

Employment Costs	59.556m*^
Power	32.576m*
Rates	28.309m*
Contractors	30.604m*
Customer services	6.842m
Materials and consumables	10.711m
General and support expenditure	21.069m
PPP Operating Charges [redacted]	10.076m
PPP Operating Charges [redacted]	12.452m
PPP Operating Charges [redacted]	1.600m
Other	(4.114m)
Total	**209.681m**

* includes an amount relating to unappointed activities that cannot be extracted out for the summary above.
^ stated before an amount is capitalised (see later in commentary).

Interest

Interest received and payable can be summarised as follows:

	£m	£m
Interest received		
Bank Interest	0.008	
Cash Pooling	0.048	
Sub Debt	1.381	
Total Interest received		**1.437**
Interest Payable:		
On bonds held as security	(0.000)	
On all other loans	(52.134)	
On Finance leases	(17.521)	
On Pension Fund	(0.648)	
Total Interest Payable		**(70.303)**
Net Interest		**(68.866)**

Capitalisation of costs

During 2020/21 £16.015m of costs were capitalised from the profit and loss account. This can be broken down as follows:

Cost	£m
Staff Costs	13.375
Labour charge	0.449
Temporary staff	0.113
Consultants	-
Overheads capitalised	2.078
Total	**16.015**

The majority of costs capitalised relate to staff costs and overheads. These costs relate to the NIW staff who spend their time on capital projects e.g. Engineering Procurement or Asset Management staff. These costs will add to the value of the completed asset.

Comparison to prior year and PC15

A comparison to 2019/20 and to PC15 can be shown as follows:

	Actual	Actual	PC15
	2020 - 2021	2019 – 2020	2020 - 2021
	£m	£m	£m
Sales	412.533	422.314	412.718
Expenditure	(297.568)	(279.579)	(299.254)
Net Operating Profit	114.965	142.735	113.464
Operating Margin	*27.9%*	*33.8%*	*27.5%*
Interest payable	(62.362)	(64.374)	(69.908)
Tax charge	(11.393)	(35.437)	(8.322)
Profit for the year	41.210	42.924	35.234
Net Profit Margin	*10.0%*	*10.2%*	*8.5%*

Explanation of variances on sales, operating profit and interest payable are outlined in the commentary to Table 20.

Systems and controls

The company uses the Oracle financial system to produce monthly and annual accounting information. The Oracle General Ledger produces a trial balance and the detailed accounts are summarised to produce the year end statutory accounts. A series of spreadsheets are then used to analyse appointed and non-appointed sales and costs to produce the financial information for the Regulatory Accounts and AIR Tables.

The company is progressing a major project to develop a costing system. In terms of regulatory reporting the main tables requiring costing information are Tables 21 and 22 and the commentaries for these tables detail how an interim costing solution is being used to populate these tables until the new costing system is in place.

This new costing solution is also intended to provide better information for the allocation of costs to non-appointed activities (which is currently based on a set of high level costing assumptions).

Internal Controls

The company continues to place great emphasis on internal financial controls throughout the organisation.

IFRS 15 Income

In 2018/19 the company adopted IFRS 15 and changed its accounting policy such that the value of transfers of assets from customers £40,681k (2020: £46,713k) has been taken to a deferred credit reserve and amortised over the life of the related asset. The amount recognized as income in the current year is £3,498k (2020: £3,250k).

In accordance with IFRS 15, other capital contributions of £9,933k (2020: £12,895k) has been taken to revenue. This is the same as how IFRIC 18 income was previously recognised pre-2018/19. This is shown in the table as IFRIC 18 income for identification purposes.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 18c REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)
STATEMENT OF TOTAL RECOGNISED GAINS AND LOSSES

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
A	CAPITAL EXPENDITURE CATEGORIES											
1	Profit for the year	£m	3	13.019	46.903	14.386	32.017	25.220	10.784	39.616	17.739	14.591
2	Actuarial gains/losses on post employment plans	£m	3	-11.535	8.012	-11.081	4.294	-46.621	41.180	-9.413	-0.353	-23.983
3	Other gains and losses	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	-0.013	0.000	0.000
4	Total recognised gains and losses for the year	£m	3	1.484	54.915	3.305	36.311	-21.401	51.964	30.190	17.386	-9.392

Table 18c – STRGL (HCA)

Line 2 shows £23.983 of actuarial losses on post-employment plans.

The Regulatory Accounts for 2020/21 are based on IFRS and the actuarial loss and fair value loss noted above are taken from the IFRS Statutory Accounts.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 18d REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)
ANALYSIS OF DIVIDENDS AND INTEREST CHARGES FOR YEAR

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
A	**DIVIDEND ANALYSIS**											
1	Dividends in respect of a financial re-organisation	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	Other ordinary dividends	£m	3	-26.587	-21.391	-21.562	-22.888	-21.510	-21.153	-23.759	-25.185	-26.619
3	Total dividends	£m	3	-26.587	-21.391	-21.562	-22.888	-21.510	-21.153	-23.759	-25.185	-26.619
B	**INTEREST ANALYSIS**											
4	Interest receivable/payable on intercompany balances	£m	3	0.000	0.000	0.000	0.000	0.000	0.115	0.361	0.389	0.048
5	Interest receivable/payable in respect of a financial re-organisation	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	Indexation element of index-linked bonds	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	Preference share dividends	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	Other interest receivable	£m	3	0.134	0.112	0.079	0.096	0.070	0.052	0.100	0.063	1.389
9	Other interest payable	£m	3	-44.137	-41.459	-45.367	-46.604	-47.111	-48.414	-44.859	-51.306	-52.134
10	Other finance charges - post employment costs	£m	3	0.849	-0.300	0.155	-0.400	-0.200	-1.600	-0.460	-0.735	-0.648
11	Other finance charges	£m	3	-11.913	-6.933	-6.824	-6.701	-6.562	-6.406	-18.826	-18.261	-17.521
12	Total net interest	£m	3	-55.067	-48.580	-51.957	-53.609	-53.803	-56.253	-63.684	-69.850	-68.866
13	Capitalisation of Interest	£m	3							5.014	5.477	6.503

Table 18d – Analysis of dividends and interest charges

A dividend was proposed and approved in 2020/21 and this is shown on line 2. The full dividend for 2020/21 was £29.885m with £26.619m apportioned to appointed activities and £3.266m apportioned to unappointed activities.

See commentary to Table 18 in relation to the approach to the apportionment of dividend to appointed and unappointed activities.

Interest receivable (£0.048m) relates to intercompany cash pooling interest.

Interest payable of £52.134m is comprised of £52.134m relating to the loan notes held with DfI, £0.000057m relating to interest payable on cash bonds and £0.0002 relating to interest on corporation tax. The interest on loan notes has increased from last year by £0.828m (1.6%). The increase, as in the prior year, is due to the additional interest on the drawdown of £83m additional loan notes in 2020/21. (Generally the interest payable on loan notes will rise year on year as the outstanding liability steadily rises. This occurs as new loans are taken out to cover in year capital expenditure whilst at the same time the loans are not repayable until 2027/2034).

Other finance charges – post employment plans is a cost of £0.648m for the finance interest cost relating to post employment plans calculated by the actuaries of the pension fund at year end.

During 2020/21 an amount of £17.521m (2019/20: £18.261m) has been included as other finance charges. £17.481m of this relates to the imputed interest on the finance lease underpinning the on-balance sheet [redacted] Project. With the change to IFRS in 2018/19, both [redacted] Project became on balance sheet. £0.040m relates to imputed interest on finance leases on the implementation of IFRS 16 Leases in 2019/20.

The following table compares the actual net interest payable and balance of loan notes with the 2020/21 budget and PC15:

	Actual	Budget	PC15
	£m	£m	£m
Net Interest payable	68.865	69.837	81.568*
Loan notes	1,269.560	1,265.560	1,356.244

The drawdown of loans is cumulatively £88.684m less than the PC15 projected for 2020/21. This is primarily driven by reduced funding in the capital programme and a lower working capital requirement than was anticipated particularly for capital creditors.

* Omega interest ([redacted]) and Kinnegar interest ([redacted]) were not included in the FD.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 19 REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)
BALANCE SHEET AS AT 31 MARCH (TOTAL)

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
A	**FIXED ASSETS**											
1	Tangible fixed assets	£m	3	1907.525	1994.848	2073.392	2139.613	2201.787	2262.482	3128.612	3274.623	3414.428
2	Investment - loan to group company	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	Investment - other	£m	3	0.106	0.091	0.091	0.091	0.091	0.091	0.015	5.015	5.000
4	Total fixed assets	£m	3	1907.631	1994.939	2073.483	2139.704	2201.878	2262.573	3128.627	3279.638	3419.428
B	**CURRENT ASSETS**											
5	Stocks	£m	3	2.379	2.021	2.269	2.368	2.347	2.469	2.947	3.554	4.310
6	Debtors	£m	3	28.824	27.167	30.759	29.832	30.386	62.428	70.856	71.492	65.229
7	Cash	£m	3	9.102	1.637	0.792	2.015	0.412	0.723	5.711	1.359	23.860
8	Short term deposits	£m	3	5.300	0.600	0.020	1.000	2.501	2.508	1.270	1.276	1.277
10	Total current assets	£m	3	48.946	31.475	33.840	35.215	35.646	71.701	80.784	77.681	94.676
C	**CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR**											
11	Overdrafts	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	Creditors	£m	3	-118.022	-124.404	-132.752	-131.139	-136.204	-129.195	-128.224	-128.380	-153.551
14	Borrowings	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	Corporation tax payable	£m	3	0.000	0.000	0.000	-0.189	-0.189	0.228	0.232	0.682	0.682
16	Ordinary share dividends payable	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	Preference share dividends payable	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	Total creditors	£m	3	-118.022	-124.404	-133.454	-137.172	-137.314	-128.967	-127.992	-127.698	-152.869
19	Net current assets	£m	3	-69.076	-92.929	-99.614	-101.957	-101.668	-57.266	-47.208	-50.017	-58.193
D	**CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR**											
20	Borrowings	£m	3	-882.560	-911.560	-947.560	-983.560	-1013.560	-1082.560	-1337.867	-1371.904	-1445.962
21	Other creditors	£m	3	-96.187	-95.302	-93.773	-91.751	-89.305	-87.360	-1.500	-0.537	-1.116
22	Total creditors	£m	3	-978.747	-1,006.862	-1,041.333	-1,075.311	-1,102.865	-1,169.920	-1,339.367	-1,372.441	-1,447.078
E	**PROVISION FOR LIABILITIES AND CHARGES**											
23	Deferred tax provision	£m	3	-187.416	-173.693	-197.982	-195.465	-202.263	-221.641	-170.041	-206.586	-218.763
24	Deferred income - grants and contributions	£m	3	-19.456	-19.785	-21.969	-22.301	-23.070	-25.769	-426.885	-483.401	-524.487
25	Post employment asset / (liabilities)	£m	3	-4.123	2.784	-9.304	-5.880	-54.767	-18.915	-29.575	-34.436	-48.545
26	Other provisions	£m	3	-9.589	-10.315	-5.837	-5.035	-4.886	-4.739	-4.170	-3.990	-2.982
F	**PREFERENCE SHARE CAPITAL**											
27	Preference share capital	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	Net assets employed	£m	3	639.224	694.139	697.444	733.755	712.359	764.323	1111.381	1128.767	1119.380
G	**CAPITAL AND RESERVES**											
29	Called up share capital	£m	3	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
30	Share premium	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	Profit and loss account	£m	3	-32.466	22.449	25.754	62.065	40.669	92.633	439.691	457.077	447.690
32	Other reserves	£m	3	171.690	171.690	171.690	171.690	171.690	171.690	171.690	171.690	171.690
33	Capital and reserves	£m	3	639.224	694.139	697.444	733.755	712.359	764.323	1111.381	1128.767	1119.380

Table 19 – HC Balance Sheet as at 31 March 2021

The balance sheet in the published regulatory accounts includes a separate analysis of unappointed activities.

The retained profit for the year is £14.591m (post dividend).

The P&L reserves in the Balance Sheet increased by £14.591m and this movement can be shown as follows:

Retained profit for the year	£14.591m
Pension scheme actuarial losses net of deferred tax	(£23.983m)
Movement in P&L Account	**(£9.392m)**

The regulatory accounts was produced in accordance with international accounting standards in conformity with the requirements of, and as applied in accordance with the provisions of, the Companies Act 2006, for the year end 31st March 2021 as directed by the Utility Regulator.

No minority interests exist.

The elements of PPP included in the table are as follows:

Line 1 - Tangible Fixed Assets

	[redacted]	[redacted]	[redacted]	**Total**
	£m	£m	£m	**£m**
Gross	126.81	150.40	12.89	**290.10**
Acc. Deprec	(44.76)	(49.86)	(7.52)	**(102.14)**
NBV	**82.05**	**100.54**	**5.37**	**187.96**

Line - 13 Creditors falling due within one year

	[redacted]	[redacted]	[redacted]	**Finance lease (IFRS 16)**	**Total**
	£m	£m	£m	£m	£m
Lease obligation due < 1 yr	4.119	4.306	0.243	0.280	**8.948**
Accruals	1.650	16.668	0.855	-	**19.173**
Total	**5.769**	**20.974**	**1.098**	**0.280**	**28.121**

Line 21 - Other creditors falling due after more than one year

	[redacted]	[redacted]	[redacted]	**Finance lease (IFRS 16)**	**Total**
	£m	£m	£m	£m	£m
Lease obligation due > 1 yr	75.107	99.033	0.772	1.580	**176.492**

Significant features and movements

Fixed Assets

Increase of £140m in line with in year additions of £228m, capital contributions of £9.3m, HC depreciation of £88m, disposals of £0.193m.

Debtors

Decreased by £6.263m from £71.492m to £65.229m (8.8%). This is primarily due to:

- Measured, unmeasured and TE debtors increased by £1.8m
- Measured, unmeasured and TE bad debt provision increased by £1.1m
- Accrued income from measured and TE customers decreased by £3.3m.
- VAT receivable debtors increased by £0.6m.
- Dfl Subsidy debtor increased by £0.2m
- Other Prepayments increased by £0.2m
- PPP Capital maintenance increased by £0.3m
- Intercompany debtor cash pooling increased by £1.0m

Cash and Short term deposits

Cash has increased by £22.500m from £1.359m to £23.859m (1,655.63%) and Short term deposits have increased by £0.001m from £1.276m to £1.277m (0.08%).

The cashflow statement in Table 28 illustrates the uses of these cash and deposit monies in contributing to meeting the non Opex expenditure needs for the year. This can be summarised as follows:

Non Opex expenditure

Capex	£171.998m
Net Interest paid	£ 61.109m
Dividend paid	£ 26.619m
Finance Lease payments	£ 8.148m
Increase in cash	£ 22.500m
Increase in deposit monies	£ 0.001m
Additional loan to subsidiaries	£ 1.097m
Total	**£291.472m**

Funded by:

Generated from operations	£197.146m
Grants and contributions	£ 11.076m
Loans	£ 83.000m
Disposal of fixed assets	£ 0.250m
Insurance proceeds	£ 0.000m
Total	**£291.472m**

Deferred tax

The deferred tax balance has increased from £205.586m to £218.763m. An explanation for this has been included in the commentary to Table 18.

Borrowings > 1 year (Capital loan notes)

Borrowings have increased by £83m from £1,186.560m to £1,269.560m. The additions to capital expenditure during the year were £172m. The increase in borrowings were used to partly fund these additions to capital expenditure with the balance of capital being financed through capital contributions and working capital.

Post-employment asset/ (liabilities)

The Pension liability of £34.436m increased to a Pension liability of £48.545m (a change in value of 40.97%).

This can be shown as follows:

	£m
Opening balance at 1.4.20	**(34.436)**
Current Service Costs	(14.333)
Administration Costs	(1.000)
Past Service Costs	(2.500)
Contributions	27.977
Finance Cost	(0.648)
Actuarial Loss	(29.609)
Decrease in Deferred tax asset on liability	6.004
Closing balance 31.3.21	**(48.545)**

Other provisions

Decreased from £3.987m to £2.981m (-25.28%).

This decrease of £1.006m can be summarised as follows:

	£m
Decrease in holiday pay provision	(1.046)
Decrease in Public Liability provision	(0.038)
Increase in Employer Liability provision	0.078
Total	**(1.006)**

PPP – Infrastructure renewals charge (IRC) and expenditure (IRE)

– Capital Maintenance

The table below summarises the IRC, IRE and capital maintenance during 2020/21 in relation to the PPP projects:

	[redacted]	[redacted]	[redacted]	**Total**
	£m	£m	£m	**£m**
IRE	-	-	-	**-**
IRC	-	-	-	**-**
Capital maintenance	0.227	2.706	0.470	**3.403**

[redacted] is treated as 'on balance sheet' and an amount of the unitary charge for [redacted] is deemed to be related to the carrying out of capital maintenance by the operator. For 2020-21 this is confirmed by the operator to be £0.227m. This amount is credited to the Profit and Loss account and debited to [redacted] fixed assets.

[redacted] is treated as 'on balance sheet' and an amount of the unitary charge for [redacted] is deemed to be related to the carrying out of capital maintenance by the operator. For 2020-21 this is confirmed by the operator to be [redacted]. This amount is credited to the Profit and Loss account and debited to Omega fixed assets.

[redacted] is treated as ‘on balance sheet’ and an amount of the unitary charge for Kinnegar is deemed to be related to the carrying out of capital maintenance by the operator. For 2020-21 this is confirmed by the operator to be [redacted]. This amount is credited to the Profit and Loss account and debited to [redacted] fixed assets.

This capital maintenance is assumed to be 100% non-infrastructure and there are no infrastructure additions to [redacted] in 2020-21 (2019-20: nil). There has therefore been no apportionment of IRC in 2020-21 (2019-20: nil).

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 19a ANALYSIS OF BORROWINGS DUE AFTER MORE THAN ONE YEAR (HISTORICAL COST ACCOUNTING)
BALANCE SHEET AS AT 31 MARCH

	1	2	3	4	5	6	7	8	9
	DESCRIPTION	YEARS TO MATURITY years 0dp	PRINCIPAL SUM £m 3dp	Years to maturity x principle sum £m 3dp	REAL COUPON % 2dp	NOMINAL INTEREST RATE % 2dp	FULL YEAR EQUIVALENT NOMINAL INTEREST COST £m 3dp	FULL YEAR EQUIVALENT REAL CASH INTEREST PAYMENT £m 3dp	CARRYING VALUE £m 3dp
A	BORROWINGS IN HEDGING RELATIONSHIPS								
A1	Fixed rate instruments								
1									
~									
50									
A2	Floating rate instruments								
51									
*									
100									
A3	Index linked instruments								
101									
*									
150									
	TOTAL FOR HEDGING INSTRUMENTS								
B	BORROWINGS DESIGNATED AT FAIR VALUE THROUGH PROFIT AND LOSS								
B1	Fixed rate instruments								
151									
*									
200									
B2	Floating rate instruments								
201									
*									
250									
B3	Index linked instruments								
251									
*									
300									
	TOTAL FOR BORROWINGS DESIGNATED AT FAIR VALUE THROUGH PROFIT AND LOSS								
C	OTHER BORROWINGS								
C1	Fixed rate instruments								
301	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	627.560	3765.360	3.75%	5.25%	32.947	32.947	627.560
302	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	20.000	120.000	3.53%	5.03%	1.006	1.006	20.000
303	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	20.000	120.000	3.39%	4.89%	0.978	0.978	20.000
304	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	20.000	120.000	2.98%	4.48%	0.896	0.896	20.000
305	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	10.000	60.000	3.63%	5.13%	0.513	0.513	10.000
306	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	10.000	60.000	3.66%	5.16%	0.516	0.516	10.000
307	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	10.000	60.000	3.77%	5.27%	0.527	0.527	10.000
308	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	20.000	120.000	3.55%	5.05%	1.010	1.010	20.000
309	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	3.30%	4.80%	0.240	0.240	5.000
310	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	15.000	90.000	2.89%	4.39%	0.659	0.659	15.000
311	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	7.000	42.000	2.00%	3.50%	0.245	0.245	7.000
312	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	10.000	60.000	1.87%	3.37%	0.337	0.337	10.000
313	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	15.000	90.000	2.12%	3.62%	0.543	0.543	15.000
314	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	18.000	108.000	2.18%	3.68%	0.662	0.662	18.000
315	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	8.000	48.000	2.14%	3.64%	0.291	0.291	8.000
316	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	8.000	48.000	1.86%	3.36%	0.269	0.269	8.000
317	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	1.72%	3.22%	0.161	0.161	5.000
318	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	20.000	120.000	1.56%	3.06%	0.612	0.612	20.000
319	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	10.000	60.000	1.63%	3.13%	0.313	0.313	10.000
320	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	24.000	144.000	1.72%	3.22%	0.773	0.773	24.000
321	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	2.49%	3.99%	0.200	0.200	5.000
322	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	8.000	48.000	2.60%	4.10%	0.328	0.328	8.000
323	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	2.45%	3.95%	0.198	0.198	5.000
324	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	11.000	66.000	2.41%	3.91%	0.430	0.430	11.000
325	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	2.36%	3.86%	0.193	0.193	5.000
326	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	2.22%	3.72%	0.186	0.186	5.000
327	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	2.41%	3.91%	0.196	0.196	5.000
328	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	1.65%	3.15%	0.158	0.158	5.000
329	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	1.70%	3.20%	0.160	0.160	5.000
330	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	8.000	48.000	1.30%	2.80%	0.224	0.224	8.000
331	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	3.000	18.000	1.11%	2.61%	0.078	0.078	3.000
332	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	13.000	78.000	1.16%	2.66%	0.346	0.346	13.000
333	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	1.56%	3.06%	0.153	0.153	5.000
334	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	8.000	48.000	1.42%	2.92%	0.234	0.234	8.000
335	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	1.17%	2.67%	0.134	0.134	5.000
336	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	6	5.000	30.000	0.98%	2.48%	0.124	0.124	5.000
337	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	1.45%	2.95%	0.148	0.148	5.000
338	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	0.90%	2.40%	0.120	0.120	5.000
339	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	1.21%	2.71%	0.136	0.136	5.000
340	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	1.11%	2.61%	0.131	0.131	5.000
341	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	10.000	130.000	0.93%	2.43%	0.243	0.243	10.000
342	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	28.000	364.000	0.92%	2.42%	0.678	0.678	28.000
343	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	12.000	156.000	1.11%	2.61%	0.313	0.313	12.000
344	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	1.05%	2.55%	0.128	0.128	5.000
345	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	1.08%	2.58%	0.129	0.129	5.000
346	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	0.91%	2.41%	0.121	0.121	5.000
347	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	6.000	78.000	1.07%	2.57%	0.154	0.154	6.000
348	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	8.000	104.000	0.99%	2.49%	0.199	0.199	8.000
349	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	17.000	221.000	1.14%	2.64%	0.449	0.449	17.000
350	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	8.000	104.000	1.16%	2.66%	0.213	0.213	8.000
351	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	10.000	130.000	0.94%	2.44%	0.244	0.244	10.000
352	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	7.000	91.000	0.98%	2.48%	0.174	0.174	7.000
353	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	7.000	91.000	0.84%	2.34%	0.164	0.164	7.000
354	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	15.000	195.000	0.69%	2.19%	0.329	0.329	15.000
355	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	0.02%	1.52%	0.076	0.076	5.000
356	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	15.000	195.000	0.07%	1.57%	0.236	0.236	15.000
357	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	7.000	91.000	0.27%	1.77%	0.124	0.124	7.000
358	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	13.000	169.000	-0.05%	1.45%	0.189	0.189	13.000
359	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	-0.15%	1.35%	0.068	0.068	5.000
360	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	-0.15%	1.35%	0.068	0.068	5.000
361	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	-0.22%	1.28%	0.064	0.064	5.000
362	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	5.000	65.000	-0.20%	1.30%	0.065	0.065	5.000
363	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	15.000	195.000	-0.18%	1.32%	0.198	0.198	15.000
364	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	39.000	507.000	0.00%	1.50%	0.585	0.585	39.000
365	Capital loan note issued under GBP £600m Fixed Coupon Unsecured Loan note instrument 2034	13	9.000	117.000	0.21%	1.71%	0.154	0.154	9.000
366	Finance lease - Capital House (Building)	3	1.109	3.604	0.70%	2.20%	0.024	0.024	1.109
367	Finance lease - Ballywalter (Land)	2	0.101	0.201	0.70%	2.20%	0.002	0.002	0.101
368	Finance lease - Dunore solar panel (Land)	22	0.756	16.631	0.70%	2.20%	0.017	0.017	0.756
369	Finance lease - Dromore WWTW (Land)	3	0.031	0.092	0.70%	2.20%	0.001	0.001	0.031
370	Finance lease - Sea outfalls (Infrastructure)	50	0.387	19.360	0.70%	2.20%	0.009	0.009	0.387
C2	Floating rate instruments								
370									
*									
400									
C3	Index linked instruments								
401									
*									
450									
	TOTAL FOR OTHER BORROWINGS		1271.943				52.783	52.783	1271.943
D	TOTALS		1271.943	9659.249			52.783	52.783	1271.943
E	RPI assumption	1.5%							

F	ANALYSIS	
F	INDICATIVE INTEREST RATES	
F1	Nominal interest	4.1%
F2	Cash interest	4.1%
G	INDICATIVE DEBT PORTFOLIO BREAKDOWN	
G1	Floating rate debt as percentage of total debt	0
G2	Fixed rate debt as percentage of total debt	100.0%
G3	Index linked debt as percentage of total debt	0
G4	Fixed rate debt and index linked debt as percentage of total debt	100.0%
G5	Weighted average years to maturity	8

Table 19a – Analysis of Borrowings due after more than One Year

At 31 March 2021 NIW borrowings related to Capital Loan Notes issued under two loan note agreements; £1,280,200,000 Fixed Coupon Unsecured Loan note 2027 & £600m Fixed Coupon Unsecured Loan note 2034.

The Loan notes were issued under £600m Fixed Coupon Unsecured Loan Note 2034 facility in the period from April 2017 to 31 March 2021 as the £1,280,200,000 Fixed Coupon Unsecured Loan note 2027 facility expired on 31 March 2016.

Both facilities provide finance for capital investment or other purposes approved by the lender, the Department for Infrastructure.

The loan note subscription agreements provide that the loan notes in issue before 31 March 2010 carry a fixed rate of interest of 5.25%. Loan notes issued after this date carry fixed interest rates based on a margin of 0.85% above the reference gilt rate published by FTSE-Tradeweb on the date of issue of the loan note. FTSE-Tradeweb prices are the successor prices to those produced by the UK HM Government Debt Management Office (UK DMO) up until 21 July 2017 when the UK DMO ceased producing reference prices for gilts.

In 2020/21 Capital loan notes were accounted for as held to maturity borrowings.

In addition to the capital loan note instrument NIW had a committed facility available as a £20m overdraft which is available to March 2022. That facility was not utilised during 2020/21.

At 31 March 2021, NIW had finance leases which were created at the inception of IFRS 16 Leases. Any finance leases with amount due after more than one year have been shown separately in the Table itself.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ACTIVITY COSTING ANALYSIS - WATER SERVICE (NIW Only)

	DESCRIPTION	UNITS	DP	1 WATER RESOURCES & TREATMENT	2 WATER DISTRIBUTION	3 WATER SERVICE TOTAL
	SERVICE ANALYSIS - WATER					
A	**DIRECT COSTS**					
1	Employment costs	£m	3	3.872	9.887	13.758
2	Power	£m	3	4.876	3.686	8.562
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	2.627	12.074	14.701
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	5.006	0.075	5.081
7	Service charges	£m	3	0.734	0.000	0.734
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	0.016	0.040	0.055
10	Total direct costs	£m	3	17.130	25.762	42.892
11	General and support expenditure	£m	3	12.772	14.278	27.050
12	Functional expenditure	£m	3	29.902	40.040	69.942
B	**OPERATING EXPENDITURE**					
13	Customer services	£m	3			5.710
14	Scientific services	£m	3			2.096
15	Other business activities	£m	3			0.342
16	Total business activities	£m	3			8.147
17	Rates	£m	3			9.329
18	Doubtful debts	£m	3			0.723
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			88.141
21	Third party services - opex	£m	3			0.000
21a	PPP Unitary Charges (Opex element)	£m	3			
22	Total operating expenditure	£m	3			88.141
22a	Payment by concessionaire to operator	£m	3			
C	**OPEX)**					
23	Reactive and planned maintenance infrastructure	£m	3	0.000	10.992	10.992
24	Reactive and planned maintenance non-infrastructure	£m	3	0.583	5.359	5.942
D	**CAPITAL MAINTENANCE**					
26	Historical cost depreciation (allocated)	£m	3	10.110	20.264	30.374
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities historical cost depreciation (non-allocated)	£m	3			0.001
30	Capital maintenance excluding third party services	£m	3			30.375
31	Third party services - historical cost depreciation	£m	3			0.000
33	Total capital maintenance	£m	3			30.375
34	Total operating costs	£m	3			118.516
E	**ADDITIONAL DISCLOSURES**					
35	Infrastructure renewals charge (excluding third party services)	£m	3	15.418	0.000	15.418
36	Amortisation of deferred credits	£m	3			0.130
37	Third party services - infrastructure renewals charge	£m	3			0.000

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ACTIVITY COSTING ANALYSIS - WATER SERVICE - (PPP Only)

	DESCRIPTION	UNITS	DP	1 WATER RESOURCES & TREATMENT	2 WATER DISTRIBUTION	3 WATER SERVICE TOTAL
	SERVICE ANALYSIS - WATER					
A	**DIRECT COSTS**					
1	Employment costs	£m	3			
2	Power	£m	3	5.600	0.000	5.600
3	Agencies	£m	3			
4	Hired and contracted services	£m	3			
5	Associated companies	£m	3			
6	Materials and consumables	£m	3			
7	Service charges	£m	3	0.089	0.000	0.089
8	Bulk supply imports	£m	3			
9	Other direct costs	£m	3	0.000	0.000	0.000
10	Total direct costs	£m	3	5.689	0.000	5.689
11	General and support expenditure (NIW Only)	£m	3	0.068	0.000	0.068
12	Functional expenditure	£m	3	5.757	0.000	5.757
B	**OPERATING EXPENDITURE**					
13	Customer services	£m	3			
14	Scientific services	£m	3			0.000
15	Other business activities	£m	3			
16	Total business activities	£m	3			0.000
17	Rates	£m	3			7.520
18	Doubtful debts	£m	3			
19	Exceptional items	£m	3			
20	Total opex less third party services	£m	3			13.277
21	Third party services - opex	£m	3			
21a	PPP Unitary Charges (Opex element)	£m	3			10.076
22	Total operating expenditure	£m	3			23.353
22a	Payment by concessionaire to operator	£m	3	8.024	0.000	8.024
C	**OPEX)**					
23	Reactive and planned maintenance infrastructure	£m	3			
24	Reactive and planned maintenance non-infrastructure	£m	3			
D	**CAPITAL MAINTENANCE**					
26	Historical cost depreciation (allocated)	£m	3	3.953	0.000	3.953
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities historical cost depreciation (non-allocated)	£m	3			0.000
30	Capital maintenance excluding third party services	£m	3			3.953
31	Third party services - historical cost depreciation	£m	3			0.000
33	Total capital maintenance	£m	3			3.953
34	Total operating costs	£m	3			27.306
E	**ADDITIONAL DISCLOSURES**					
35	Infrastructure renewals charge (excluding third party services)	£m	3	0.000	0.000	0.000
36	Amortisation of deferred credits	£m	3			0.000
37	Third party services - infrastructure renewals charge	£m	3			0.000

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ACTIVITY COSTING ANALYSIS - WATER SERVICE - (TOTAL)

	DESCRIPTION	UNITS	DP	1 WATER RESOURCES & TREATMENT	2 WATER DISTRIBUTION	3 WATER SERVICE TOTAL
	SERVICE ANALYSIS - WATER					
A	**DIRECT COSTS**					
1	Employment costs	£m	3	3.872	9.887	13.758
2	Power	£m	3	10.476	3.686	14.162
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	2.627	12.074	14.701
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	5.006	0.075	5.081
7	Service charges	£m	3	0.823	0.000	0.823
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	0.016	0.040	0.055
10	Total direct costs	£m	3	22.819	25.762	48.581
11	General and support expenditure	£m	3	12.840	14.278	27.118
12	Functional expenditure	£m	3	35.659	40.040	75.699
B	**OPERATING EXPENDITURE**					
13	Customer services	£m	3			5.710
14	Scientific services	£m	3			2.096
15	Other business activities	£m	3			0.342
16	Total business activities	£m	3			8.147
17	Rates	£m	3			16.849
18	Doubtful debts	£m	3			0.723
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			101.418
21	Third party services - opex	£m	3			0.000
21a	PPP Unitary Charges (Opex element)	£m	3			10.076
22	Total operating expenditure	£m	3			111.494
22a	Payment by concessionaire to operator	£m	3	8.024	0.000	8.024
C	**OPEX)**					
23	Reactive and planned maintenance infrastructure	£m	3	0.000	10.992	10.992
24	Reactive and planned maintenance non-infrastructure	£m	3	0.583	5.359	5.942
D	**CAPITAL MAINTENANCE**					
26	Historical cost depreciation (allocated)	£m	3	14.063	20.264	34.327
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities historical cost depreciation (non-allocated)	£m	3			0.001
30	Capital maintenance excluding third party services	£m	3			34.328
31	Third party services - historical cost depreciation	£m	3			0.000
33	Total capital maintenance	£m	3			34.328
34	Total operating costs	£m	3			145.822
E	**ADDITIONAL DISCLOSURES**					
35	Infrastructure renewals charge (excluding third party services)	£m	3	15.418	0.000	15.418
36	Amortisation of deferred credits	£m	3			0.130
37	Third party services - infrastructure renewals charge	£m	3			0.000

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (NIW Only)

	DESCRIPTION	UNITS	DP	1 SEWERAGE	2 SEWAGE TREATMENT	3 SLUDGE TREATMENT & DISPOSAL	4 SEWERAGE SERVICE TOTAL
	SERVICE ANALYSIS - SEWERAGE						
A	**DIRECT COSTS**						
1	Employment costs	£m	3	4 047	4.483	0 028	8.557
2	Power	£m	3	5.136	8.022	1.171	14.328
3	Agencies	£m	3	0 000	0.000	0 000	0.000
4	Hired and contracted services	£m	3	6 249	2.244	2.409	10.901
5	Associated companies	£m	3	0 000	0.000	0 000	0.000
6	Materials and consumables	£m	3	0 231	0.628	0 513	1.372
7	Service charges	£m	3	0 000	0.759	0 280	1.039
8	Other direct costs	£m	3	0 011	0.012	0 000	0.023
9	Total direct costs	£m	3	15 674	16.147	4.400	36.221
10	General and support expenditure	£m	3	9 643	13.229	2 623	25.495
11	Functional expenditure	£m	3	25 316	29.376	7 024	61.717
B	**OPERATING EXPENDITURE**						
12	Customer services	£m	3				4.642
13	Scientific services	£m	3				1.599
14	Other business activities	£m	3				0.278
15	Total business activities	£m	3				6.518
16	Rates	£m	3				10.053
17	Doubtful debts	£m	3				0.985
18	Exceptional items	£m	3				0.000
19	Total opex less third party services	£m	3				79.273
20	Third party services - opex	£m	3				0.000
20a	PPP Unitary Charges (Opex element)	£m	3				
21	Total operating expenditure	£m	3				79.273
21a	Payment by concessionaire to operator	£m	3				
C	**OPEX)**						
22	Reactive and planned maintenance infrastructure	£m	3	3 217	0.000	0 000	3.217
23	Reactive and planned maintenance non-infrastructure	£m	3	10.199	2.873	0 000	13.072
D	**CAPITAL MAINTENANCE**						
25	Historical cost depreciation (allocated)	£m	3	9.785	38.361	0 813	48.959
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities historical cost depreciation (non-allocated)	£m	3				0.000
29	Capital maintenance excluding third party services	£m	3				48.959
30	Third party services - historical cost depreciation	£m	3				0.000
32	Total capital maintenance	£m	3				48.959
33	Total operating costs	£m	3				128.232
E	**ADDITIONAL DISCLOSURES**						
34	Infrastructure renewals charge (excluding third party services)	£m	3	11 636		0 000	11.636
35	Amortisation of deferred credits	£m	3				3.926
36	Third party services - infrastructure renewals charge	£m	3				0.000

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (PPP Only)

	DESCRIPTION	UNITS	DP	1 SEWERAGE	2 SEWAGE TREATMENT	3 SLUDGE TREATMENT & DISPOSAL	4 SEWERAGE SERVICE TOTAL
	SERVICE ANALYSIS - SEWERAGE						
A	DIRECT COSTS						
1	Employment costs	£m	3				
2	Power	£m	3	0 000	2.280	1.423	3.703
3	Agencies	£m	3				
4	Hired and contracted services	£m	3				
5	Associated companies	£m	3				
6	Materials and consumables	£m	3				
7	Service charges	£m	3				
8	Other direct costs	£m	3	0 000	0.000	0 000	0.000
9	Total direct costs	£m	3	0 000	2.280	1.423	3.703
10	General and support expenditure (NIW Only)	£m	3	0 000	0.155	0 050	0.205
11	Functional expenditure	£m	3	0 000	2.435	1.473	3.908
B	OPERATING EXPENDITURE						
12	Customer services	£m	3				
13	Scientific services	£m	3				0.105
14	Other business activities	£m	3				
15	Total business activities	£m	3				0.105
16	Rates	£m	3				1.407
17	Doubtful debts	£m	3				
18	Exceptional items	£m	3				
19	Total opex less third party services	£m	3				5.420
20	Third party services - opex	£m	3				
20a	PPP Unitary Charges (Opex element)	£m	3				[redacted]
21	Total operating expenditure	£m	3				[redacted]
21a	Payment by concessionaire to operator	£m	3	[redacted]	[redacted]	[redacted]	[redacted]
C	OPEX)						
22	Reactive and planned maintenance infrastructure	£m	3				
23	Reactive and planned maintenance non-infrastructure	£m	3				
D	CAPITAL MAINTENANCE						
25	Historical cost depreciation (allocated)	£m	3	0 000	4.793	0 000	4.793
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities historical cost depreciation (non-allocated)	£m	3				0.000
29	Capital maintenance excluding third party services	£m	3				4.793
30	Third party services - historical cost depreciation	£m	3				0.000
32	Total capital maintenance	£m	3				4.793
33	Total operating costs	£m	3				[redacted]
E	ADDITIONAL DISCLOSURES						
34	Infrastructure renewals charge (excluding third party services)	£m	3	0 000		0 000	0.000
35	Amortisation of deferred credits	£m	3				0.000
36	Third party services - infrastructure renewals charge	£m	3				0.000

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (Total)

	DESCRIPTION	UNITS	DP	1 SEWERAGE	2 SEWAGE TREATMENT	3 SLUDGE TREATMENT & DISPOSAL	4 SEWERAGE SERVICE TOTAL
	SERVICE ANALYSIS - SEWERAGE						
A	**DIRECT COSTS**						
1	Employment costs	£m	3	4 047	4.483	0 028	8.557
2	Power	£m	3	5.136	10.302	2 594	18.031
3	Agencies	£m	3	0 000	0.000	0 000	0.000
4	Hired and contracted services	£m	3	6 249	2.244	2.409	10.901
5	Associated companies	£m	3	0 000	0.000	0 000	0.000
6	Materials and consumables	£m	3	0 231	0.628	0 513	1.372
7	Service charges	£m	3	0 000	0.759	0 280	1.039
8	Other direct costs	£m	3	0 011	0.012	0 000	0.023
9	Total direct costs	£m	3	15 674	18.427	5 823	39.924
10	General and support expenditure	£m	3	9 643	13.384	2 673	25.700
11	Functional expenditure	£m	3	25 316	31.811	8.497	65.625
B	**OPERATING EXPENDITURE**						
12	Customer services	£m	3				4.642
13	Scientific services	£m	3				1.704
14	Other business activities	£m	3				0.278
15	Total business activities	£m	3				6.623
16	Rates	£m	3				11.460
17	Doubtful debts	£m	3				0.985
18	Exceptional items	£m	3				0.000
19	Total opex less third party services	£m	3				84.693
20	Third party services - opex	£m	3				0.000
20a	PPP Unitary Charges (Opex element)	£m	3				[redacted]
21	Total operating expenditure	£m	3				[redacted]
21a	Payment by concessionaire to operator	£m	3	[redacted]	[redacted]	[redacted]	[redacted]
C	**OPEX)**						
22	Reactive and planned maintenance infrastructure	£m	3	3 217	0.000	0 000	3.217
23	Reactive and planned maintenance non-infrastructure	£m	3	10.199	2.873	0 000	13.072
D	**CAPITAL MAINTENANCE**						
25	Historical cost depreciation (allocated)	£m	3	9.785	43.154	0 813	53.752
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities historical cost depreciation (non-allocated)	£m	3				0.000
29	Capital maintenance excluding third party services	£m	3				53.752
30	Third party services - historical cost depreciation	£m	3				0.000
32	Total capital maintenance	£m	3				53.752
33	Total operating costs	£m	3				[redacted]
E	**ADDITIONAL DISCLOSURES**						
34	Infrastructure renewals charge (excluding third party services)	£m	3	11 636		0 000	11.636
35	Amortisation of deferred credits	£m	3				3.926
36	Third party services - infrastructure renewals charge	£m	3				0.000

Tables 21 & 22 Activity Costing Analysis – Water & Sewerage Service

The costs in Tables 21 & 22 are populated with the updated information available at 27th May 2021 for the year ended 31st March 2021. AIR21 costs are reported using IFRS following the change made in AIR19.

Allocation of costs between expenditure types

Expenditure is classified as capital expenditure if it satisfies the following criteria:

- It exceeds the threshold limit set at £1,000 (Note: land has a capital threshold of zero) and,
- It was used for one or more of the following purposes:
    1. Initial construction or purchase of a fixed asset (e.g. land, buildings, vehicles, plant, computers);
    2. Extension of a fixed asset which increases its size or operating capacity;
    3. Improvement of a fixed asset beyond the assets original condition on construction or acquisition;
    4. To substantially extend the original life of a fixed asset;
    5. To renew or replace an existing fixed asset; and
    6. Contributions paid to another body towards the cost of work that would be fixed asset expenditure were it undertaken by NI Water, provided that the resultant ownership of the assets is vested in NI Water.

Some items, individually, may be valued at less than £1,000 but because they form part of an operational configuration they should be capitalised; for example workstations which comprise a monitor, keyboard, central processor, mouse and printer should be capitalised.

Cost includes own work capitalised comprising the direct costs of materials, labour and applicable overheads. Interest costs relating to the acquisition of fixed assets have not been capitalised in AIR21. This is consistent with past years.

Fixed assets comprise:

- **Infrastructure assets**
  Infrastructure assets comprise a network of systems consisting of mains and sewers, impounding and pumped raw water storage reservoirs, sludge pipelines and sea outfalls. The infrastructure renewals charge for infrastructure assets is included in Tables 21 and 22 and is the estimated level of annual expenditure required to maintain the operating capability of the network, which is based on the Company's Asset Management Plan.
- **Other assets**
  Other assets comprise:
  a) Land and non operational buildings;
  b) Operational assets (consisting of sites used for water and wastewater treatment, pumping or storage where not classified as infrastructure); and
  c) Vehicles, mobile plant and equipment.

Allocation of costs between service areas

All costs entered to NI Water's Oracle General Ledger (GL) have a 5-segment coding combination (account, cost centre, service activity, location and project). For the purpose of Tables 21 & 22 Opex costs from the General Ledger have been allocated between Water and Sewerage services and between service areas within the Water and Sewerage activities by mapping NI Water's Oracle General Ledger to the tables using the coding structure.

Expense Groups are mapped to the NIAUR cost categories – **Appendix 1** provides details of this mapping. The Services Activities segment is mapped to the NIAUR service areas – **Appendix 2** provides details of this mapping.

The only exception to this is in direct General & Support expenditure, which can relate to more than one service area or activity. These costs are collated into 5 separate 'Overhead Pots' and are apportioned either on the basis of the directly coded spend; on the basis of the total direct costs or in the case of M&E function costs using a split provided by the business. The quantum of the apportionment of the General Overhead Pots has increased from AIR20 to AIR21 (by circa £8.4M). This is explained in the General & Support section further on in the commentary. The table below shows the basis of apportionment of 'indirect' General & Support expenditure between service activities in AIR21.

Allocation of General and Support		Water		Sewerage			
Description	Amount £	R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp	Comments
G&S Overhead Pot 1	41,334,539	25.4%	29.7%	18.1%	20.4%	6.4%	Non ops general spend. Excludes CS, SS & Regulation
G&S Overhead Pot 2a - Water	481,733	46.1%	53.9%	0.0%	0.0%	0.0%	Water related activities only
G&S Overhead Pot 2b - Sewerage	109,177	0.0%	0.0%	40.3%	45.4%	14.3%	Sewerage activities only
G&S Overhead Pot 3 SA 390	212,285	25.4%	29.7%	18.1%	20.4%	6.4%	Water and sewerage networks spend only
G&S Overhead Pot 3 M&E	9,622,504	19.9%	12.5%	19.5%	48.1%	0.0%	M&E Function split based on split supplied by M&E Function

The percentage splits in AIR21 used to allocate General & Support expenditure are broadly consistent with AIR20. The allocation to Water from General & Support Overhead Pot 1, which contains approx. 80% of the costs, is the main change in allocation where the allocation has decreased from 55.2% in AIR20 to 55.1% in AIR21.

There is no longer any cost associated with the CRC Energy Efficiency Scheme previously included within Power.

During the year NI Water incurred less than £0.1M in fines, associated costs and provisions for fines. These costs are included within General & Support costs. In 2020-21 NI Water has not paid any fines under the Streetworks (NI) Order.

Allocation of costs to business activities and rates

All costs which relate to business activities e.g. Customer Services, Scientific Services and Regulation, were collated using the relevant cost centre segment from the Oracle General Ledger. The total expenditure attributable to these activities is apportioned to Water and Sewerage on the basis of the directly coded spend. This basis is consistent with past returns. The allocation to Water and Sewerage has remained in line with AIR20 at 55.2% and 44.8% respectively.

The table below shows the basis of apportionment for AIR21.

Apportionment of business activities		Water		Sewerage		
Description	Total £	R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp
BASIS - Total spend (Includes general & Support)	87,700,616	25.3%	29.9%	18.1%	20.4%	6.3%
Apportionment						
Water / Sewerage split	100%	55.2%		44.8%		

Rates are coded correctly at source and have fed into the relevant Table. In AIR21 overall rates are split 59.5% Water and 40.5% Sewerage which is broadly consistent with AIR20 where the split was 61.7% Water and 38.3% Sewerage.

Allocation of costs to unappointed activities

A final allocation of costs has been made to unappointed activities based on an assumption that these activities are either charged on a full cost recovery basis, and thus costs broadly

mirror income generated, or the income does not give rise to any additional operational costs (e.g. rents received or fishing rights). This is consistent with previous AIR returns.

Atypical costs and provisions

2020/21 Atypical costs and credits

Description	Amount	Comment
McCloud Pension	£2.1M	Additional pension costs in 20/21 relating to further detailed assessment of potential liability from the McCloud pension judgement.
PPP atypicals	£[redacted]	Primarily relating to performance deductions. See PPP section of this commentary for further information.
BI consultancy	£1.0M	Only BI related consultancy costs are deemed to be atypical. In addition to consultancy costs, NIW also incurred £1.7M in staff related costs and £0.1M in other costs in order to deliver the BI (ACE) programme in 2020-21.
Brexit	£0.4M	Costs arising from Brexit related expenditure.
Covid-19 & RTW	£5.7M	Costs arising from Covid-19 pandemic
Major Incidents	£0.7M	Costs arising from various incidents including demand Surge, Killyhevlin incident and Drought Mitigation.
RPDM & UR	£0.3M	Balance of 2019-20 accruals increased in 2020-21.
VER/VS/IHR costs	£1.1M	Costs incurred through IHR and releasing employees via the VER/VS schemes.
Total	**£**[redacted]	

Business Improvement (BI) Programme.

The Business Improvement Programme, also known as ACE (Achieving Customer Excellence) seeks to address four strategic strands:

- Improve services to Customers;
- Develop the NI Water people;
- Build a more efficient and effective organisation; and
- Exceed, where possible, quality compliance standards.

Total opex on the BI Programme in AIR21 was £2.9M which is £0.2M higher than AIR20 (£2.7M). This is due to an increase in Consultancy Fees (£0.4M) offset by a decrease in Salaries (£0.2M).

Voluntary Early Retirement / Voluntary Severance / Ill Health retirement

During 2020-21 NI Water further reduced the workforce resulting in the release of Voluntary Early Retirement (VER), Voluntary Severance (VS) and Ill Health Retirement schemes. Further details on the staff reduction programme is contained within the Annual Report.

The payments made during the year totalled £1.1M in relation to the 2020-21 scheme which is an increase of £0.9M from AIR20.

Negative Opex

NIW generate income from the sale of electricity and Renewable Obligation Certificates (ROCs) by way of water turbine and solar installations and from payments made for participation in the security of electricity supply back up services. In 2020-21 this income

amounted to £1.0M which is an decrease of £0.2M from AIR20. This was mostly driven by reduced output.

Employment Costs

Staff costs for total NI Water come to circa £59.9M as detailed below which has increased from AIR20 (£56.6M). These costs include the £1.1M VER\VS costs outlined above. Only circa £22.3M is included in Employment Costs (Line 1) in Tables 21 & 22 (AIR20 circa £23.4M).

The table below provides the reconciliation between these amounts:

Description	**Amount**	**Table 21/22 location**
Industrial Wages	£18.5M	
Salaries	£38.6M	
Temporary Staff	£1.0M	
Other Costs of Employment	£1.4M	
Staff Expenses	£0.4M	
Total NI Water staff costs	**£59.9M**	
Less:		
Customer Services	(£5.2M)	Customer Services
Scientific Services	(£2.1M)	Scientific Services
Regulation	(£0.6M)	Other Business Activities
Unallocated	(£29.7M)	General & Support
Total Employment Costs	**£22.3M**	**£13.8M Table 21 and £8.5M Table 22**

The unallocated amount of circa £29.7M is included in General & Support and has been apportioned between Table 21 and 22, across each of the columns, based on total direct costs, with the exception of M&E Employment costs which are allocated on the basis of a split provided by the business.

Total NI Water staff costs have increased by approximately £3.3M from AIR20 (£56.6M) due to an increase in Industrial Wages of £0.8M and an increase in Salaries of £2.5M.

Wages and Salaries have increased due to an increase in the pension provision (£2.1M). This has been accounted for through Unallocated Employment Costs and apportioned to Table 21 & Table 22 through General & Support Costs. The remainder of the increase relates to annual pay increases.

Hired & Contracted

Hired and Contracted Services of circa £25.6M in Table 21 and Table 22 are split out in the table below. The corresponding charge in the AIR20 was circa £21.2M.

Hired & Contracted Services:	**Table 21**	**Table 22**	**TOTAL**
Operational Contractors	£13.7M	£10.8M	£24.5M
Other Contractors	£0.8M	£0.0M	£0.8M
Outsourcing	£0.2M	£0.1M	£0.3M
Consultants	£0.0M	£0.0M	£0.0M
TOTAL	**£14.7M**	**£10.9M**	**£25.6M**

Within the Contractors costs of £14.7M in Table 21, circa £2.6M relates to the cost of contractors for Water Treatment with the balance being the cost of contractors to facilitate the maintenance of the networks. This is a £2.7M increase on AIR20 which will be explained

in Table 21 Line 4 below. Within the Operational Contractors cost of £10.9M in Table 22, circa £2.4M is for the cost of the various Sludge Disposal Routes, circa £6.2M is for the maintenance of the Sewerage network and the balance relates to the costs of Sewage Treatment (including the costs of Skip Hire etc.). The cost of the maintenance of the Sewerage Network has increased by £1.0M from AIR20. This will be explained in Table 22 Line 4 below.

There is no spend on Consultants Fees within Hired and Contracted in AIR21.

General & Support Costs

General & Support costs have increased by circa £8.4M from AIR20 (£44.4M) to AIR21 (£52.8M).

The principal costs in this expenditure line are:

Description	Amount	Table 21/22 location
Unallocated Employment Costs	£29.7M	Included in General & Support (Removed from Employment Costs)
Unallocated Power	£0.3M	Included in General & Support (Removed from Power Costs)
Unallocated Hired & Contracted Costs	£9.0M	Included in General & Support (Removed from Hired & Contracted)
Unallocated Materials & Consumables	£2.1M	Included in General & Support (Removed from Materials & Consumables)
Unallocated Other Direct Costs	£6.8M	Included in General & Support (Removed from Other Direct Costs)
Communication	£0.8M	General & Support
Mobile V&P Charges	£1.6M	General & Support
Other	£2.5M	General & Support
Total	**£52.8M**	**£27.1M Table 21 and £25.7M Table 22**

General & Support costs were apportioned across Table 21 & Table 22 based on either the total direct costs allocated to each column or in the case of the M&E Function based on a split as supplied by the Function. Service Activities are mapped to the NIAUR service areas in **Appendix 2**. This approach was consistently applied to both AIR21 and AIR20. See the **Allocation of costs between service areas** section at the start of the commentary.

The main difference from AIR20 is in Unallocated Employment Costs (£3.8M increase). Other significant differences include Other Direct Costs (£2.6M increase) as well as Hired and Contracted Costs (£2.3M increase).

The increase in Unallocated Employment Costs has been explained under Employment Costs.

The increase in Other Direct Costs relates to higher Insurance Premiums (£1.0M) as a result of hardening in insurance market and Legal and Professional Fees (£1.2M) as a result of framework tender legal costs and lower than expected costs in AIR20 relating to Omega and fines.

The increase in Hired and Contracted costs relates to higher contractor costs driven by the Covid pandemic (£1.4M), higher outsourcing costs following the closure of TMG garages and outsourcing of Vehicle and Plant Maintenance (£0.4M) and higher Consultants Fees driven by PC21 transformation consultancy (£0.6M).

Table 21 PPP only

Line 2 - Power costs

Power costs for the PPP Alpha sites of £5.600m has decreased by 1.1% from the AIR20 reported figure of £5.662m. This reduction is due to a combination of reduced volumes of water taken from PPP Alpha sites (circa 3.6%) and a reduction in Average Price Per Unit, APPU (circa 2.5% at total NI Water level).

Line 7 - Service charges

This line includes the costs of abstraction licences at each of the PPP Alpha sites. The figure has increased by an inflationary amount from AIR20.

Line 11 - General & support expenditure

General and support expenditure has been calculated on the same basis as in AIR20. These costs have decreased from that reported in AIR20 (£68k vs £95k) largely due to a reduction in time inputs from the PPP team. There is also a consultancy costs credit allocated to Alpha.

Line 14 - Scientific services

The company does not incur any net costs associated with scientific services for Alpha as costs are offset by a reduction in the payment to the PPP Concessionaire.

Line 17 - Rates

Rates costs allocated to PPP have increased by 1.6% from AIR20 (£7.520m vs £7.405m in AIR20). This is due to of a lower overall cumulo charge in 2020-21 (0.5% reduction) coupled with a higher proportion of DI being taken from PPP sites (44.8% vs 43.9% in AIR20).

Line 21a - PPP unitary charges (Opex)

This line data is drawn directly from the Company's accounts. No additional reconciliation is required.

During the reporting year the Alpha Concessionaire recognised performance deductions of £0.170m and this is reflected in the £10.076m opex charge. The charge also includes an atypical credit of £0.632m as follows:

Quality Monitoring Change credit	(£0.497m)
EIB Step-down	(£0.090m)
Refund in respect of reorganisation costs	(£0.066m)
Operational costs repayable	£0.041m
Performance deductions (historic)	(£0.020m)
Total	**(£0.632m)**

Further details on each of these are given in the commentary to table 42 line 10.
The increase of £0.527m in the unitary charge cost from AIR20 is made up as follows:

Inflationary increase in capacity charge	£0.198m
Increase in volumetric charge (inflation and flow related)	£0.233m
Decrease in performance deductions	£0.189m
Decrease in atypical credits	£0.012m
Increase in amounts capitalised	(£0.321m)
Decrease in interest element of charge	£0.216m
	£0.527m

Line 22a - Payment by concessionaire to operator

Inputs for this line are obtained directly from the PPP contractor.

Table 21 – NI Water Total

A - Direct Costs

Table 21 Total Expenditure has increased by circa £7.7M from AIR20 to AIR21. This is mainly driven by increases in Hired and Contracted £2.7M and General and Support expenditure £5.6M detailed below. Various other variances which are explained on a line by line basis below:

- Line 1: Employment costs have decreased by circa £0.4M from AIR20. This is due to the closure of TMG garages and the outsourcing of Vehicle and Plant Maintenance. Costs were previously allocated to the various functions using 611X – Cost Reallocations, which is reported under Employment Costs, but costs are now reported under Hire and Contracted Services.
- Line 2: Power costs include electricity costs and fuel costs for power generation. Overall the costs have decreased by £0.1M from AIR20. The reason for this is due to a decrease in energy tariffs.
  Power costs include £5.6M related to PPP.
- Line 3: Agencies – there are no costs in this line.
- Line 4: Hired and Contracted Services have increased by circa £2.7M from AIR20. The increase has been driven by an increase in Water Distribution (WD) where the Covid-19 pandemic led to additional costs in both leakage detection and network maintenance. There was also cost increases relating to a new network repair contract.
- Line 5: Associated companies – there are no costs in this line.
- Line 6: Materials & Consumables have decreased from AIR20 by £0.8M. This is mainly within Water Distribution where Networks Stores items were allocated across NIW for use during the Covid-19 pandemic.
- Line 7: Service Charges – the costs are £0.8M with the majority of the costs in WRT for abstraction licences. These are consistent with AIR20. Service Charges include circa £0.1M for PPP.
- Line 8: Bulk Supply imports – there are no costs in this line.
- Line 9: Other Direct Costs are immaterial and in line with AIR20.
- Line 10: Total Direct Costs – this is a calculated line and is the total of Line 1-9. AIR21 direct costs are £1.4M higher than AIR20. This is driven by the increase in Hired and Contracted offset by the decrease in Materials and Consumables as detailed above.
- Line 11: General & Support expenditure has increased by circa £5.6M from AIR20 to AIR21. The reason for the increase in the costs in Table 21 is the increase in the overall General & Support expenditure (as already discussed).

  The percentages used are calculated on the total of Direct Costs for General & Support Pot 1 & 2 which have remained in line with AIR20. See the Allocation of costs between service areas section at the start of the commentary. Service Activities are mapped to the NIAUR service areas in **Appendix 2**.
  The NI Water total costs are immaterial for PPP.
- Line 12: This is the calculated total line for functional expenditure which has increased by £7.0M from AIR20 as a result of the increase in Total Direct Costs as already discussed above and the increase in General & Support Costs as explained in Line 11 above. Line 12 includes £5.8M of costs associated with PPP (AIR20 £5.8M).

B - Operating Expenditure

- Line 13: Customer Services costs have remained in line with AIR20 in Table 21. Customer Services costs are apportioned based on the percentage of direct costs from Table 21 & 22. In AIR21 the percentage split was calculated at 55.1% Table 21 and 44.9% Table 22. In AIR20 the percentage split was 55.2% and 44.8% between Table 21 & 22 respectively.
- Line 14: Scientific Services costs have remained in line with AIR20. Scientific Services costs have been split using the same percentage basis as Customer Services as detailed above in line 13.
- Line 15: Other Business Activities – Regulatory costs have decreased £0.1M from AIR20 as a result of lower regulation consultancy costs. These costs are apportioned on the same basis as Line 13 and Line 14.
- Line 16: Total Business Activities – this is a calculated line and is the total of Line 13, 14 and 15 and is in line with AIR20 as detailed above.
- Line 17: Local authority rates have decreased £0.1M from AIR20. During 20-21 LPS carried out a revaluation exercise on NIW assets which resulted in an increase in NAV (Net Annual Value) from 19-20 of 12%. This increase was offset by a reduction in poundages due to COVID19. Rates include circa £7.5M relating to PPP sites.
- Line 18: Doubtful debts have increased by £0.3M from AIR20 to recognise the risk arising to certain businesses from the COVID-19 pandemic. The doubtful debts have split between Table 21 and Table 22 on a specific line by line basis, consistent with what was done in AIR20.
- Line 19: Exceptional items– there are no costs in this line.
- Line 20: Total Opex less third party services – this is a calculated line and is the total of line 12,16,17,18 and 19. This has increased by circa £7.2M from AIR20 driven by the increases in the costs as detailed above.
- Line 21: Third party services are immaterial.
- Line 21a: Total PPP Unitary Charge has increased by circa £0.5M from the AIR20 charge at £10.1M in AIR21. See Table 42 commentary for details.
- Line 22: Total operating expenditure, this is a calculated line and is the total of line 20, 21 and 21a. This line has increased by £7.7M from AIR20 due to the increase in the costs as discussed. This agrees to Table 35 line 24.
  Total operating expenditure includes circa £23.4M relating to PPP (AIR20 £22.8M).
- Line 22a: This figure has increased £0.8M from AIR20 and can vary from year to year depending upon volumes of water dispatched, changes in the volumetric charge, deductions incurred and indexation. See Table 42 commentary for details.

C Reactive & Planned Maintenance

- Line 23: Infrastructure, this figure has increased by circa £0.5M from AIR20. This is as a result of an increase in Leakage detection costs.
- Line 24: Non-infrastructure, this figure has increased by circa £0.2M from AIR20. This is as a result of an increase in Hired and Contracted costs relating to Service Reservoirs.

Leakage costs

Operating costs relating to leakage have increased from £7.3M in AIR20 to £8.8M in AIR21. This is due to an increase leakage detection resources and leakage defect repair costs in a drive to meet PC15 leakage target. Capital expenditure has remained consistent from AIR20 to AIR21.

Table 22 PPP only

Line 2 - Power costs

Power costs have increased from AIR20 by 2.2%. This included a 1.2% reduction in sewage treatment and an 8.3% increase in sludge treatment & disposal. There were a number of factors reducing cost including lower average tariffs in the reporting year and a reduction in wastewater volumes. These reductions were offset by higher power usage at the incinerator due to higher incinerated volumes.

The allocation of the Ballynacor site costs between Sludge & WW has been revised to reflect actual usage, however there is still a 1 year lag with 2019-20 actuals being used as a proxy for 2020-21 as outturn reports are not available until July. The allocation to sludge has decreased from 16.60% in AIR20 to 15.26% in AIR21. All other allocations are consistent with AIR20.

Kinnegar: Power costs are not recorded as

i) they are not paid directly by the Company and
ii) they are part of the Unitary Charge payment to the Concessionaire.

Line 8 - Other direct costs

Nil

Line 10 - General & support expenditure

The general and support expenditure has been calculated in the same way as for AIR20 reflecting all costs associated with P101 cost centre. These costs have reduced slightly [redacted] vs [redacted] in AIR20) from that reported in AIR20 due to a reduction in consultancy costs incurred.

Total general and support costs associated with the Omega contract were calculated at [redacted] and two sevenths of this has been allocated to column 3 to reflect costs associated with Duncrue and Ballynacor sludge facilities, the remaining five sevenths are associated with the 5 Omega WWTW facilities and are reported along with Kinnegar in column 2.

Line 13 - Scientific services

Scientific Services costs reflect the contract sampling and analysis costs borne by the Company in providing its sampling and analytical contractual obligations to the Kinnegar and Omega Facilities in Service: Kinnegar, North Down, Richhill, Ballyrickard, Ballynacor and Armagh. This cost has reduced from AIR20 ([redacted] vs [redacted] in AIR20) mainly as a result of lower number of samples at Kinnegar.

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Line 16 - Rates

The rates figure for Kinnegar and each of the Omega sites were taken directly from the rates bills. The bill for the Duncrue site was allocated between PPP and NIW in line with the total area of the site occupied by PPP. PPP occupy 15% of the Duncrue site. The increase in rates cost in AIR21 is 23% relative to AIR20. This increase is tied into a recent rates revaluation with the total NAV on the sites increasing by c40%.

Line 20a - PPP unitary charges (Opex)

Kinnegar costs have increased by [redacted] from [redacted] in AIR20 to [redacted] in the reporting year. The difference is largely due to a movement in atypical credits of [redacted] and has been set out below:

Increase in volumetric charge (inflation and flow related)	[redacted]
Increase in atypical credits	
Increase in amounts capitalised	
Decrease in interest element of charge	

Omega costs have increased by [redacted] from [redacted] in AIR20 to [redacted] in the reporting year. The movements causing this increase have been set out below and is mainly due to higher variable costs.

Decrease in volumetric charge (inflation and flow related)	[redacted]
Increase in atypical credits	
Increase in amounts capitalised	
Decrease in interest element of charge	

This line includes atypical credits of [redacted] on Omega. Further details on all of these atypical amounts are given in the commentary to line 10 of table 42.

Line 21a - Payment by concessionaire to operator

Inputs for this line are obtained directly from the PPP contractor.

Table 22 – NI Water Total

A - Direct Costs

Total Expenditure in Table 22 has increased £6.7M from AIR20. This is mainly driven by an increase in Hired and Contracted of £1.7M, an increase in General and Support costs of £2.8M and various other variances which are explained on a line by line basis below:

- Line 1: Employment costs have decreased by circa £0.8M from AIR20. This is due to the closure of TMG garages and the outsourcing of Vehicle and Plant Maintenance. Costs were previously allocated to the various functions using 611X – Cost Reallocations, which is reported under Employment Costs, but costs are now reported under Hire and Contracted Services.
- Line 2: Power costs include electricity costs and fuel costs for power generation. Overall the costs have increased by £0.3M in AIR21 from AIR20.

  In AIR21 the Wastewater Field Managers provided a percentage estimate of power costs between Sewage Treatment and Sludge Treatment at each of the WWTWs where there are both activities. These percentages were applied to the power costs to calculate the costs for each activity. This is the same rationale as AIR20.

  There is one electricity meter at Duncrue Street which includes the costs for the Belfast WWTWs and the Incinerators which are operated by PPP. The power team supplied an estimated 45:55 split between the Belfast WWTWs and the Incinerators (based on an estimated KWhr usage and a number of sub-meters) which has been used to calculate the amount relating to Sewage Treatment at Belfast and Sludge Treatment at the Incinerators. In AIR20 the estimated split was 48:52.

  Power costs include £3.7M for PPP (AIR20 £3.6M).

- Line 3: Agencies – there are no costs in this line.
- Line 4: Hired and Contracted services have increased £1.7M from AIR20. This is due to an increase in Sewerage costs where the Covid-19 pandemic led to additional costs.
- Line 5: Associated companies– there are no costs in this line.
- Line 6: Materials & Consumables have decreased £0.1M from AIR20.
- Line 7: Service Charges are in line with AIR20.
- Line 8: Other Direct Costs are immaterial.
- Line 9: Total Direct Costs – this is a calculated line and is the total of lines 1-8. AIR21 direct costs are £1.2M higher than AIR20. This is driven by the increase in Hired and Contracted costs as detailed above.
- Line 10: General & Support expenditure has increased by circa £2.8M from AIR20 to AIR21. The reason for the increase in the costs in Table 22 is the increase in the overall General & Support expenditure (as already discussed).

  The percentages used are calculated on the total of Direct Costs for General & Support Pot 1 & 2 which have remained in line with AIR20. Service Activities are mapped to the NIAUR service areas in **Appendix 2**. See the **Allocation of costs between service areas** section at the start of the commentary.
  The NI Water Total costs include circa £0.2M for PPP. This is consistent with AIR20.
- Line 11: This is the calculated total line for Functional Expenditure which has increased by £4.1M. This increase is driven by the increase in Hired and Contracted costs and the increase in General & Support Costs as discussed above. Line 11 includes costs of £3.9M associated with PPP (AIR20 £3.8M).

B - Operating Expenditure

- Line 12: Customer Services costs have remained in line with AIR20 in Table 22. Customer Services costs are apportioned based on the percentage of direct costs from Table 21 & 22. In AIR21 the percentage split was calculated at 55.1% Table 21 and 44.9% Table 22. In AIR20 the percentage split was 55.2% and 44.8% between Table 21 & 22 respectively.
- Line 13: Scientific Services costs have remained in line with AIR20. Scientific Services costs have been split using the same percentage basis as Customer Services as detailed above in line 12.
- Line 14: Other Business Activities – Regulatory costs have decreased £0.1M from AIR20 as a result of lower regulation consultancy costs. These costs have been apportioned on the same basis as line 12 and line 13.
- Line 15: Total Business Activities – this is a calculated line and is the total of Line 12, 13 and 14. This has remained in line with AIR20.
- Line 16: Local authority rates have increased by circa £0.9M from AIR20. During 20-21 LPS carried out a revaluation exercise on NIW assets which resulted in an increase in NAV (Net Annual Value) from 19-20 of 23%. This increase was partially offset by a reduction in poundages due to COVID19.
- Line 17: Doubtful debts have increased by £0.4M from AIR20 to recognise the risk arising to certain businesses from the COVID-19 pandemic. The doubtful debts have split between Table 21 and Table 22 on a specific line by line basis, consistent with what was done in AIR20.
- Line 18: Exceptional items– there are no costs in this line.
- Line 19: Total Opex less third party services – this is a calculated line and is the total of Line 11, 15, 16, 17 and 18. This has increased by £5.4M from AIR20.
- Line 20: Third party services are immaterial.
- Line 20a: Total PPP Unitary Charge has increased by circa £1.3M from AIR20. See Table 42 commentary for details.
- Line 21: Total operating expenditure, this is a calculated line and is the total of line 19, 20 and 20a. This line has increased by £6.7M from AIR20.
  Total operating expenditure includes £19.5M of costs associated with PPP (AIR20 £17.8M).
- Line 21a: Payments to Operators for Sewerage Services has changed to reflect:
  i) The variation in flows (and loads; in the case of Kinnegar) received from the NIW Catchment upon which the Contractor / Concessionaire and Operators revenue payments are based;
  ii) Any non-performance issues encountered by either Operator under their own contract arrangements with the Contractor / Concessionaire.
  The costs have increased by £0.2M to £12.4M in AIR21.

C - Reactive & Planned Maintenance

- Line 22: Infrastructure, this figure has increased £0.7M from AIR20 to £3.2M. This is due to an increase in Blockage and Maintenance costs.
- Line 23: Non-infrastructure, this figure has increased by circa £0.3M from AIR20 to £13.1M. This is due to an increase in Power costs relating to Pumping.

Reactive and planned maintenance

The overall approach and allocation process for Tables 21 and 22 has remained consistent with AIR20. However there still remain some limitations to the coding which means that some expenditure, for example building and ground maintenance, cannot be split separately.

Pensions

Pension costs per the actuarial information at 31st March 2021 were £18.5M (AIR20 £17.5M) which amounts to £17.9M before interest costs of £0.6M (AIR20 £16.8M before interest costs of £0.7M) and these were charged to the profit and loss account. This is made up of current service costs of £14.3M (AIR20 £13.3M) and past service costs of £2.5M (AIR20 £2.5M). These costs have been included in general and support costs and employment costs in Tables 21 and 22 on the basis outlined in the cost allocation section above.

The total employer pension contributions for the year were £28.0M, of which £12.0M were normal employer contribution and £16.0M were additional employer contributions, (AIR20 £11.5M) including £Nil relating to payment of 2019/20 past service costs.

These costs have been included in general and support costs and employment costs in Tables 21 and 22. Pension costs for those employees who can be directly attributed to service or business activities will be mapped directly to these areas via the wages and salaries codes as outlined in the cost allocation methodology. Pension costs that relate to either employees not engaged directly on service/business activities or that relate to past service costs (i.e. VER provision) will be apportioned to activities in line with the treatment of general and support expenditure as detailed in the cost methodology.

Pension costs and finance charges associated with employees involved with unappointed activities have not been specifically excluded from pension figures within the profit and loss account. However as noted in the costing section above an estimate of the costs of unappointed activities has been adjusted for during the costs allocation process and it has been assumed that an element of this allocation would cover pension costs.

The pension fund at 31st March 2021 has remained in a liability position.

Further disclosures on pensions are contained in the statutory accounts which are based on the company's actuarial report at 31st March 2021.

Third party costs

Third party costs remain negligible in AIR21 and relate primarily to services recharged to third parties. The associated income is reported in Table 23 as third party income.

Infrastructure Renewals Charge (IRC)

See Commentary for Table 33.

Appendix 1 – Expense group mapping

Expense Group	Desc	Table 21 & 22 mapping
511X	Industrial Wages	Employment
513X	Other Wage Costs	Employment
514X	Other Costs of Employment	Employment
515X	Salaries	Employment
516X	Non-Industrial Expenses	Employment
517X	Temporary Support Staff	Employment
611X	Cost Reallocations	Employment
612X	N/A	Employment
613X	N/A	Employment
614X	N/A	Employment
521X	Power	Power
531X	Operational Contractors	Hired and Contracted
532X	Other Contractors	Hired and Contracted
534X	Out sourcing	Hired and Contracted
538X	Consultants Fees	Hired and Contracted
541X	Materials and Equipment	Materials & consumables
544X	Non Operations Materials	Materials & consumables
547X	Stock Adjustments	Materials & consumables
548X	Chemicals	Materials & consumables
5562 & 5565	Environmental Regulator & Crown Estates	Service Charges
536X	Office and Computer Services	Other direct costs
537X	Legal and other professional fees	Other direct costs
551X	Accommodation	Other direct costs
553X	Insurance - Premiums	Other direct costs
553Y	Insurance - Claims	Other direct costs
554X	Public Liability	Other direct costs
555X	Employer's Liability	Other direct costs
616X	N/A	Other direct costs
695X	Management Task	Other direct costs
759X	Overheads Capitalised	Other direct costs
518X	Staff Training & Hospitality	General & support
533X	V&P repairs	General & support
539X	Audit	General & support
546X	Mobile V&P Charges	General & support
552X	Communication	General & support
556X	Other Grants and Subscriptions	General & support
557X	Advertising and Publicity	General & support
641X	Intra Departmental Notionals	General & support
651X	Inter Departmental Notionals	General & support
772X	Bad Debts	Doubtful debts
775X	Discount Allowed	Customer services
558X	Rates	Rates
5561	Regulatory Costs	Other Business Activities
534Y	PPP	PPP unitary charge

Appendix 2 – Service activity mapping

NIW Service Activity	Service Activity description	Table 21/22 Mapping
310	Pumping (Inc Highlift at WTW)	Water - Distribution
311	Service Resv Wat Tower Tanks	
312	Service Resv cleaning	
313	Distribution and Water Operations	
320	Repair and Maintenance (Mains Repair)	
321	Repair and Maintenance (Service Repair)	
322	Repair and Maintenance (Hydrant & Valve Repairs)	
323	R&M (NIFRS Hydrant & Valve Repairs)	
324	Repair and Maintenance (Mains Cleansing)	
326	Repair and Maintenance (Lead Replacement)	
331	Repair and Maintenance of 'Street Furniture' (Water)	
340	Leakage - Monitoring	
341	Leakage - Detection	
342	Hydrant & Valve Repairs as identified by	
343	Service Repairs as identified by active	
344	Mains Repairs as identified by active Le	
351	Consumer Meter Repair & Maintenance	
360	Investigations	
362	Customer Contacts excluding meter query	
363	Regulatory Plumbing Inspection	
380	'In House' Investigations and Attendance	
385	Health & Safety - Networks	
391	Networks Function Activity -Query	
399	Networks Stores	
920	Connection (Water)	
110	Impounding Reservoir	Water - Resource & Treatment
111	Loughs	
112	River Intakes	
113	Boreholes,Springs & Wells	
120	Repairs & Maint A/duct/Main	
140	Recreation & Amenity	
150	Water Treatment	
151	Water Sludge Treatment	
152	Water Sludge Disposal	
185	Health & Safety - Supply	
190	Supply Function Activity	
191	Supply Function Activity - Query	
822	Instrumental Control Activity M & E Water Supply	
410	Repair & Maintenance of Sewers	Sewerage - Sewerage
411	Blockage	
412	Desilting	
413	Inspection of Sewers	
414	Repair and Maintenance of 'Street Furniture' (Sewerage)	
415	Sewerage Tankering	
430	Pumping (Foul & Combined)	
431	Pumping (Surface Water)	
460	'In House' Investigations and Attendance	
462	Rodent Control	
940	Rechargeable (Sewerage)	
950	Connection (Sewerage)	
510	Sewage Treatment	Sewerage - Sewage Treatment
591	Waste Water Function Activity - Query	
620	Sludge Treatment - Tankering Between Works	Sewerage - Sludge Treatment
621	Sludge Treatment	
630	Sludge Disposal to Agricultural Land Transportation	
631	Instrumental Control Activity M & E WasteWater	
632	Sludge Cake Transportation to Landfill	
633	Sludge Cake Disposal to Landfill	
635	Sludge Logger Maintenance (Contract)	
636	Incinerator Sludge Treatment	
637	Sludge Disposal Tankering from Strategic Collection Centres to Dewatering Centres	
638	Sludge Cake Disposal to Incinerator	
639	Incinerator Ash Disposal to Landfill	
640	Private Septic Tank Desludging	Customer Services
710	General	
711	Customer Services (Meter Read & Customer Queries)	
712	Disconnection / Reconnection	
714	Consumer Meters Repair And Maintenance	
790	Customer Services Function Activity	
730	Water Analysis	Scientific Services
731	Sewerage General	
732	Labs Water & Sewerage General	
733	Sampling	
734	Labs Sewage Sampling	
003	Rates DRC - Water	Rates
013	Rates DRC - Sewerage	
910	Rechargeable Work	Third Party Opex
000	Default	Overhead Pot 1 - General
021	GAE	
023	Invest to Save Revenue	
810	Vehicle & Plant Maintenance	
811	Vehicle & Plant Accident Repair	
812	Garage Overheads	
813	Roads Service	
820	Telemetry	
890	TMG Function Activity	
050	Ops & Maint General (Water)	Overhead Pot 2 - Water
055	Ops & Maint General (Sewerage)	Overhead Pot 2 - Sewerage
585	Health & Safety - WW	
590	Waste Water Function Activity	
735	Trade Effluent	
821	Radio & Monitoring Wastewater	
390	Networks Function Activity	Overhead Pot 3 - Networks Water & Sewerage

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 23 REGULATORY ACCOUNTS
ANALYSIS OF TURNOVER AND OPERATING INCOME

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Ca
				2012-13			2013-14			2014-15			2015-16			2016-17			2017-18			2018-19			2019-20			2020-21					
				WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	SUBSIDY WATER INCLUDED	SUBSIDY SEWERAGE INCLUDED	
A	TURNOVER																																
1	Unmeasured - household	£m	3	121.195	143.905	265.100	122.139	138.161	260.300	126.574	135.825	262.399	125.277	139.923	264.200	123.826	141.172	265.000	124.853	145.747	270.600	126.735	151.465	278.200	129.067	158.833	287.900	126.884	162.836	291.509	126.884	162.836	A2
2	Unmeasured - non- household	£m	3	2.211	2.766	4.977	2.049	2.545	4.594	1.762	2.102	3.864	1.829	2.125	3.954	2.041	2.401	4.442	1.891	2.203	4.094	2.027	2.360	4.387	2.153	2.486	4.639	2.226	2.591	4.819	1.012	1.185	A2
3	Unmeasured	£m	3	123.406	146.671	270.077	124.188	140.706	264.894	128.336	137.927	266.263	127.106	141.048	268.154	125.869	143.573	269.442	126.744	147.950	274.694	128.762	153.825	282.587	131.220	161.319	292.539	130.892	165.427	296.319	129.876	164.026	A2
4	Measured - household	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	A2
5	Measured - non- household	£m	3	38.751	22.144	60.895	38.465	24.148	62.613	39.872	26.168	66.040	39.955	24.739	64.694	41.096	27.518	68.614	42.541	26.865	69.406	44.369	27.908	72.277	43.914	30.037	73.951	40.628	23.082	63.710	10.221	6.874	A2
6	Measured	£m	3	38.751	22.144	60.895	38.465	24.148	62.613	39.872	26.168	66.040	39.955	24.739	64.694	41.096	27.518	68.614	42.541	26.865	69.406	44.369	27.908	72.277	43.914	30.037	73.951	40.628	23.082	63.710	10.221	6.874	A2
7	Trade effluent	£m	3		4.326	4.326		3.889	3.889		3.561	3.561		4.557	4.557		4.278	4.278		4.777	4.777		5.236	5.236		4.977	4.977		4.622	4.622	0.000	0.000	A2
7a	Roads Drainage Revenue	£m	3	0.000	20.911	20.911		20.049	20.049		19.154	19.154		20.030	20.030		20.593	20.593		21.047	21.047		21.861	21.861		22.556	22.556		22.802	22.802	0.000	0.000	A2
8	Large user and special agreement	£m	3	5.354	4.290	9.644	5.243	4.041	9.284	5.136	3.711	8.847	4.980	4.286	9.266	4.980	4.105	9.085	5.517	4.811	10.328	6.024	5.229	11.253	5.879	5.210	11.089	5.933	4.882	10.835	0.000	0.000	A2
9	Revenue grants	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	A2
10	Non potable water large user and special agreements	£m	3	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	0.000	0.000	A2
11	Rechargeable works	£m	3	0.093	0.093	0.186	0.092	0.092	0.184	0.056	0.056	0.112	0.065	0.065	0.130	0.064	0.064	0.128	0.055	0.055	0.110	0.142	0.142	0.284	0.143	0.143	0.286	0.067	0.067	0.134	0.000	0.000	A2
12	Bulk supplies/inter company payments	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	A2
13	Other appointed business (third party)	£m	3	0.172	0.187	0.359	0.162	0.238	0.400	0.191	0.239	0.430	0.198	0.260	0.458	0.398	0.343	0.741	0.403	0.334	0.737	6.349	9.815	16.164	6.156	10.760	16.916	5.538	8.573	14.111	0.000	0.000	A2
14	Third party services (excluding non-potable water)	£m	3	0.265	0.280	0.545	0.254	0.330	0.584	0.247	0.295	0.542	0.261	0.325	0.586	0.432	0.407	0.839	0.468	0.380	0.847	6.491	9.957	16.448	6.299	10.903	17.202	5.895	8.646	14.241	0.000	0.000	A2
15	Other sources (excluding large users, third parties and special agreements)	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	A2
16	Total turnover	£m	3	167.776	198.622	366.398	168.150	193.163	361.313	173.591	180.818	354.409	172.302	194.985	367.287	172.377	200.474	372.851	175.260	205.839	381.099	185.646	224.016	409.662	187.312	235.002	422.314	183.079	229.453	412.533	139.897	170.898	A2
B	OPERATING INCOME																																
17	Not used																																
18	Exceptional items	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			A2
19	Other operating income	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.243	0.308	0.551	0.000	0.000	0.000	0.000	0.000	0.000			A2
20	Total operating income	£m	3	-0.133	-0.170	-0.303	0.208	0.000	0.208	0.265	0.233	0.498	-0.083	0.174	0.091	0.523	-0.034	0.489	0.000	0.000	0.000	0.243	0.308	0.551	0.000	0.000	0.000	0.000	0.000	0.000			A2
C	WORKING CAPITAL ADJUSTMENT																																
21	Not used																																
D	REVENUE CORRECTION MECHANISM																																
22	Net revenue movement out of the tariff basket	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	A2

Table 23 – Analysis of turnover and operating income

Working Capital Adjustment

The commentary to Table 27 outlines the methodology for the Working Capital Adjustment.

Monthly Non-domestic Income Monitoring Process

The process for monitoring income is laid out in the flow diagram in Appendix A.

By 3.00pm on the third working day (Day 3) of each month, NI Water's billing partner, Echo Managed Services Ltd (Echo), e-mails to NI Water a spreadsheet which includes details of summary billed income, accrued income, cash, bad debt write-off and debtor information, as well as the general ledger postings for the month. In addition, the following reports are provided at that time:

- Bank reconciliation;
- Aged debt analysis;
- Listing of all refunds;
- Listing of all transactions;
- Accrued income details;
- Cash received listing;
- List of returned payments.

Billed income comes in the form of both invoices (first-time round billing, arising from a meter reading or an estimate) and system adjustments (adjustments made to a previously invoiced bill). The transaction listing, mentioned above, is reviewed by both Finance & Regulation (F&R) and Billing & Revenue (B&R) to analyse the system adjustments made in the month and to understand better any budget/forecast variances in the month.

During Day 3 and Day 4, NI Water carries out the general ledger posting on to Oracle and then assesses and posts the following:

- The amount of income on "N-stop" i.e. invoices held back for a variety of reasons, to be recognised in the accounts;
- Any adjustments to the accrued income (see Appendix H); and
- The amount of provision to be made against the accrued income (based on those items of accrued income greater than c210 days old).

A draft income summary is prepared showing income to date across the five income categories (measured water, measured sewerage, unmeasured water, unmeasured sewerage and trade effluent) for both the month and the year to date, together with comparative figures for the budget and/or the latest forecast. An initial meeting between F&R and B&R is held on the afternoon of Day 4 to ascertain high-level reasons for any budget/forecast variances in the month.

A written report is then prepared by the F&R Business Partner on the income and debt performance (including commentary on the level of provisions held), in advance of the Monthly Accounts meeting held with the Director of F&R (which normally occurs on the morning of working day 5 in the month).

On Day 5, Echo finalises the Day 5 data, and is saved on to an NI Water Public drive. This contains a number of detailed spreadsheets, such as VAT reports and suspense account (see Appendix B).

On Day 8, the final income meeting is held between F&R and B&R, at which the variance analysis is discussed in greater depth. The final income summary is then sent out to all relevant staff, including the Director of F&R and the Director of Customer Services Delivery (CSD).

A short commentary on the total NI Water income for the month is prepared for the Board to be included in the monthly Finance Report (though this may be completed in advance of the Day 8 meeting, depending on the date of the Board Meeting in the month).

Movements in Income against PC15

Following on from the monitoring process detailed above, the 2020/21 year-end position of income against PC15 submission was as follows:

Income	Actual Income 2020/21 £m	PC15 Income 2020/21 £m	Variance £m
Subsidy:			
Domestic phasing subsidy - water	128.7	128.6	0.1
Domestic phasing subsidy - sewerage	162.8	164.0	(1.2)
Non-domestic phasing subsidy - water	1.0	1.0	0.0
Non-domestic phasing subsidy - sewerage	1.2	1.2	0.0
Domestic allowance - water	10.2	9.4	0.8
Domestic allowance - sewerage	6.9	5.3	1.6
Septic tank subsidy	3.4		3.4
Total subsidy	314.2	309.5	4.7
Non-domestic income:			
Measured water	36.4	40.6	(4.2)
Measured sewerage	18.1	26.2	(8.1)
Unmeasured water	1.2	1.0	0.2
Unmeasured sewerage	1.4	1.2	0.2
Trade effluent	7.6	7.6	0.0
Total non domestic income	64.7	76.6	(11.9)
Road drainage income	22.8	25.9	(3.1)
Other regulated income	1.0	0.8	0.2
IFRIC18 income	9.9		9.9
Deferred credit amortisation	3.5		3.5
Other non-regulated income	3.1		3.1
TOTAL INCOME	**419.2**	**412.8**	**6.4**

The above table includes both appointed and un-appointed income.

Specific reasons for the £6.4m increase over PC15 are:

- The domestic phasing subsidy represents a volumetric measured water tariff of £1.1686 per m^3 used at the time of PC15 for 2020/21, as opposed to the actual tariff of £1.093 for six months and £1.106 for six months; with measured sewerage, the PC15 tariff was £1.9122 per m^3, against the actual of £1.816 for six months and £1.853 for six months.
- Septic tank subsidy is not included within the PC15 submission.
- The domestic allowance subsidy reflects the rateable allowances being claimed by customers, which are refunded to NI Water. The PC15 figures represented the assumptions at the time; the actual figures reflect the fact that a new report was developed (after the PC15 submission) to capture domestic allowances which were not being picked from the previous report. Also, there were domestic allowances arising from a pro-active exercise (in the 18/19 year) to encourage larger customers to make a claim. Finally, there was an exercise carried out by Echo in April 2020 to June 2020, while new billing was suspended, to identify, pro-actively, those customers who were eligible for domestic allowance relief, but had never claimed it.
- With measured water:
    - There was a c6.0% reduction in the actual tariff from what was used in the PC15 submission, equivalent to around £2.4m.
    - At the end of March 2021, there was a further estimated £0.4m reduction in income arising from the COVID-19 pandemic.
    - The lockdowns arising from COVID19 pandemic meant that a number of customers experienced reductions in their water consumption, especially in the restaurant/pub/hotel/leisure industries e.g. [redacted] as well as [redacted] e.g. [redacted]
    - At the same time, some customers were not affected greatly by the lockdown, and even saw an uplift in income e.g. agriculture customers, monthly customers like [redacted], [redacted] and [redacted], [redacted].
- Measured sewerage:
    - There was a 7.0% reduction in the actual tariff, from what was used in the PC15 submission, equivalent to around £1.5m.
    - At the end of March 2021, there was a further estimated £0.7m reduction in income arising from the COVID-19 pandemic.
    - Like MW, there were large reductions in consumption arising from the pandemic-induced lockdowns. However, MS did not benefit from the increases mentioned above for agriculture (most agricultural customer do not use the sewerage network) and the monthly customers (a number who are mostly trade effluent) mentioned; hence, MS suffered a larger income reduction in income than MW.
- For unmeasured income, income was slightly higher than PC15 estimates for both water and sewerage; this can be put down to new customers being discovered, some arising from the Metering and Billing project.
- For trade effluent income:
    - There was a reduction in the actual tariff, from what was used in the PC15 submission, equivalent to around £0.5m.
    - Again, reductions arising from the lockdown, quite a number from customers in the catering industry e.g. [redacted], [redacted], [redacted].
    - In addition, [redacted] took steps to reduce their strengths; likewise, [redacted] introduced an anaerobic digestion system.
    - At the same time, there has historically been around £1.5 to £2.0m for a mixture of new customers, over what was in PC15 (e.g. [redacted],

[redacted] increased strengths and increased consumption (e.g. [redacted] sites (though not Ballymena), [redacted], [redacted], [redacted]).

- For Road Drainage, higher TE tariffs were used in the PC15 calculation.
- Other income in the PC15 submission only contains regulated income, and excludes income from the likes of vehicle maintenance, rental of aerial sites and sales of Renewable Obligation Certificates (ROCs), as well as IFRIC18 income and deferred credit amortisation. The £0.2m increase is largely due to increased rechargeable works, as well as within certain areas of Developer Services e.g. pre-development income.

Movements in Income against budget

Following on from the monitoring process detailed above, the 2020/21 year-end position of income against budget was as follows:

Income	Actual Income 2020/21 £m	Budget Income 2020/21 £m	Variance £m
Subsidy:			
Domestic phasing subsidy - water	128.7	128.6	0.1
Domestic phasing subsidy - sewerage	162.8	162.8	0.0
Non-domestic phasing subsidy - water	1.0	1.0	0.0
Non-domestic phasing subsidy - sewerage	1.2	1.2	0.0
Domestic allowance - water	10.2	10.5	(0.3)
Domestic allowance - sewerage	6.9	6.6	0.3
Septic tank subsidy	3.4	3.1	0.3
Total subsidy	314.2	313.8	0.4
Non-domestic income:			
Measured water	36.4	31.4	5.0
Measured sewerage	18.1	16.6	1.5
Unmeasured water	1.2	0.7	0.5
Unmeasured sewerage	1.4	0.8	0.6
Trade effluent	7.6	6.8	0.8
Total non domestic income	64.7	56.3	8.4
Road drainage income	22.8	22.6	0.2
Other	17.5	4.5	13.0
TOTAL INCOME	**419.2**	**397.2**	**22.0**

The above table includes both appointed and un-appointed income.

Specific reasons for the £22.0m increase against budget are:

- The upsurge in the demand for the emptying of septic tanks, very possibly connected to the lockdown periods during the year.
- With measured water non-domestic income:
    - The budget was set in March/April 2020, once the first lockdown had been put into force. A conservative estimate was made of the consumption reductions arising from the lockdown, with little basis to work on, in terms of precedent and knowing how long the lockdown was going to last. The chart below details the estimated 20/21 budget reductions across various customer VAT codes:

Vat Code	Original Budget	%
0 Agriculture/Forestry & Fishing	£12,494,365	16%
1 Energy & Water Supply	£1,085,575	1%
2 Extraction of Minerals & Ores	£2,430,510	3%
3 Metal Goods & Engineering	£1,375,617	2%
4 Other Manufacturing Industry	£13,944,312	18%
5 Construction	£272,527	0%
6 Distribution/Hotel/Catering	£11,405,038	15%
7 Transport & Communication	£1,558,141	2%
8 Banking/Finance/Insurance	£1,863,931	2%
9 Other Services	£25,015,695	32%
Standard Vat Rate	£6,537,088	8%
Grand Total	£77,982,800	100%

Covid19 Monthly Activity Profile as a proportion of original budget

2020/21																	
Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Q1	Q2	Q3	Q4	Year
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
15%	15%	15%	20%	20%	30%	30%	40%	50%	75%	75%	75%	15%	23%	40%	75%	38%
10%	10%	10%	15%	20%	20%	25%	25%	40%	50%	50%	50%	10%	18%	30%	50%	27%
10%	10%	10%	15%	20%	20%	25%	25%	40%	50%	75%	75%	10%	18%	30%	67%	31%
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
65%	65%	70%	70%	75%	75%	80%	80%	90%	90%	100%	100%	67%	73%	83%	97%	80%
65%	65%	70%	70%	80%	80%	90%	90%	90%	100%	100%	100%	67%	77%	90%	100%	83%
56%	56%	61%	61%	69%	69%	77%	77%	82%	90%	93%	93%	58%	67%	79%	92%	74%

    - While there were reductions in a number of areas, the scale of reduction was not as great as estimated in the budget. While the budget had an average reduction of 26% across the year, the reduction for six-monthly customers was more like 20% (with monthly customers, largely, showing very little reduction).
    - Some areas differed in a large way e.g. agricultural customers (VAT code 0) and a number of large, monthly-billed, manufacturing customers (VAT code 4) e.g. [redacted], [redacted] and [redacted], [redacted]. Both these areas assumed an average 17% reduction across the 20/21 year; however, the actual consumption did not change significantly from “normal”. Hence, actual income was greater than budget.
    - There was a provision year-end reduction of £0.4m for reduced income arising from COVID-19.
- Measured sewerage:
    - The levels of consumption reduction in the budget were not as large as estimated in the budget, as mentioned in the commentary on MW above.
    - However, MS did not benefit from the increases mentioned above for agriculture (most agricultural customer do not use the sewerage network) and the monthly customers (a number who are mostly trade effluent) mentioned; hence, MS shows a much lower increase against budget income than MW.
    - There was a provision year-end reduction of £0.7m for reduced income arising from COVID-19.
- For unmeasured income, the pandemic did not have the estimated impact arising from the COVID-19 pandemic as estimated in the budget; the relatively small increases in both water and sewerage arising from new customers being discovered, some arising from the Metering and Billing project.
- For trade effluent income, there has been:
    - Like other areas of income, there was not the reduction in TE income as estimated in the budget.
    - There were increases for customers like [redacted], [redacted], [redacted].

- For other income, there has been:
  - IFRIC18 income (£9.9m) and deferred credit amortisation income (£3.5m), there were no budget figures available.
  - Sundry income was £4.1m for the 2020/21 year, against a budget of £4.5m, largely due to decreases in rechargeable works (£0.1m) and in various areas of Developer Services (£0.1m), due to the lockdowns in 2020/21 e.g. areas related to pre-development checks. Within non-regulated income, there was a fall in vehicle maintenance income (£0.1m).

Movements in Income between 2020/21 and 2019/20

The table below details the income for the year ended 31 March, for both 2021 and 2020:

Income	Actual Income 2020/21 £m	Actual Income 2019/20 £m	Variance £m
Subsidy:			
Domestic phasing subsidy - water	128.7	129.1	(0.4)
Domestic phasing subsidy - sewerage	162.8	158.8	4.0
Non-domestic phasing subsidy - water	1.0	1.0	0.0
Non-domestic phasing subsidy - sewerage	1.2	1.2	0.0
Domestic allowance - water	10.2	10.0	0.2
Domestic allowance - sewerage	6.9	6.8	0.1
Septic tank subsidy	3.4	3.0	0.4
Total subsidy	314.2	309.9	4.3
Non-domestic income:			
Measured water	36.4	39.7	(3.3)
Measured sewerage	18.1	25.3	(7.2)
Unmeasured water	1.2	1.1	0.1
Unmeasured sewerage	1.4	1.3	0.1
Trade effluent	7.6	8.2	(0.6)
Total non domestic income	64.7	75.6	(10.9)
Road drainage income	22.8	22.6	0.2
Other	17.5	21.3	(3.8)
TOTAL INCOME	**419.2**	**429.4**	**(10.2)**

The above table includes both appointed and un-appointed income.

Note that the other income for 2019/20 has been re-stated to include IFRIC18 income and deferred credit amortisation income.

The income has decreased by £10.2m, due to:

- An increase in the subsidy for domestic properties of £3.6m, which reflects the final year of the PC15 Final Determination.
- A £0.3m rise in the level of the rateable allowances being claimed by customers, arising from a pro-active exercise carried out by Echo during the first COVID-19 lockdown in Apr-Jun 2020, identifying those customers who were due domestic allowance but had not claimed it.
- A £0.4m increase in the demand for septic tank emptying, presumably arising from the COVID-19 lockdowns, where some customers may have had more free time to get certain things done.
- For measured water, there was a 0.6% tariff increase, with the 20/21 tariff not coming into effect until 1st October 2020 (equivalent to around £0.2m). Furthermore:
    - Some larger customers had reduced income arising from the lockdowns experienced during 2020/21 e.g. £0.4m covering the likes of [redacted].
    - Other reductions across a wider range of smaller, six-monthly, customers, whose average daily consumption was generally 10% on "normal" levels (c20% if agricultural customers were excluded).
    - At the end of March 2021, there was a further estimated £0.4m reduction in income arising from the COVID-19 pandemic.
- For measured sewerage, there was a 1.0% tariff increase, with the 20/21 tariff not coming into effect until 1st October 2020 (equivalent to around £0.4m). Again, as in the analysis against budget, the big movements against the previous year were:
    - There was a large consumption drop arising from COVID-19; customers impacted include similar ones to measured water, but others like [redacted].
    - As mentioned above, MS did not benefit from the MW increases mentioned above for agriculture (most agricultural customer do not use the sewerage network) and the monthly customers (a number who are mostly trade effluent) mentioned; hence, MS shows a much less increase against budget income than MW.
    - At the end of March 2021, there was a further estimated £0.4m reduction in income arising from the COVID-19 pandemic.
- For unmeasured income, there was an increase in income, with new customers being recognised through the Metering and Billing project.
- For trade effluent income, there has been:
    - Tariff increase of roughly £0.1m.
    - Again, reductions arising from the lockdown, quite a number from customers in the catering industry e.g. [redacted].
    - In addition, [redacted] took steps to reduce their strengths; likewise, [redacted] introduced an anaerobic digestion system.
- For other income, there has been:
    - Decreases in rechargeable works (£0.1m) and Developer income (£0.1m).
    - Vehicle maintenance income fell by £0.6m, as the activity was insourced during the year, and ceased to be charged out to Roads.
    - In addition, income from areas like admission charges (£0.1m) dropped considerably, due to Silent Valley being closed during lockdown.

Reconciliation of Billed Income to Income in the Accounts

The tables below detail, for both measured/unmeasured income and for trade effluent, how the income billed reconciles to the income reported at 31 March 2021:

Measured and unmeasured income	
	£m
Billed income	62.8
Movement in accrued income	(2.0)
Reduction in accrued income due to COVID-19	(1.1)
2021/22 unmeasured billing deferred	(2.7)
Movement in referred bills	(0.1)
Provisions released	0.2
Total income per accounts	57.1

Accrued income at 31 March 2021 represented 20% (2020: 20%) of annual billed income.

Trade effluent	
	£m
Billed income	7.9
Movement in accrued income	(0.2)
Reduction in accrued income due to COVID-19	0.0
Laundrette provision release	(0.1)
Total income per accounts	7.6

Accrued income at 31 March 2021 represented 10% (2020: 11%) of annual billed income.

The two tables above show the total income per accounts prior to the classification in the accounts of elements of total income to large user revenue.

Of the adjustments detailed above, the following are “one-off” adjustments in 2020/21, and are not expected to recur:

- Specific Provisions released (including laundrette provision) – released in 2020/21

The following adjustments may recur in future years:

- Movement in accrued income – there will always be a small variance over a period of a year.
- Reduction in accrued income due to COVID-19 – this is due to be released in 2021/22.
- 2021/22 unmeasured billing deferred – the annual unmeasured billing will always be deferred, assuming that the invoicing is done in March.
- Movement in referred bills – there will always be a small variance over a period of a year.

Reconciliations and Controls carried out

A number of reconciliations are carried out on Echo’s income information:

- The Day 3 income information received from Echo is reconciled back to what has been entered on Oracle (see Appendix C). This reconciliation is signed off monthly by both Management Accounts (MA) and Financial Accounts (FA) within F&R.

- The debtor account in the balance sheet is reconciled each month, and signed off by MA and FA (see Appendix D).
- The accrued income account is reconciled monthly (see Appendix E).
- The number of meters to be billed is reconciled to what has actually been billed (see Appendix F).
- The items in the monthly Transaction Report are reconciled back to the GL posting within the Day 3 report (see Appendix G).
- The billed income for monthly customers and for the relevant six-monthly customers is compared to what was accrued in the previous month, on a meter-by-meter basis. The results from this are discussed at the Day 8 meeting.
- An income sheet, listing various checks on the Day 3 report, is adhered to (see Appendix J).
- As each customer is assigned a VAT SIC code. to understand better the impact that the lockdown caused by the COVID-19 pandemic was having on both income and cash collection, two new reports were introduced:
    - Year on Year cash analysis by VAT SIC Code (YTD and In-Month);
    - Year on Year In-Month average daily consumption (adc) by meter (which is then grouped by SIC Code).

In addition, Echo carry out controls on meter readings, such that a bill is “held” and not sent out to the customer if its value has exceeded a certain level, known as the “bill ceiling” e.g. Bobby’s Bistro (cust. ref. 9241638) where a bill for £1.4m was raised (but not sent out). The bill will then be investigated.

Review by Internal Audit

There were no internal audit reviews carried out in 2020/21 on income reporting.

Balance Sheet Nominal Ledger Accounts

The table below gives details of the relevant balance sheet accounts as at 31 March 2021, together with a comparison to the balances as at 31 March 2020:

	Balance 2020/21 £m	Balance 2019/20 £m	Variance £m
Debtors	10.4	8.5	1.9
Bad debt provision	(3.4)	(2.3)	(1.1)

Within the £1.9m rise in debtors there was:

- An increase £2.1m in debit balances, largely due to difficult trading conditions arising from the COVID-19 pandemic, with some customers being closed for large periods of time and therefore experiencing reduced revenues.

There was an increase in the bad debts provision, largely due to:

- Similar to debtors, bad debt provision has increased to reflect the risk of non-payment because of the potential of business failures arising from the virus lockdowns

Accrued Income

There are two reports which Echo uses for accrued income, both in the form of Excel spreadsheets included within the Day 3 data: the E039 Accrual Detail report (formerly called the Dynamic Consumption Report (DCR)), and a separate report for Trade Effluent, which is an excel spreadsheet model.
Measured customers are billed either every month (mainly larger customers) or every six months, in arrears, and income needs to be accrued for them for a period of up to six months. Therefore, there are seven "bill frequency" periods:

- Monthly
- Jan/Jul six monthly
- Feb/Aug six monthly
- Mar/Sep six monthly
- Apr/Oct six monthly
- May/Nov six monthly
- Jun/Dec six monthly

The E039 report takes information directly from the RAPID system, and is based on the latest reading date (as opposed to billing date) and the average consumption of previous bills. If estimated readings have been made, these are used in the calculation. If there is not the necessary information available, the report will use the industry average consumption (for the industry sector which the customer has been assigned to). Any system adjustments made to the original bill meter reading will automatically over-ride the original bill, and it will be system adjustment readings that are used for the calculation of the accrual. Accruals for trade effluent income are based on an excel spreadsheet model built by Echo. This takes billing data from 1 April of the previous year i.e. close to 2 years of data when March accrual is being calculated, and a year is shut down at the start of April each year. The model contains a price tariff percentage to either increase or decrease the accrual, depending on the percentage uplift/reduction in prices from the previous year. The model designates customers as monthly or six-monthly, but does not break six-monthly down into the relevant month in which the six monthly bills are issued.

Echo performs a high-level reconciliation each month, looking for any major differences in the month from the previous month.

Each month, the E039 report is reviewed by B&R for any unusual items, and an adjustment made for those (see March 2021 adjustments in Appendix H).
The accrued income in the last two years has been:

	Accrued Income 2020/21 £m	**Accrued Income 2019/20 £m**	**Variance £m**
Accrued income:			
Measured water and sewerage	7.9	10.9	(3.0)
Trade effluent	0.7	1.0	(0.3)
TOTAL ACCRUED INCOME	**8.6**	**11.9**	**(3.3)**

The fall of £3.3m against the previous year can be explained as follows:

- There was a £1.2m decrease in MW and MS, being the estimated over-statement of accrued income, especially during the lockdown in Q4.
- A £0.7m decrease in MW accrued income, reflecting actual decreased average daily consumption during the 20/21 year.
- A £1.2m decrease in MS accrued income, reflecting actual decreased average daily consumption during the 20/21 year.
- For trade effluent, there has been a £0.3m decrease in accrued income, related to the actual fall in consumption arising from the lockdown during most of the second half of the year.

Subsidy Income

In 2020/21, NI Water had total subsidy income of £314.2m. This was broken down as follows:

- £291.5m for domestic phasing subsidy for water and sewerage, in lieu of domestic charges.
- £2.2m for non-domestic phasing subsidy, representing 50% of unmeasured non-domestic income.
- £17.1m for domestic allowance subsidy, representing the domestic allowance claimed by customers for both water and sewerage (restricted to 200m^3 of water per year, for each building on which the customer pays business rates).
- £3.4m for septic tank subsidy. NI Water receives subsidy income for all septic tanks that it empties, except for those customers who receive a charge if they have more than one empty in a 12-month period. There was an uplift of septic tank empties, quite likely linked to the various lockdowns in place over the 2020/21 year.

Road Drainage Income

The road drainage charge for 2020/21 was based on the projections of NI Water's costs of operation (see the table below). Given that 2019/20 tariffs were used up to 30 September 2020, the calculation was based on 50% at 19/20 tariff and 50% at 20/21 tariff. The basis for the calculation has been approved by both the Regulator and by the Department for Infrastructure (DfI). A total of £22.8m was invoiced in 2020/21 to DfI, compared to £22.6m in 2019/20. A more detailed breakdown of the assumptions behind the calculation is provided in Appendix I.

	Combined	Storm Water	Total
Split of sewers for run off from roads and footpaths	50.35%	49.65%	100%
Total volume of Water (cubic metres)	32,325,198	31,874,802	64,200,000
Mogden Formula element	R+V	R	
Cost of Element: 50% at 19/20 tariff: 50% at 20/21 tariff:	 £0.4768 / m^3 £0.4874 / m^3	 £0.2241 / m^3 £0.2291 / m^3	
Cost of Run off	£15,583,978	£7,222,830	£22,806,808

Non-tariff Basket Income

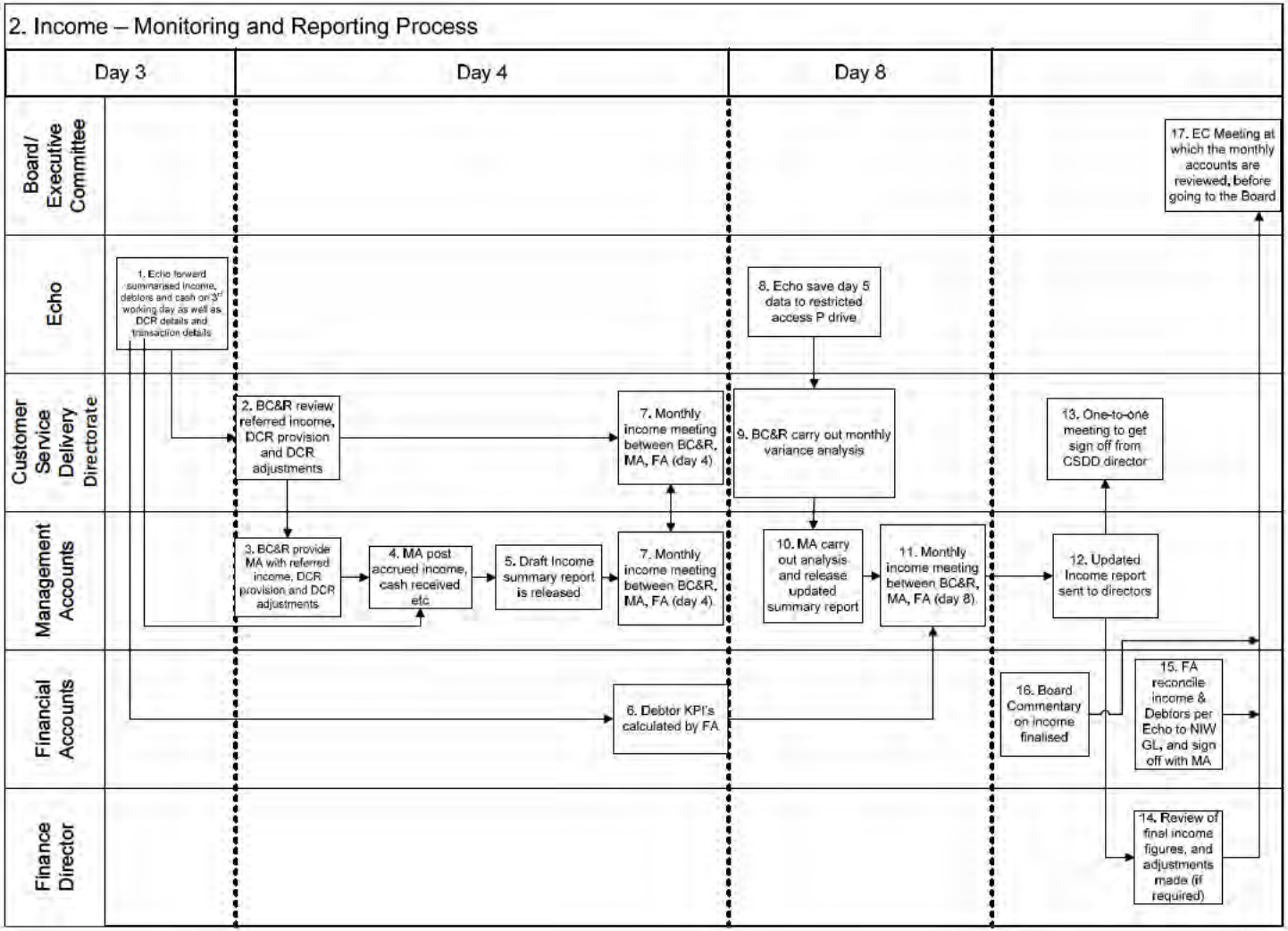
There is no net income movement out of the tariff basket for either water or sewerage.

Other Income

Other income was £4.1m for the 2020/21 year, against a budget of £4.5m, largely due to decreases in rechargeable works (£0.1m) and in various areas of Developer Services (£0.1m), due to the lockdowns in 2020/21 e.g. areas related to pre-development checks. Within non-regulated income, there was a fall in vehicle maintenance income (£0.1m).

The decrease in sundry income from the 2019/20 figure was £1.1m, with, again, decreases in rechargeable works (£0.1m) and Developer income (£0.1m). Here vehicle maintenance income fell by £0.6m, as the activity was insourced during the year, and ceased to be charged out to Roads. In addition, income from areas like admission charges (£0.1m) dropped considerably, due to Silent Valley being closed during lockdown.

Appendix A - Monthly Process for Monitoring Income



Appendix B – Day 3 & Day 5 Data received from Echo

Along with the actual summary Day 3 report, Echo also send:

- Bank reconciliation as at the end of the month;
- Aged debt reports as at the end of the month, by SIC code, industry code, etc.;
- An accrued income report, by meter reference, as at the end of the month.
- List of all income-related transactions in the month;
- List of refunds for the month;
- List of returned payments for the month;
- List of all cash payments, aged, for the month; and
- List of accounts on “n-stop”, as at the end of the month.

On Day 5, Echo send:

- VAT reports for the month;
- Consumption reports; and
- List of cash received transactions in the suspense account, as at the end of the month.

Appendix C – Reconciliation of Echo Day 3 Information at 31 March 2021

Extract for Finance Summary

			31 Mar 21																																			
		Y D income 1st Apr to end of Previous Month	from Echo	Accrued Income	Accrued ncome	Referred Income	Referred Income	Deferred ncome	Deferred Income	Monthly																													
			Disc		For this month	Reverse Previous	For this month	Reverse Previous	For this month	Movement	Clos ng Balance	GL01 report	Diff	DCR provision movement reversal	DCR movement provision	Adj in accrued income reversal	Adj n accrued ncome	Industry average adj reversal	ndustry average adj	Income prov reversal	ncome prov adj	Prov aga nst MS customers reversal	Prov against MS customers	Back b ll ng provision reversal	Back bil ing provision	M&B provision reversal	M&B provision	Increase to Mar 15 level reversal	Increase to Mar 15 level	ul 16 provision reversed	ul 16 provision	Additional back bi ling provision reversed	Additional back b ll ng provision	Vo d provision reversed	Vo d provision	Accrued Income Provision re COVID 19 lockdown reversed	Accrued Income Provision re COVD 19 lockdown	Dif
			Dr (Cr)	Dr/(Cr)	Dr/ Cr)	Dr (Cr)	Dr/(Cr)							536 828	-536,828																							
211	Measured Water	30 696 381	2,888,913	(7,513,258)	7 785,582	85,393	(79,232)			3,167,398	33 863 779	34 045 149	181,370	160,211)	150,854	19 067	(13,429)	63,000	(63,000)	55,000	(55 000)			225,000	(225,000)	135,000	(135 000	60 000	(60,000)	100,000	100 000)	50,000	(50,000	40 000	(40,000)	3,378,864	(3,193,777)	1
311	Measured Sewerage	16 588 345	1,2 ,2,295	(,221,718)	669, 50	58,587	(55,607)			1,723,009	18 311 354	18 039 982	(271,552)	111,575)	105,059	10 525	92			25,000	(25 000)	50 000	(50,000)	200,000	(200,000)	155,000	(155 000					50,000	(50,000	30 000	(30,000)	816,662	(1,092,315)	(0
251	Unmeasured Water	718 638	1,267,196				(2 ,296)	116,289	(1,237,531)	121,6 8	840 286	670 614	(169,672)													30,000	(30 000									375,669	(545,341)	(0
351	Unmeasured Sewerage	828 505	1,468,414				(30.058)	134,925	(1,432,439)	1 0,8 1	969 346	777 786	(191,560)													20,000	(20 000									433,531	(625,091)	(0
11	Trade Effluent	6 108 865	514,854	(696,077)	76 ,823	0				683,997	6 792 462	6 836 112	43,650	(14,305)	13,469									25,000	(25,000											906,994	(862,509)	1
		5 ,9 0,73	7 511 661	12, 31,053	13,219,85	1 3,980	(189,193)	251,21	(2,669,970)	5,836, 9	60,777,228	60,369, 63	(07,765)	250,736	(267, 5)	29,592	(13,337)	63,000	(63,000)	80,000	(80,000)	50,000	(50,000)	50,000	(50,000)	3 0,000	(3 0,000)	60,000	(60,000)	100,000	(100,000)	100,000	(100,000)	70,000	(70,000)	5,911,720	(6,319,033)	0

Appendix D – Reconciliation of Debtors account on Oracle

NORTHERN IRELAND WATER LIMITED AS AT 31st MARCH 2021	
Summary of Debtors	
Water & Sewerage Debtors GL code 1210	**Mar 21**
Opening Balance	**£11,295,273.38**
Take on Bills/New Bills- TOTAL	**£5,666,954.25**
Take on Bills/New Bills- Sewerage	966,918.58
Take on Bills/New Bills- Water	1,918,373.98
Take on Bills/New Bills- VAT	89,552.94
Annual Billing	2,669,969.59
Annual Billing - VAT	22,139.16
Discounts	0.00
System Adjustments- Total	**£1,535,518.83**
System Adjustments- Sewerage	412,504.72
System Adjustments- Water	1,039,454.49
System Adjustments- VAT	83,559.62
Manual Adjustments- Total	**£110,803.54**
Manual Adjustments- Sewerage	(70,242.24)
Manual Adjustments- Water	(39,524.25)
Manual Adjustments- VAT	(1,037.05)
Write Off Adjustments Total	**£647.28**
Write Off Adjustments- Sewerage	**0.00**
Write Off Adjustments- Water	**(647.28)**
Write Off Adjustments- VAT	**0.00**
NIWS Bad Debt Authorised Write Off- Total	**£141,899.81**
NIWS Authorised Write Off- Sewerage	(69,124.11)
NIWS Authorised Write Off- Water	(71,004.11)
NIWS Authorised Write Off- VAT	(1,771.59)
Net Cash	**(7,194,258.97)**
Refunds	170,357.25
Water & Sewerage GL code 1210 Closing Balance	**£11,220,494.11**
Check	
Metered & Unmetered Water & Sewerage Debtors	**£11,220,494.11**
(As per Echo)	
Per Tb GL code 1210	**9,180,984.82**
Variance	**£2,039,509.29**
Due to	
Variance (Oct = w/off Income 0708 in Oct08)	
Referred Bills **NOT** Recognised NET	(189,211.10)
Write-off of mixed supply debt > 3 years	(300,000.00)
System Adjustment Reduction	(1,550,000.00)
Various MS Adjustments	
Unknown	-£298.19
Trade Effluent Debtors GL code 1213	
Opening Balance	**£1,620,053.34**
Take on Bills/New Bills	628,210.01
Referred Bills	
Annual Billing	
System Adjustments	**£13,359.36**
Manual Adjustments	**£0.00**
Write Off Adjustments	
NIWS Authorised Bad Debt Write Off	**£0.00**
Net Cash	**£1,043,125.81**
Refunds	**£0.00**
Trade Effluent GL code 1213 Closing Balance	**£1,191,778.18**
Variance	**£14.05**
Per Trial Balance general ledger code 1213	**£1,191,792.23**
Due to	
Trade Effluent	
Referred Bills	
Total Opening Balance GL code 1213 & 1210	**£12,915,326.72**
Take on Bills/New Bills	**£3,625,194.67**
Annual Billing	**£2,669,969.59**
Discounts	**£0.00**
System Adjustments	**£1,522,159.47**
Manual Adjustments	**£110,803.54**
Write Off Adjustments	**£647.28**
NIWS Authorised Bad Debt Write Off	**£141,899.81**
Net Cash	**£8,237,384.78**
Refunds	**£170,357.25**
Total Closing Balance GL code 1213 & 1210	**£12,412,272.29**
Balance as per FN012 Summary	**£12,411,804.40**
Difference	**£467.89**
Echo Debtor Ledger	£12,371,915.83
Balance as per FN012 Summary	**£12,411,804.40**
Suspense Ac FN012 Summary	**£137,586.04**
Difference	**£177,474.61**

E – Reconciliation of Accrued Income Account

NIW Accrued Income	
	Mar-21
	£k
Per Echo	
Measured Water	7,786
Measured Sewerage	4,669
Trade Effluent	765
Accrued income	**13,220**
Accrued income adjustments	
DCR Provision	-267
DCR Further	-500
Accrued Income provision	-13
Increase in provision	-110
Industry average adj	-63
Income prov adj	-80
Future System Adjustments	-620
BackBilled Income Provision	-700
M&B Provision	-170
Void back-billing	-70
COVID-19	-2,000
Rounding	-1
Accrued income posted	8,626
Per TB (1420/1423)	8,626
Difference	0
Miscellanous accrued Income	36
Interest Received Accrual	0
Total Accrued Income	**8,662**
TB Check	£
1420 - Metered Water Accrued Income	7,930,025
1423 - Trade Effluent Accrued Income	695,575
1426 - Miscellaneous Accrued Income	36,412
1451 - Interest Received Accrual	
	8,662,011

Appendix F – Reconciliation of Meters

2020/21 - Meter Reconciliation Analysis

Meters to be read	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Estimated				319	189	138	200	199	234	297	291	254
No Read				441	514	607	647	639	411	409	482	905
Read				11,260	12,512	12,392	12,468	12,594	10,997	11,335	12,513	12,018
Total Meters	0	0	0	12,020	13,215	13,137	13,315	13,432	11,642	12,041	13,286	13,177
No Reads to be investigated - Code Red				10	3	8	18	9	3	4	14	341

Meters to be billed	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Billable Meters				11,550	12,687	12,516	12,673	12,778	11,221	11,593	12,792	12,582
Non-Billable Meters				470	528	621	642	654	421	448	494	595
Total Meters				12,020	13,215	13,137	13,315	13,432	11,642	12,041	13,286	13,177
Total Meters Billed				11,423	12,553	12,407	12,539	12,650	11,097	11,468	12,648	12,142
Meters to be investigated				127	134	109	134	128	124	125	144	440
Billable Meters				11,550	12,687	12,516	12,673	12,778	11,221	11,593	12,792	12,582
Meters to be investigated - Code Red				15	12	12	35	14	27	10	15	341

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Estimated reads as % of Total Meters to be read				3%	1%	1%	2%	1%	2%	2%	2%	2%
No Reads as a % of Total Meters to be read				4%	4%	5%	5%	5%	4%	3%	4%	7%
Read Meters as % of Total Meters to be read				94%	95%	94%	94%	94%	94%	94%	94%	91%
Total Meters	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Code Red as % of Meters to be investigated				2%	1%	1%	3%	1%	1%	1%	3%	38%
Estimated % (Excl 'No Reads')	#DIV/0!	#DIV/0!	#DIV/0!	3%	1%	1%	2%	2%	2%	3%	2%	2%

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Billable Meters as % of Total Meter Records				96%	96%	95%	95%	95%	96%	96%	96%	95%
Non - Billable Meters as % of Total Meter Records				4%	4%	5%	5%	5%	4%	4%	4%	5%
Total Meters				100%	100%	100%	100%	100%	100%	100%	100%	100%
Meters Billed as a % of Billable Meters				99%	99%	99%	99%	99%	99%	99%	99%	97%
Meters to be investigated as a % of Billable Meters				1%	1%	1%	1%	1%	1%	1%	1%	3%
Billable Meters				100%	100%	100%	100%	100%	100%	100%	100%	100%
Code Red as % of Meters to be investigated				12%	9%	11%	26%	11%	22%	8%	10%	78%

Appendix G – Reconciliation of invoices and system adjustments as at 31 March 2021

	Trans Rpt	GL Posting	Variance
Measured Water	2,888,913	2,888,913	0
Measured Sewerage	1,272,298	1,272,298	0
Unmeasured Water	1,267,186	1,267,186	0
Unmeasured Sewerage	1,468,414	1,468,414	(0)
TE	614,851	614,851	0
Sub-total	7,511,661	7,511,661	(0)
Discount	(3)	(3)	0
VAT	194,215	194,215	(0)
TOTAL	**7,705,873**	**7,705,873**	**(0)**

Appendix H – Accrued Income Adjustments at 31 March 2021

Read Frequency	Accrual Days	Read History	Water volume	Water volume per day	Sewerage Volume	Sewerage volume per day	Water Standing Charges	Water Volume Charges	Total Water Charges	Sewerage Standing Charges	Sewerage Volume Charges	Total Sewerage Charges	Total accrual standing charges	Total accrual volume charges	Total Accru
Six Monthly Apr/Oct	174	IND AVE	5,673	33	0	33	£33	£6,169	£6,202	£0	£0	£0	£33	£6,169	£6,202
Six Monthly Apr/Oct	174	IND AVE	1,392	8	0	8	£33	£1,514	£1,547	£0	£0	£0	£33	£1,514	£1,547
								Variance	(£4,655)		Variance	£0		Variance	(£4,655)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Jun/Dec	114	READING	3,969	35	3,771	35	£37	£4,122	£4,159	£44	£6,560	£6,604	£81	£10,682	£10,762
Six Monthly Jun/Dec	114	READING	228	2	217	2	£37	£237	£273	£44	£377	£421	£81	£614	£694
								Variance	(£3,885)		Variance	(£6,183)		Variance	(£10,068)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Apr/Oct	166	IND AVE	5,412	33	0	33	£31	£5,784	£5,816	£0	£0	£0	£31	£5,784	£5,816
Six Monthly Apr/Oct	166	IND AVE	166	1	0	1	£31	£177	£209	£0	£0	£0	£31	£177	£209
								Variance	(£5,607)		Variance	£0		Variance	(£5,607)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Apr/Oct	176	IND AVE	4,582	26	4,353	26	£164	£4,962	£5,126	£197	£7,896	£8,093	£362	£12,857	£13,219
Six Monthly Apr/Oct	176	IND AVE	176	1	167	1	£164	£191	£355	£197	£303	£500	£362	£494	£856
								Variance	(£4,771)		Variance	(£7,592)		Variance	(£12,363)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Apr/Oct	151	READING	5,981	40	5,682	40	£280	£6,397	£6,678	£334	£10,182	£10,517	£615	£16,579	£17,194
Six Monthly Apr/Oct	151	READING	3,473	23	3,299	23	£280	£3,715	£3,995	£334	£5,912	£6,247	£615	£9,627	£10,242
								Variance	(£2,682)		Variance	(£4,270)		Variance	(£6,952)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly May/Nov	133	IND AVE	598	5	568	5	£637	£581	£1,217	£759	£925	£1,684	£1,396	£1,505	£2,901
Six Monthly May/Nov	133	IND AVE	11,970	90	11,372	90	£637	£11,623	£12,259	£759	£18,512	£19,271	£1,396	£30,134	£31,530
								Variance	£11,042		Variance	£17,587		Variance	£28,629

Appendix H – Accrued Income Adjustments at 31 March 2021 (cont'd)

Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly May/Nov	145	READING	3,156	22	0	22	£27	£3,472	£3,499	£0	£0	£0	£27	£3,472	£3,499
Six Monthly May/Nov	145	READING	145	1	0	1	£27	£160	£187	£0	£0	£0	£27	£160	£187
								Variance	(£3,312)		Variance	£0		Variance	(£3,312)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Jan/Jul	82	READING	1,238	15	1,176	15	£77	£1,304	£1,381	£92	£2,075	£2,167	£168	£3,379	£3,548
Six Monthly Jan/Jul	82	READING	164	2	156	2	£77	£173	£249	£92	£275	£367	£168	£448	£616
								Variance	(£1,131)		Variance	(£1,800)		Variance	(£2,932)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Monthly	30	IND AVE	912	30	912	30	£101	£991	£1,092	£120	£1,575	£1,695	£221	£2,566	£2,787
Monthly	30	IND AVE	2,220	74	2,109	74	£101	£2,412	£2,513	£120	£3,642	£3,762	£221	£6,055	£6,276
								Variance	£1,421		Variance	£2,067		Variance	£3,489
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Apr/Oct	162	READING	5,686	35	0	35	£31	£4,506	£4,536	£0	£0	£0	£31	£4,506	£4,536
Six Monthly Apr/Oct	162	READING	1,944	12	0	12	£31	£1,541	£1,571	£0	£0	£0	£31	£1,541	£1,571
								Variance	(£2,965)		Variance	£0		Variance	(£2,965)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly Apr/Oct	174	READING	1,031	6	979	6	£33	£1,100	£1,133	£40	£1,751	£1,791	£73	£2,852	£2,925
Six Monthly Apr/Oct	174	READING	174	1	165	1	£33	£186	£219	£40	£296	£336	£73	£481	£554
								Variance	(£915)		Variance	(£1,455)		Variance	(£2,370)
Read Frequency	Accrual Da	Read Histo	Water volu	Water volun	Sewerage	Sewerage	Water Star	Water Volun	Total Water Ch	Sewerage S	Sewerage V	Total Sewerage C	Total accru	Total accrual	Total Accrual
Six Monthly May/Nov	149	IND AVE	2,488	17	2,488	17	£713	£2,661	£3,374	£850	£1,251	£2,101	£1,563	£3,912	£5,475
Six Monthly May/Nov	149	IND AVE	6,258	42	5,945	42	£713	£6,693	£7,406	£850	£2,989	£3,839	£1,563	£9,682	£11,245
								Variance	£4,032		Variance	£1,738		Variance	£5,770
								Customer specific Accrual Adjs	(£13,429)			£92			(£13,338)

Appendix I – Calculation of Road Drainage Charges

The calculation of Road Drainage charges was prepared on the following basis:

i The total urban road and footway surface area was obtained (Source Roads Service),

a. Urban road surface area = 39.3million m^2
b. Urban footway surface area = 17.0million m^2
c. Total Urban road & footway surface area = 56.3million m^2

ii The average annual rainfall in Northern Ireland over the last 10 years was obtained (Source: Met Office).

Average annual rainfall = 1.14m

iii The average volume of rain and therefore the run-off from roads and footpaths discharged into NIW sewers and storm drains was calculated as follows:

56.3million m^2 x 1.14m = 64.2million m^3

NIW's network information management system (NIMS) indicated that for the largest 105 urban areas in N Ireland the length of combined sewers and the length of storm water sewers was split as detailed in the following table. These figures were adjusted to allow for those storm water sewers which rather than discharging into a watercourse were connected into the combined system.

	Km	% of total
Combined sewers	4,378	50.35%
Storm water sewers	4,317	49.65%
Total	8,695	100.00%

The unit costs of R & V applied were obtained using the Trade Effluent Mogden Formula as per the table below:

Mogden Formula element	19/20 tariff (£) Per m^3	20/21 tariff (£) Per m^3	Application
R (Reception)	0.2241	0.2291	Run off into Storm water sewers
V (Volumetric)	0.2527	0.2583	Run off into Combined sewers
R+V	0.4768	0.4874	

Appendix J – Monthly Income Check Sheet

NI WATER

Income check for March 2021

		ACTION BY	COMPLETE BY
1.	Transaction report for income, bad debt and discount ties up to the GL posting.	[redacted]	07/04/21
2.	DCR listing and TE accrual totals agree to the Table in the Day 3 report.	[redacted]	07/04/21
3.	The number of days in the DCR detailed listing has been increased by the correct number of days in the month.	[redacted]	07/04/21
4.	There are no obvious large incorrect items of accrued income in the DCR listing.	[redacted]	07/04/21
5.	Review the DCR, for where there is volume in m^3, but no £.	[redacted]	07/04/21
6.	Review the DCR, both MW and MS, for any negative items.	[redacted]	07/04/21
7.	Review top 300 customers on DCR for any material over-statement arising from leakage/incorrect meter exchange/faulty meter, etc.	[redacted]	07/04/21
8.	Total for “Ordinary Customers N-stops” agrees total per “Referred Bills Summary” agrees to total per “N-stop Detail”.	[redacted]	07/04/21
9.	N-stop detail does not contain any duplicate or triplicate lines.	[redacted]	07/04/21
10.	Debit balance and credit balances in the Day 3 report agree to the debt report.	[redacted]	07/04/21
11.	Cash in the FN012 summary agrees to the cash report.	[redacted]	07/04/21
12.	The FN012 Summary Total has the correct balance c/f and b/f.	[redacted]	07/04/21
13.	Have all the correct adjustments been made for additional provisions/provision release?	[redacted]	26/04/21
14.	Does the summary Excel income report agree to Oracle?	[redacted]	26/04/21

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 25 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING)
ANALYSIS OF FIXED ASSETS BY ASSET TYPE (TOTAL)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9
				WATER SERVICE				SEWERAGE SERVICE				
				INFRASTRUCTURE ASSETS	OPERATIONAL ASSETS	OTHER TANGIBLE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	OPERATIONAL ASSETS	OTHER TANGIBLE ASSETS	SUBTOTAL	TOTAL
A	**GROSS REPLACEMENT COST**											
1	Gross replacement cost at 1 April	£m	3	941.212	518.947	78.321	1,538.480	1,226.644	1,196.281	87.523	2,510.449	4,048.928
2	AMP adjustment	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	Not used											
4	Disposals	£m	3	-0.899	-0.069	-0.153	-1.121	-0.354	-1.991	-0.180	-2.525	-3.646
5	Additions	£m	3	38.414	32.567	10.175	81.156	62.620	70.675	13.490	146.785	227.941
6	Gross replacement cost at 31 March	£m	3	978.727	551.445	88.343	1,618.515	1,288.910	1,264.965	100.833	2,654.709	4,273.223
B	**DEPRECIATION**											
7	Depreciation at 1 April	£m	3	99.017	150.742	48.955	298.714	75.999	345.601	53.991	475.591	774.305
8	AMP adjustment	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	AMP adjustment - gross MEA revaluation	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	lives	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	Not used											
12	Disposals	£m	3	-0.899	-0.069	-0.099	-1.067	-0.355	-1.991	-0.177	-2.523	-3.590
13	Charge for year	£m	3	10.813	18.304	5.211	34.328	8.979	40.940	3.833	53.752	88.080
14	Depreciation at 31 March	£m	3	108.931	168.977	54.067	331.975	84.623	384.550	57.647	526.820	858.795
15	Net book amount at 31 March	£m	3	869.796	382.467	34.276	1,286.539	1,204.287	880.416	43.186	2,127.889	3,414.428
16	Net book amount at 1 April	£m	3	842.195	368.204	29.366	1,239.765	1,150.645	850.681	33.532	2,034.858	3,274.623

Table 25 – Analysis of Fixed Assets by Asset Type (Total)

The following asset categories have been analysed in the table as follows:

- 'Infrastructure assets' include infrastructure assets only.
- Operational assets' include land, buildings and civils.
- 'Other tangible assets' include surplus land, buildings and civils, mobile plant and IT.

Gross Book Value at 1 April and Depreciation at 1 April

The total opening balances for gross book value and depreciation at 1 April 2020 have been brought forward from the total closing balances for gross book value and depreciation at 31 March 2020. The analysis across asset categories is based on analysis within the fixed asset register and is based on the IFRS statutory accounts.

AMP Adjustment

There was no AMP adjustment during the year.

Impairment

There was no impairment required of surplus lands, buildings and civils during the year.

Disposals

Disposals during the year consisted of surplus land, buildings, civils, infrastructure, mobile plants (vans) and fixed plant assets. All disposals have depreciation in the month of disposal.

Decommissioned Assets

A number of assets (NBV £1,015,681.11) were decommissioned during the year. Decommissioned assets are assets which are no longer in use but still have a net book value (NBV) value at the time. In order to account for this, the assets are fully depreciated in year to bring the NBV down to nil.

Additions

Additions consisted of capital expenditure incurred during the year plus adopted sewers and sewage pumping stations and PPP assets (see below). When the assets created by the capital expenditure are commissioned they are put onto the fixed asset register and depreciation commences the following month.

The following table is a reconciliation between total capital expenditure and additions to fixed assets: -

Total UK GAAP expenditure in CWP (incl. Operations)	**174,940**
Less: expenditure classified as opex under IFRS	-1,213
Add: Capital maintenance Omega	2,706
Add: Capital maintenance Kinnegar	470
Less: leases correction	-26
Total IFRS expenditure in CWP (incl. Operations)	**176,877**
Add: Water and sewer connections	3,858
Add: adopted assets - infrastructure	40,153
Add: adopted assets - non-infrastructure	527
Add: capitalised interest	6,503
Add: leases addition	23
Total additions per statutory accounts	**227,941**
PPE note - additions	175,226
PPE note - customor contributions	40,680
Intangibles note - additions	12,035
Total additions per statutory notes	**227,941**

PPP Assets Additions

During the year, there were on-balance sheet additions to PPP assets. Therefore, there was an element in the table relating to PPP assets totalling to [redacted] relating to the Alpha capital maintenance fund, [redacted] relating to Omega and [redacted] relating to Kinnegar.

Depreciation Charge for Year

Historical cost depreciation charge during the year was calculated based on the opening GBV at 1 April 2020. Additions and disposals during the year were taken into account in calculating the depreciation charge.

Commentary

All assets were analysed to each of their respective asset categories and service activities to identify the water and sewerage services. The management and general service activity assets, with a GBV of £25,986,288.85 (19/20 IFRS: £26,079,513.09) as at 31 March 2021, could not be readily identified as water and sewerage services and have been split as per IFM: Water 41% and Sewerage 59%.

Table 25 has also been adjusted to include only the appointed business and exclude the un-appointed business relating to vehicle maintenance carried out for third parties. This has been adjusted through the opening balances for Water Services – Other Assets.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 28 REGULATORY ACCOUNTS
CASH FLOW STATEMENT FOR YEAR ENDING 31 MARCH (TOTAL)

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
1	Net cashflow from operating activities	£m	3	181.015	190.580	195.707	170.228	182.677	182.769	221.058	229.446	197.673
A	**RETURN ON INVESTMENTS & SERVICING OF FINANCE**											
2	Interest received	£m	3	0.134	0.114	0.080	0.092	0.074	0.103	0.429	0.455	1.525
3	Interest paid	£m	3	-42.208	-43.723	-45.339	-46.568	-46.945	-47.537	-49.199	-45.293	-45.113
4	Interest in finance lease rentals	£m	3	-11.913	-6.933	-6.824	-6.701	-6.562	-6.406	-18.826	-18.261	-17.521
5	Non-equity dividends paid	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	Net cashflow from returns on investments & servicing of finance	£m	3	-53.987	-50.542	-52.083	-53.177	-53.433	-53.840	-67.596	-63.099	-61.109
B	**TAXATION**											
7	Taxation (paid)/received	£m	3	0.000	0.000	-0.017	0.000	0.000	0.000	0.000	0.000	0.000
C	**CAPITAL EXPENDITURE AND FINANCIAL INVESTMENT**											
8	Gross cost of purchase of fixed assets	£m	3	-130.590	-135.971	-134.620	-115.602	-128.215	-158.278	-183.297	-184.328	-171.998
9	Receipts of grants and contributions	£m	3	5.757	6.586	7.333	7.980	11.550	12.910	1.384	4.772	11.076
10	Infrastructure renewals expenditure	£m	3	-31.368	-30.118	-31.557	-20.144	-20.145	-30.250	0.000	0.000	0.000
11	Disposal of fixed assets	£m	3	1.177	1.164	1.046	1.693	1.096	1.536	0.646	1.467	0.250
12	Movements on long term loans to group companies	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	-2.998	-0.392	-1.097
13	Net cashflow from investing activities	£m	3	-155.024	-158.339	-157.798	-126.073	-135.714	-174.082	-184.265	-178.481	-161.769
D	**ACQUISITIONS AND DISPOSALS**											
14	Acquisitions and disposals	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
E	**EQUITY DIVIDENDS**											
15	Equity dividends paid	£m	3	-26.587	-21.391	-21.562	-22.887	-21.510	-21.153	-23.742	-25.185	-27.146
F	**MANAGEMENT OF LIQUID RESOURCES**											
16	Net cashflow from management of liquid resources	£m	3	-5.300	4.700	0.580	-0.980	-1.501	-0.007	1.237	-0.006	-0.001
17	Net cashflow before financing	£m	3	-59.883	-34.992	-35.173	-32.889	-29.481	-66.313	-53.308	-37.325	-52.352
G	**FINANCING**											
18	Capital in finance lease rentals	£m	3	-3.675	-1.473	-1.672	-1.888	-2.122	-2.376	-5.706	-7.028	-8.148
19	New bank loans taken out	£m	3	75.000	29.000	36.000	36.000	30.000	69.000	64.000	40.000	83.000
20	Repayment of bank loans	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	Proceeds from share issues	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	Net cash inflow from financing	£m	3	71.325	27.527	34.328	34.112	27.878	66.624	58.294	32.972	74.852
23	Increase/(decrease) in cash in the year	£m	3	11.442	-7.465	-0.845	1.223	-1.603	0.311	4.986	-4.353	22.500

Table 28 – Cashflow statement

Significant movements from last period

Line 1 - Net cashflow from operating activities

This has decreased by £31.773m (13.85%) compared to the previous year's figures in the accounts. The reconciliation of operating profit to net cashflow from operating activities is shown in Table 29.
This is summarised in Table 29 as follows:

1	Current cost operating profit	£m	114.965
2	Movement in working capital	£m	11.878
3	Depreciation	£m	88.080
4	Current cost profit on sale of fixed assets	£m	(0.193)
5	Other non-cash profit and loss items	£m	(17.584)
6	Net cash flow from operating activities	£m	197.146

Line 3 – Interest paid

Interest paid has decreased by 0.40% from £45.293m to £45.113m. There is an additional loan drawdown of £83m in 2020-2021. The balance on loans can be summarised as follows:

At 1 April 2007	£150m
At 31 March 2008	£307.56m (average for year £228.78m)
At 31 March 2009	£457.56m (average for year £382.56m)
At 31 March 2010	£627.56m (average for year £542.56m)
At 31 March 2011	£737.56m (average for year £682.56m)
At 31 March 2012	£807.56m (average for year £772.56m)
At 31 March 2013	£882.56m (average for year £845.06m)
At 31 March 2014	£911.56m (average for year £897.06m)
At 31 March 2015	£947.56m (average for year £929.56m)
At 31 March 2016	£983.56m (average for year £965.56m)
At 31 March 2017	£1,013.56m (average for year £998.56m)
At 31 March 2018	£1,082.56m (average for the year £1,048.06m)
At 31 March 2019	£1,146.56m (average for the year £1,114.56m)
At 31 March 2020	£1,186.56m (average for the year £1,166.56m)
At 31 March 2021	£1,269.56m (average for the year £1,228.06m)

Line 4 - Interest in finance lease rentals

The PPP project ([redacted] during 2020-2021 gave rise to [redacted] (2019/20: [redacted]) interest payable on the associated finance lease. This decrease arises as an element of the unitary charge paid to the concessionaire is allocated by NIW to reducing the principal on the lease (see Line 18). There was [redacted] of interest payable relating to finance leases on the implementation of IFRS 16 Leases in 2019/20.

Line 8 - Gross cost of purchase of fixed assets

These have decreased by £12.330m (6.69%). This is consistent with capital expenditure plans for 2020-21 and the movement in capital creditors across the period.

Line 16 - Net cashflow from management of liquid resources

Management of liquid resources represents the movement in monies held on short-term deposit accounts.

Monies on deposit have increased by £0.001m from the end of 2019-2020 to the end of 2020-2021 with a consequent increase in cashflow. The balance on deposit at the end of 31st March 2021 is £1.277m.

Line 18 - Capital in finance lease rentals.

An amount of [redacted] was made in payment against the Alpha, Omega and Kinnegar PPP finance lease. An amount of [redacted] was made against finance leases on implementation of IFRS 16 Leases in 2019/20.

Line 19 - New bank loans taken out

In 2020-2021 £83m of additional loan notes were drawn down from DfI. These new loans were required to part finance the ongoing capital expenditure programme with the balance of capital expenditure financed by working capital.

PPP

The elements of PPP included in the cashflow are as follows:
The PPP aspect to lines 4 and 18 in Table 28 are outlined in 'significant movements from last period' in this commentary.

Included in Line 8: Gross cost of purchase of fixed assets in Table 28 is [redacted] in respect of capital maintenance additions for Alpha, Omega and Kinnegar PPP paid for via the unitary payments. All other capital expenditure for Alpha, Omega and Kinnegar is accounted for through the repayment of the finance lease.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 29 REGULATORY ACCOUNTS (HISTORIC COST ACCOUNTING
RECONCILIATION OF OPERATING PROFIT TO NET CASH FLOW FROM OPERATING ACTIVITIES (TOTAL

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
1	Historical cost operating profit	£m	3	19.872	19.799	59.111	53.738	56.925	106.485	141.077	142.734	114.964
2	Not used											
3	Movement in working capital	£m	3	0.595	8.388	12.045	-9.675	-1.670	-5.910	3.535	1.870	11.878
4	Receipts from other income	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	Depreciation	£m	3	150.895	135.458	104.185	110.522	110.854	56.418	82.165	84.274	88.080
6	Historical cost profit on sale of fixed assets	£m	3	-0.303	-0.208	-0.488	-0.091	0.489	-1.035	-0.551	-0.467	-0.193
7	Infrastructure renewals charge	£m	3	30.761	33.409	32.309	25.286	25.008	25.757	0.000	0.000	0.000
8	Other non-cash profit and loss items	£m	3	-18.164	-4.265	-10.615	-8.036	-5.897	1.054	-5.168	1.035	-17.583
9	Net cash flow from operating activities	£m	3	181.015	190.580	195.707	170.228	182.677	182.769	221.058	229.446	197.146

Chapter 30 – Capital investment Summary Report

Introduction

This chapter provides a consolidated report on Capital investment which draws on Chapters 32, 35, 26, 36a and 40 and associated tables.

PPP

No PPP expenditure is reported in these tables. There was no Capital spend in 2020/21 relating to PPP that is not included within the unitary charge payments. In relation to Capital additions the only Capital not included in this table is the PPP Alpha Capital maintenance charge of [redacted].

Capital investment driver allocation (Service categorisation and purpose allocation)

The Capital Investment Driver Allocation (CIDA) methodology has remained consistent as per recent PC10/PC13 years. NI Water captures Service Categorisation, Life Categories (as reported in Table 34) and Purpose Allocation within our CIDA data capture. This data is captured within CPMR at project level and used for CIM (Table 40) and the other related AIR tables.

Based upon the PC15 query responses on CIDA allocation NI Water have revised the CIDA allocation manual to reflect the revisions. These are being integrated into the capital projects. A CIDA training programme should be delivered to ensure project managers and consultants, maintain an understanding of the CIDA allocation process. This will enable new staff to be trained and current staff to have a refresher.

No apportionment has taken place during the analysis and table population stage as this was completed by Project Managers at the initiation of the project, and reviewed at appropriate gateways for EP projects.

During 2020/21 all CIM (Table 40) information has been reported directly from CPMR without the detailed manual assessment required in previous years. For the related AIR Tables M & G spend has been reported from CPMR, but Operational Capital has had to be analysed manually as per previous years as the data on CPMR is not in a format that allows for robust reporting. Further refinements have been delayed to allow for more automation for the completion of the tables. As a result the same process used in AIR 20 has been adopted for AIR 21.

Assets Adopted at Nil Cost

Sewer adoptions paid by third parties of £40.153m are included in column 4, line 7 of Table 32 within Sewerage infrastructure enhancements. Sewerage Pumping Stations paid by third parties of £0.527m are included in Col 5, line 12 within Sewerage non infrastructure enhancements.

All of the investment reported in block D of Table 36 is reported as ‘Supply Demand Balance: New Development’.

The calculation of gross asset valuation for adopted sewerage assets is based on the unit costs derived from NI Water sewer framework rates.

The unit costs are applied by diameter banding and total lengths laid. The costs include pipe laying, pipe supply, laterals, manholes and compensation.

Total Asset Additions reconciliations

NI Water moved to IFRS accounting from GAAP in 2018/19

- Total asset additions – Water Service – Check to Table 25 line 5 col 4.
  For AIR 19 the reported numbers in these two tables are as follows:
  Table 25 – £78.525m
  Table 36 – £78.544m

The main variances in the above two figures are explained as follows:

a) PPP Alpha Capital maintenance of [redacted] is not included in Table 36
b) No decapitalised projects in 2020/21
c) An element of Capital Interest (Total value £5.477m) is included in table 25

- Total asset additions – Sewerage Service – Check to Table 25 line 5 Col 8.
  For AIR 19 the reported numbers in these two tables are as follows:
  Table 25 – £139.464m
  Table 36 – £139.488m

The main variances in the above two figures are explained as follows:

d) PPP Omega Capital Maintenance of [redacted] was not included in Table 36.
e) No decapitalised projects in 2020/21
f) An element of Capital Interest (Total value £5.477m) is included in table 25

Expenditure to reduce leakage

The table below provides a breakdown of the leakage expenditure in 2020/21. This includes the purpose allocations which have followed the principle as set out in PC15 Final Determination.

It should be noted that the figures reported include Leakage repair costs. These are completed by the Water Networks function, but the Leakage and Water Networks are now part of the Water Production Function. The Opex costs reported in the table are the total Opex costs relating to Leakage. This is comprised of Leakage Function staff costs and leakage repair costs incurred by both the Leakage and Water Network function.

Activity	**In Year actual spend per category (£m)**	**Purpose allocation**
Leakage detection costs - Opex	1.800	OPEX
Leakage repair costs - Opex	7.000	OPEX
Leakage detection costs - capex	0.309	Base
Leakage infra replacement repair costs - capex	0.673	Base
Leakage detection equip	0.333	Base
Leakage software upgrades and developments	0.000	Base
New leakage technology	0.000	Base
DMA[1] studies	0.000	Base
Trunk Main studies	0.000	SDB Growth
DMA optimisation	0.000	SDB Growth
Water balance asset data assessments	0.000	Base
ELL[2] reviews	0.000	Base
Pressure Management	1.120	SDB Growth
PRV[3] replacements	0.223	Base
GSM[4] Loggers/Meter studies/Meter replacement	0.264	Base
Other	0.002	Base
IFRS Adjustment	-1.213	Base
Total (OPEX)	**8.800**	
Total (Capex)	**1.712**	
Total Leakage investment	**10.512**	

[1] District Metered Area – zoned area of water distribution network.

[2] Economic Level of Leakage – assessment of benefits gained from fixing leakage against costs of fixing.

[3] Pressure Reducing Valve – used to manage pressure within the infrastructure network.

[4] Global System for Mobile Communication – used where conventional telemetry/radio systems are not appropriate.

Capital programme variance

The Capital programme for 2020/21 when compared to the PC15 final determination has under delivered in the 'Water Service' Non Infrastructure Programme but delivered in the 'Sewerage Service'. It is important to note that NI Water was not funded to deliver the PC15 Final Determination across the price control period and produced an adjusted budget which reflected the reduced funding allocation.

The main reasons for variance in 2020/21 are as follows:

a) The largest variances are found in Sub programme 06 (Service reservoirs and clear water tanks), Sub Programme 12 (Sewerage Maintenance, Flooding and DG5) and Sub Programme 16 (Wastewater treatment (new starts)). This is due to the acceleration of Clear Water Tank schemes within the PC15 period and the reprofiling of Wastewater Projects into PC21 due to Lands/Covid delays. One of the largest overspends has occurred in Sub Programme 12 where Phase 1 of Queens Bridge Syphons was accelerated and brought into the PC15 programme. The remaining overspend in sub programme 12 has been the result of additional sewer rehabilitation work identified during DAP investigations as well as increased costs associated with the UID & DG5 Programmes resulting in an overspend of around £3.9. This overspend is an improvement on previous years figures and shall continue to be monitored and managed on an ongoing basis into PC21.
b) Sub Programme 8 continued to have an underspend due to adjustments made to accommodate the Capital Programme in year review. Sub Programme 2 was managed to reduce the PC15 early Investment which had already taken place within the Base Maintenance Programme.

Year 6 saw the PC15 overspend in base maintenance being managed with an in-year baseline of £89.26m against an actual figure of £80.20m and will continue to be managed as PC21 proceeds.

Energy efficiency and renewable energy schemes

A summary of Energy efficiency and renewable energy schemes is included in Annex A at the end of this document.

2020/21 Q4 Capital Investment Monitoring Return (Table 40)

Company Baseline

A PC15 baseline is included in this Capital Investment Monitoring (CIM) submission. The PC15 capital baseline is a detailed listing of projects and programmes of work, the costs and outputs which have been presented to the Utility Regulator through the Price Control process. The baseline is expressed in 2012/13 prices, post efficiency.

Capital Expenditure Commentary

This submission is completed primarily using CPMR with full reconciliation completed to ORACLE.

The following is a summary of CAPEX expenditure in 2020/21 (excluding contributions) at the end of Q4 as per ORACLE and reconciled to the CIM submission shown in money of the day.

	£m
Total Gross capital expenditure as per ORACLE	174.105
Capital works programme expenditure	116.821
Operations Capital from CPMR	28.032
M & G capital from CPMR	13.691
Capitalised Salaries and overheads	15.528
Rounding from ORACLE to CAPTRAX/CPMR	0.034
Reconciled Total	174.105

During the period (April 2020 – March 2021) there has been Capital income in the form of Grants and Contributions totalling to £8.638m. This figure is not included on the CIM submission.

Inflation Assumptions

The project costs reported in the 'current actual or projected' portion of the CIM are in current prices. All project costs are captured in nominal prices as no inflation assumptions are applied within CPMR.
Capital expenditure within the Final Determination was inflated by RPI which was linked to projections made by the Office for Budgetary Responsibility (OBR) in March 2014. This allowed 3.4% RPI annually through the six year period. Table 2 shows actual RPI in 2015/16, 2016/17, 2017/18 and OBR forecast figures for the years 2018/19 to 2020/21 (based on November 2018 economic and fiscal outlook). This shows a reduction in inflation levels from that assumed in the PC15 FD. NI Water continue to monitor the OBR view of RPI.

Inflation (RPI) projections

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
PC15 FD assumed Indices	266.800	275.871	285.250	294.949	304.977	315.346
	3.4%	3.4%	3.4%	3.4%	3.4%	3.4%
Current actual and projected indices (OBR Nov 2018)	259.433	264.992	274.908	284.230	292.849	301.965
	1.1%	2.1%	3.7%	3.4%	3.0%	3.1%

Reconciliation with Table 36

Table 36 - Water service nominal expenditure

	Gross Capital expenditure - Water Service	T36 £m	CIM £m	Variance £m	Variance %
1	MNI (gross of grants and contributions)	19.599	20.418	0.819	4.01
2	Infrastructure renewals expenditure (gross)	21.691	21.898	0.207	0.94
3	Capex: Total quality enhancement programme	10.637	10.910	0.273	2.51
4	Capital expenditure - customer service	13.424	13.018	-0.406	-3.12
5	Capital expenditure - supply demand balance	13.194	13.271	0.077	0.58
6	Gross Capital expenditure - Water Service	78.544	79.515	0.971	1.22

Table 36 - Sewerage service nominal expenditure

	Gross Capital expenditure - Sewerage Service	T36 £m	CIM £m	Variance £m	Variance %
7	MNI (gross of grants and contributions)	40.040	39.926	-0.114	-0.29
8	Infrastructure renewals expenditure (gross)	15.179	15.032	-0.147	-0.98
9	Capex: Total quality enhancement programme	21.316	17.238	-4.078	-23.66
10	Capital expenditure: customer service	8.389	8.835	0.446	5.05
11	Capital expenditure supply demand balance	13.883	14.165	0.282	1.99
12	Gross Capital expenditure - Sewerage Service	98.807	95.196	-3.611	-3.79

The above table shows the comparison between the CIM (Table 40) and Table 36. Assets adopted at NIL cost reported in Table 36 have been excluded from this comparison. The variances shown arise because the data held for population of the AIR tables has direct links between the asset type, service area and investment driver. Where there are complex projects this detail is required to provide an accurate analysis of the expenditure. The summary detail on the CIM does not give a full transparency of this detail as the direct link between asset type, service area and investment area is lost but does give a reasonable interpretation of the investment. In addition direct comparison is difficult as Capitalised Salaries and overheads are a single line on the CIM which has had a service allocation and purpose allocation applied based on the rest of the programme. For AIR 21 the Capital salaries and overheads were applied by examining each of the three elements of the programme namely, CWP, M & G and Operations Capital and assigning Salaries and Overheads against each of these programmes before combining into a single line. Whilst still not exact it more closely reflects the way salaries are allocated to individual projects. Within AIR the Capitalised Salaries and overhead information is included within individual project costs. As well as this, a large variance is observed in the Sewerage Service due to the fact that INTERREG projects to a value of ca £4.466m are not reported on in the CIM however are included for completeness in the AIR figures.

Sixteen Box Summary

2020/21 Current Actual Projected 16 box summary showing expenditure £m (nominal)

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	6.941	21.898	2.888	10.088	41.81
Water Non-Infrastructure	3.969	20.418	10.130	3.184	37.70
Sewerage Infrastructure	3.678	15.032	4.101	4.746	27.56
Sewerage Non-Infrastructure	13.560	39.926	4.734	9.419	67.64
Totals	28.15	97.27	21.85	27.44	174.71

2020/21 Current Actual Projected 16 box summary in percentages

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	4.0%	12.5%	1.7%	5.8%	23.9%
Water Non-Infrastructure	2.3%	11.7%	5.8%	1.8%	21.6%
Sewerage Infrastructure	2.1%	8.6%	2.3%	2.7%	15.8%
Sewerage Non-Infrastructure	7.8%	22.9%	2.7%	5.4%	38.7%
Totals	16.1%	55.7%	12.5%	15.7%	100.0%

2020/21 Baseline 16 box summary showing expenditure £m (2012/13 prices)

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	10.70	13.48	0.70	5.81	30.68
Water Non-Infrastructure	1.64	25.51	2.19	8.06	37.40
Sewerage Infrastructure	2.05	12.04	1.70	3.68	19.46
Sewerage Non-Infrastructure	6.62	38.24	2.85	5.97	53.68
Totals	21.00	89.26	7.45	23.51	141.22

2020/21 Baseline Projected 16 box summary in percentages

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	7.6%	9.5%	0.5%	4.1%	21.7%
Water Non-Infrastructure	1.2%	18.1%	1.5%	5.7%	26.5%
Sewerage Infrastructure	1.5%	8.5%	1.2%	2.6%	13.8%
Sewerage Non-Infrastructure	4.7%	27.1%	2.0%	4.2%	38.0%
Totals	14.9%	63.2%	5.3%	16.6%	100.0%

PC15 16 box FD baseline (2012/13 prices): Expenditure across the PC15 programme £m

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	65.28	87.47	4.42	48.93	206.09
Water Non-Infrastructure	21.46	129.85	15.44	30.16	196.90
Sewerage Infrastructure	26.26	64.64	18.07	23.54	132.51
Sewerage Non-Infrastructure	53.66	222.75	20.38	30.88	327.67
Totals	166.66	504.71	58.30	133.50	863.17

PC15 16 box summary: Baseline expenditure by percentage across the PC15 programme

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	7.56%	10.13%	0.51%	5.67%	23.88%
Water Non-Infrastructure	2.49%	15.04%	1.79%	3.49%	22.81%
Sewerage Infrastructure	3.04%	7.49%	2.09%	2.73%	15.35%
Sewerage Non-Infrastructure	6.22%	25.81%	2.36%	3.58%	37.96%
Totals	19.31%	58.47%	6.75%	15.47%	

Variance on Nominated Outputs (2012/13 prices)

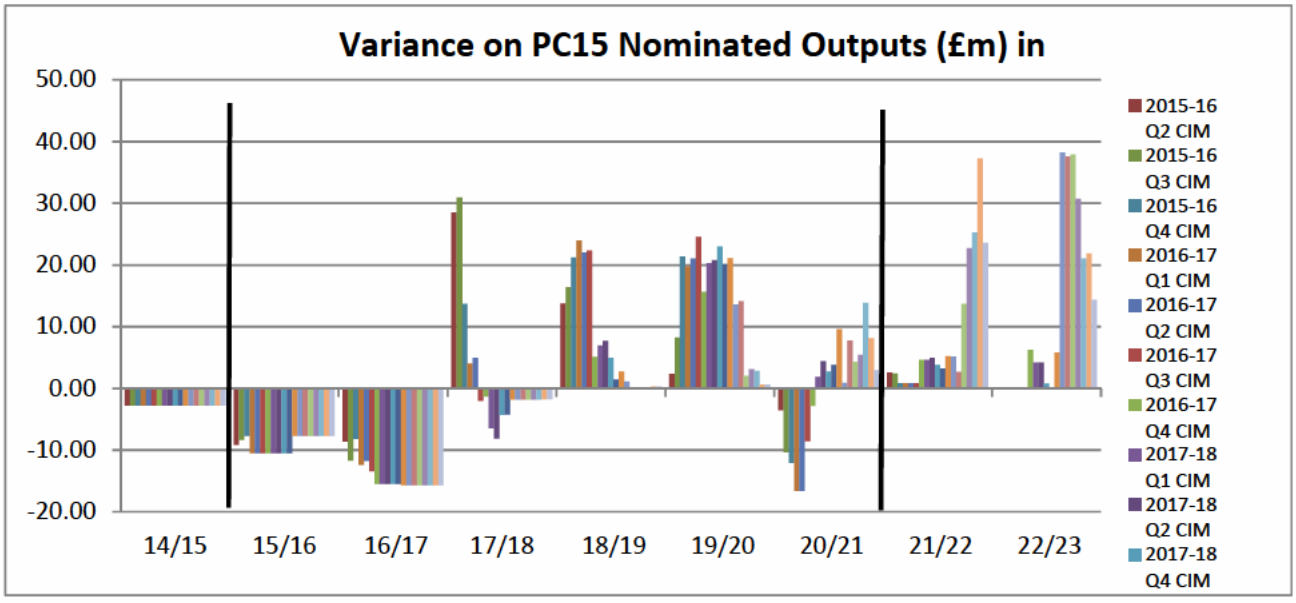
Figure 1 illustrates the movement in the PC15 nominated output projects: this is based on the PC15 FD baseline and assumes a fully funded Final Determination budget with catch-up. In 2014/15 a number of nominated projects were delayed and carried into PC15. In addition, PE reductions have had an impact in PC15 year 1, 2, 3 and 4. The variance showing in 2021/22 is due to spend on KF350 Dungannon WWTW and KR489 Glenmachan Strategic Project Phase 1a Sicily & Marguerite Park Flood Alleviation.

Each year from 2015/16 up until 2017/18 has had a negative variance however 2018/19 onwards is showing a positive variance to give a cumulative total of -£21m.

This is reflected in Figure 1 showing:
-£7.72m in 2015/16;-£15.70m in 2016/17;-£1.77m in 2017/18; £0.28m in 2018/19; £0.62m in 2019/20; £2.95m in 2020/21.

Overall this is an improvement from the maximum previous variance shown to date (being -£34.15m at end of Q2 in 2017/18). However NI Water must continue to ensure sustained focus on delivery as we enter PC21 period.

Figure 1: Variance on Nominated Outputs



CIM summary Table

Code	Title	Baseline £m (2012/13 prices)	Current actual or projected 2020/21 £m (nominal)	Current actual or projected 2020/21 £m (2012/13 prices using latest OBR RPI forecast)
0	Staff Salaries and on-costs	21.97	15.53	12.80
1	Base maintenance (Water)	4.03	6.35	5.23
2	Base maintenance (sewerage)	18.35	19.98	16.47
3	Water resources	2.13	2.27	1.87
4	Water treatment works	7.63	4.53	3.73
5	Water trunk mains	0.00	2.85	2.35
6	Service reservoirs and clear water tanks	5.52	9.62	7.93
7	Service reservoir rehabilitation	2.50	0.81	0.67
8	Water mains rehabilitation	17.40	14.70	12.12
9	Leakage	2.48	3.72	3.06
10	Ops capital Water	6.02	11.12	9.17
12	Sewerage Maintenance, UIDs, Flooding	11.84	19.10	15.75
15	Wastewater treatment (carryover)	0.00	0.03	0.02
16	Wastewater treatment (new starts)	12.73	21.49	17.72
17	Small wastewater treatment works	1.84	2.25	1.85
18	Ops capital Sewerage	7.11	12.54	10.34
19	Meter installation and maintenance	3.54	1.35	1.11
20	Management and general	10.06	20.59	16.98
23	Minor watermain repairs, requisitions, road schemes and public realm	3.19	3.90	3.22
24	Minor sewer repairs, requisitions, road schemes and public realm	2.89	2.90	2.39
98	Additional Outputs Programme (Enhancement)	0.00	0.00	0.00
99	PC15 balancing line (Base)	-6.54	-0.90	-0.74
Total	Excluding additional outputs	134.68	174.71	144.04
Total	Including additional outputs	134.68	174.71	144.04

Nominated Outputs

Refer to Table 40a and associated commentary for full detail on nominated outputs over Year 6 of the PC15 period.

Water

Beneficial Use was achieved at the following Trunk Main within 2020/21:

Scheme	Site	Quarter claimed
JL790	Northern WRZ Resilience	2020/21 Q4

Beneficial Use was achieved at the following Water Treatment Works within 2020/21:

Scheme	Site	Quarter claimed
JI052	Killyhelvin Treatability	2020/21 Q4

Beneficial Use was achieved at the following Clear Water Tank within 2020/21:

Scheme	Site	Quarter claimed
JP631	Killyhelvin Clear Water Tank	2020/21 Q4

Sewerage

Beneficial Use was claimed on the following UIDs during 2018/19:

Ref	UID	Scheme	UID Name	Quarter claimed
1	391	KA262	Islandreagh WWPS Upgrade	2020/21

Beneficial Use was achieved at the following Waste Water Treatment Works within 2018/19:

Scheme	Site	Quarter claimed
KC463	Ballybogy WwTW	2020/21 Q4
KS918	Greyabbey WwTW	2020/21 Q4
KC427	Ballyvoy WwTW	2020/21 Q4

Beneficial Use was achieved at the following Waste Water Treatment Works from the Rural WwTW Programme:

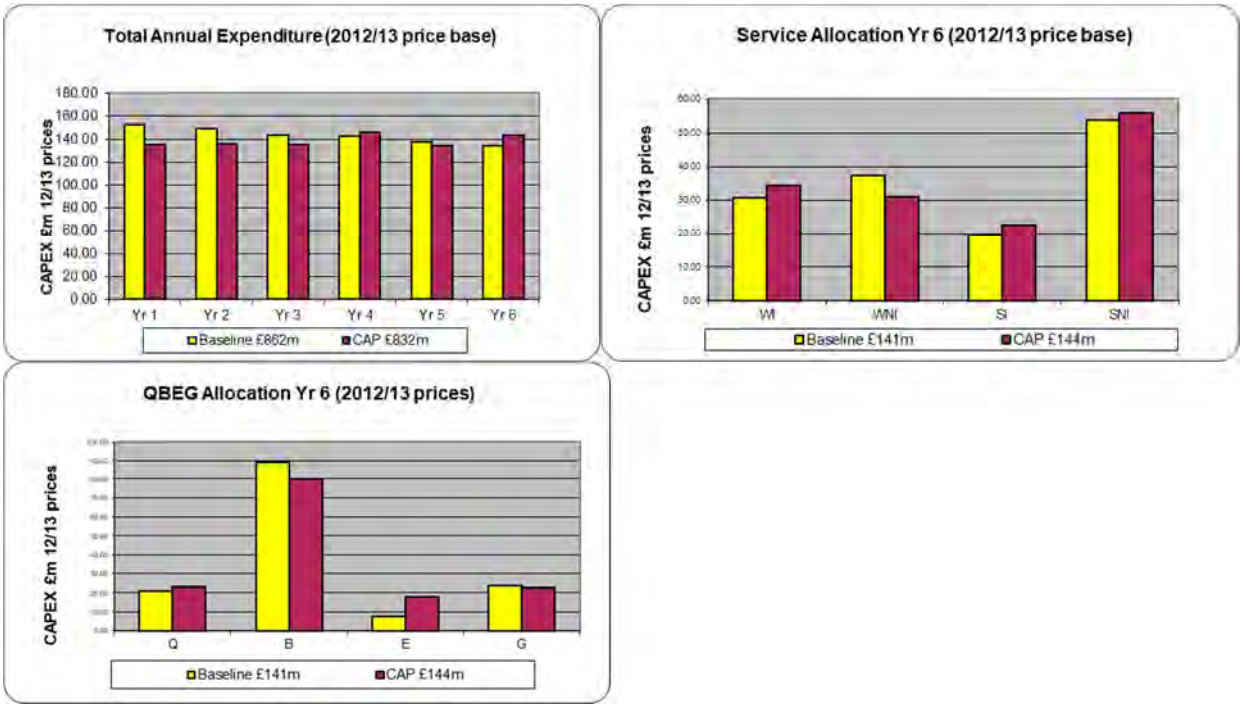
Scheme	Site	CAR ID	Quarter claimed
KI556	Carmean WWTW	S01608	2020/21 Q2
KI556	Rock Town WWTW	S01635	2020/21 Q2
KI556	Drumard Primate WWTW	S02404	2020/21 Q2
KI556	Craignasasonagh WWTW	S00308	2020/21 Q2
KI556	Lisnagunogue WWTW	S01192	2020/21 Q3
KI556	Ballymaderfy WWTW	S02728	2020/21 Q2
KI556	Church Hill WWTW	S03050	2020/21 Q2
KI556	Ringsend WWTW	S01170	2020/21 Q2
KI556	Buckna WWTW	S01432	2020/21 Q2
KI556	St Johns Terrace WWTW	S02717	2020/21 Q3
KI556	Lisnamuck_Magherafelt	S01626	2020/21 Q4
KI556	Moneyscalp WwTW	S02710	2020/21 Q4

Regulatory Dashboard

Figure 2 is an extract of the Regulatory Dashboard for period to end of December 2020/21. Only graphs that are currently meaningful have been included. 2012/13 prices are used in the graphs and the following is a summary of the main points to note:

- Graph 1: Total Annual Expenditure. The Graph shows a £9.37m increase in 2020/21 in funding available, when the baseline funding and Current Actual Projected are stated in 2012/13 terms.
- Graph 2: Service allocation. Service allocation for 2020/21 shows an element of imbalance between water and wastewater: Water Infrastructure (WI) is broadly on target while the Water Non-infrastructure (WNI) is below the baseline profile. Sewerage Infrastructure (SI) and Sewerage non-infrastructure (SNI) are both above profile.
- Graph 3: QBEG. 2020/21 indicates £80.20 actual expenditure on base against a £89.26m baseline. This £9.06m variance shows an ongoing improvement over the last years of the PC15 Period.
-

Figure 2: 2020-21 Q4 CIM. RPI as per current actual and NI Water projected.



Capital expenditure commentary

This submission is completed primarily using CPMR with full reconciliation completed to ORACLE.

Annex A

1. Purpose and background

This Annex A is a report on capital projects associated with the NI Water Energy Efficiency programme for inclusion in the NI Water Annual Information Return (AIR 17) Chapter 30. This report was first requested in 2016, at which time the Utility Regulator specifically outlined reporting elements for inclusion as follows:

"Energy efficiency and renewable energy schemes"

3.13 The commentary should identify the total invested in energy efficiency and renewable energy schemes and the allocation of this investment by purpose.

3.14 The PC15 final determination included funding for a range of energy efficiency and renewable energy schemes proposed by the company intended to contribute cumulative energy reductions of around 12GWhr by the end of the PC15 period. This expenditure is spread across a range of investment categories within the capital expenditure tables. The company should summarise progress on delivery of energy efficiency and renewable energy savings through these schemes in a specific section within the consolidated report on capital investment. This should include an estimation of the cumulative energy reductions delivered against PC15 estimates and an explanation of how they have been derived. Explanations for any variance to original delivery plans should be provided.

3.15 In the PC15 final determination we noted that confirmation of the scope, costs and benefits for the sub-meter schemes were subject to the completion of a feasibility study and that NI Water needed to demonstrate that the investment was beneficial and confirm this to the Utility Regulator before embarking on wide spread sub-metering. Progress on this issue should also be addressed in this section of the consolidated report."

2. Context

The PC15 Final Determination includes capital funding of £9.0m for a range of energy efficiency and renewable energy schemes that were proposed by NI Water to contribute cumulative energy reductions of 12GWh by the end of the PC15 period.

Since the PC15 energy efficiency and renewable energy action plan was first drafted, the energy landscape and NI Water's role in it has changed. Decarbonisation, decentralisation and digitalisation are rapidly transforming electricity grids, alongside continuing technological advances in energy storage and the electrification of transportation and heat.

In addition, Government policy changes in 2015, particularly the closure of the Renewables Obligation, negatively impacted the investment profile of renewable energy generation projects.

These dramatic and unforeseen changes to policy instruments, together with rapid changes to the electricity grid, necessitated that NI Water strategically review the PC15 Final Determination to ensure that best value for money is achieved.

3. Reporting requirements 3.13 and 3.14

3.13 The commentary should identify the total invested in energy efficiency and renewable energy schemes and the allocation of this investment by purpose.

3.14 The PC15 final determination included funding for a range of energy efficiency and renewable energy schemes proposed by the company intended to contribute cumulative energy reductions of around 12GWhr/ by the end of the PC15 period. This expenditure is spread across a range of investment categories within the capital expenditure tables. The company should summarise progress on delivery of energy efficiency and renewable energy savings through these schemes in a specific section within the consolidated report on capital investment. This should include an estimation of the cumulative energy reductions delivered against PC15 estimates and an explanation of how they have been derived. Explanations for any variance to original delivery plans should be provided.

3.1. NI Water Response

Northern Ireland Water has a dedicated PC15 Energy Efficiency programme, some of which is a continuation of investments undertaken during PC13. Details of PC15 investment by purpose are further detailed in Appendix 1 and Appendix 2 of this report.

The Energy Efficiency Programme has been managed under five work streams:

- Renewables
- Clean Water
- Wastewater
- PPP
- Negative Opex

Benefits from the energy efficiency and renewable energy schemes are expressed as:

- Reduced Consumption kWh;
- Reduced Rate of electricity (ppu);
- Self-Generation;
- Increased income, either via ROCs or exporting electricity to the grid.

3.1.1. Renewables

Renewable initiatives are split into two categories:

- Self-Generation from NI Water Assets
- Renewable Generation via Power Purchase Agreements (PPAs)

3.1.1.1. Self-Generation from NI Water Assets

EP017 Renewable Energy

Capital Requested in DD Business Plan: £2.176m

Current Assessment of Funding Required during PC15: £1.247m

Funding available for EP017 was allocated for the purpose of investing in renewable energy during PC15. Within the PC15 Business Plan, NI Water proposed to develop a single wind turbine at the North Coast WwTW. The business case for this project was deemed viable as the kWh generation could be consumed within the WwTW (at the North Coast WwTW) and

would receive an income from the Governments Renewable Obligation Certificates (ROCS) incentive scheme. After two unsuccessful planning applications, the balanced of this proposed expenditure was reallocated to the installation of Solar Photo Voltaic Systems.

Multiple Sites - Solar Photo Voltaic (<150kW each)
Capital Requested in DD Business Plan: £0
Current Assessment of Funding Required: £1.54m
NI Water installed approximately 8MW of Solar PV systems during PC15 to date. 57 installations have occurred across NI Waters Asset base (throughout Northern Ireland) during PC15. Funding for these installations was provided from EP017 and BE017.

Dunore WTW - Solar Photo Voltaic (5MW)
Capital Requested in DD Business Plan: £0
Current Assessment of Funding Required: £7.9
NI Water were previously seeking to take advantage of land adjacent to Dunore Water Treatment Works to procure renewable energy through a private wire Power Purchase Agreement ("PPA"). The land had planning permission for a 46MW solar farm, which would enable NI Water to utilise existing connection offers from NIE Networks. This opportunity concluded unsuccessfully when the tenderer withdrew their BAFO.

An alternative 5MW project was subsequently identified whereby NI Water would lease the land from the landowner, buy the development rights for the site and award the design and build contract through an existing framework.

Legal opinion confirmed that this project could be viewed as a lands transaction and was therefore compliant with the Utility Contract Regulations (UCRs). In addition, albeit under a challenging timeframe, the project could reasonably expect to qualify for ROCs if completed before 31 March 2018.

Following EC approval, NI Water constructed the 5MW Solar PV array at Dunore Point WTW during the 2017/18 FY. The project was completed in advance of the closure of the ROC grace period deadline. Benefits from this windfarm were realised in the 2018/19 FY in line with Business Case estimates of £560k (£635k final benefits) and 2,000 tCO_2 per annum. In 20/21 FY the generation from this site was 6.1m kWh.

Delivery of this project has received favourable public recognition and helped achieve a number of strategic objectives for NI Water, including:

- Reduce the cost per kWh of electricity supply at major energy consuming sites
- Reduce the net cost paid for electricity used at major consuming sites
- Reduce the longer term cost of electricity and volatility in electricity pricing at major consuming sites
- Increase NI Water's use of renewable energy to mitigate the effects of climate change

JI041 Hydro power from raw water
Capital Requested in DD Business Plan: £0.439m
Current Assessment of Funding required £0.051m
Within the PC15 business plan (after a feasibility exercise), ten potential hydro schemes were identified for delivery at eight sites.

This envisaged programme of work was impacted by the withdrawal of the incentive scheme from central Government and NIE Networks connection process.

JI040 Recovering Energy from the water distribution System
Capital Requested in DD Business Plan: £1.350m
Current Assessment of Funding Required during PC15: £1.484m
Due to technical and connection uncertainties around this initiative, NI Water focused on sites with potentially attractive payback periods. Within the PC15 programme, NI Water planned to conduct a trial to assess the viability of generating electricity from Pressure Relief Valves in the water network. Due to technical difficulties, withdrawal of the government incentive schemes and NIE connection issues this project has been withdrawn for implementation during the PC15 period.

3.1.2. Renewable Generation via Power Purchase Agreements (PPAs)

Within the PC15 Energy Efficiency programme, PPAs have been identified as a credible efficiency measure. Under a PPA, a third party would fund and deliver the solution (e.g. a wind turbine). It is envisaged NI Water would enter into contracts to purchase the electricity generated at a rate below that available from the main electricity suppliers (from the grid), for a defined period e.g. 10 – 15 year duration. Such arrangements would contribute to renewable energy targets and should deliver an Opex cost saving over the contract duration.

Following submission and approval of an Outline Business Case, the Energy Team are progressing with market engagement to determine the business benefits of entering into Corporate PPA arrangements that include both 'private wire' and virtual/synthetic PPAs to inform the development of a Final Business Case. This Final Business Case is being discussed with DfI/DoF for both the Private Wire and Virtual PPA arrangements. Both DfI and SIB were consulted during development of the Outline Business Case.

3.1.3. Clean Water Initiatives

Clean Water initiatives identified within NI Waters Energy Efficiency Programme for PC15 include:

JI069 WPS Pump Efficiency
Capital Requested in DD Business Plan: £1.286m (JI069 and JI075 combined)
Current Assessment of Funding Required during PC15: £0.879m
Five WPS had control optimisation or pumps replaced as part of this project during the 2016/17 and 2017/18 FY's. The benefits associated with these upgrades amounts to £47k.

Pump Optimisation (NA061)
NI Water undertook pump optimisation work over 19/20 and 20/21 FY's. Pump control changes were implemented at 10 No. sites in 20/21 FY with benefits of £53k realised during this period. We are continuing to work closely with the Water PL and Asset Delivery to identify further pump optimisation opportunities (at WTW & WPS) within the PC21 period ensuring that appropriate pump selection is built into the Asset Delivery Base Maintenance work.

An energy performance dashboard is in development with Data Analytics colleagues to help better understand site performance and where pump improvement work needs to be targeted.

JI071 – Electrical Sub-meters (water)
Capital Requested in DD Business Plan: £0.488m
Current Assessment of Funding Required: £0.007m
Sub-metering is viewed as an important enabler for energy efficiency. Trials have been conducted at one Water site and one Wastewater site (KI545).

Advances in sensor and communication technology have also caused NI Water to strategically review how optimal sub-metering may be cost effectively achieved in compliance with the NIS Directive. Within PC21 – we are targeting sub metering at 45 sites (mixture of Water & WW sites) to better understand performance data.

JI032 – Buildings, water treatment sites - water regulation compliance & energy efficiency

Capital Requested in DD Business Plan: £0.741m
Current Assessment of Funding Required: £0.216m

The Energy element of the PC15 Business Plan included funding for NI Water to place energy efficiency measures into buildings at its operational sites to improve energy efficiency. This work (mainly heating and lighting) has been undertaken during 17/18 with further sites completed in the 18/19 FY. Financial benefits in 18/19 amounted to £57k based on work completed in 17/18 FY, with benefits of £25k realised in 19/20 FY. No further work in relation to Water buildings took place in 20/21 FY.

WD083 Seasonal Time of Day (STOD)

Capital Requested in DD Business Plan: £0m
Current Assessment of Funding Required: £0.272m

This programme of work moves electricity use from peak consumption periods to off peak consumption periods at 17 WPS during 2015/16 and 2016/17. Expenditure during 2015/16 (£59k) and 2016/17 (£30K) on this project produced a cost saving of c. £40k during this same period. STOD savings in 18/19 amounted to £4k. STOD savings in 19/20 FY amounted to £12k. Within 20/21 FY we completed ToD work at 11 sites with outline savings of £40k realised.

Source Optimisation

Source Optimisation work commenced in 19/20 FY, which entailed maximising the use of our raw water at our upland sources (when conditions allow) which reduces the volume of raw water pumping at our low level sources. This approach has allowed NIW to maximise energy savings at a number of low level WTW's and WPS in the 19/20 FY (£420k benefits). In 20/21 FY no additional savings were realised, however 19/20 savings were sustained and additional work is planned for PC21 period and realising benefits within the west area.

3.1.4. Wastewater Initiatives

KI514 – Buildings, wastewater treatment sites - water reg. compliance & energy efficiency

Capital Requested in DD Business Plan: £0.79m
Current Assessment of Funding Required: £0.193m

The Energy element of the PC15 Business Plan included funding for NI Water to place energy efficiency measures into buildings at its operational sites to improve energy efficiency. This work (mainly heating and lighting type work) was undertaken at 8 Wastewater sites and was complete in 18/19 FY, with benefits realisation during 2017/18 and 2018/19. The level of investment and subsequent benefits are anticipated to be lower than the initial business case with £28k of benefits forecast in 18/19 FY and £7k in 19/20 FY. No further investment was made in this initiative in 19/20 or 20/21 FYs.

KI517 Energy efficiency at wastewater pumping stations

Capital Requested in DD Business Plan: £0.021m
Current Assessment of Funding Required: £0.003m

Appraisals were performed at wastewater pumping stations to identify where potentially highly cost effective energy efficiency measures could be delivered. NI Water has assessed the appraisals and concluded that energy efficiency opportunities at these WwPS are not economically viable purely on energy efficiency. NI Water are however looking at other alternatives in regards to energy efficiency measures for pumping in Wastewater and these have been progressed under NA061.

Optimising pumping at WwPS (NA061)
M&G Funding was secured during 19/20 FY to optimise pumping at WwPS sites. To the end of March '21, 15 No. sites had Best Efficiency Point (BEP) pumping control installed where pumps had PLC modifications that allowed them to 'search' for the most efficient point to pump at for any given flow. Overall benefits for this WwPS BEP work amounted to £68k over the 2 FY's with implementation costs of £215k.

KI545 – Electrical Sub-meters (wastewater)
Capital Requested in DD Business Plan: £0.651m
Current Assessment of Funding Required: £0.01m
Sub-metering is viewed as an important enabler for energy efficiency. Trials have been conducted at one Water site and one Wastewater site (KI545).
Advances in sensor and communication technology have also caused NI Water to strategically review how optimal sub-metering may be cost effectively achieved in compliance with the NIS Directive. Within PC21 – we are targeting sub metering at 45 sites (mixture of Water & WW sites) to better understand performance data.

Wastewater Energy Audits and Implementation (KI626)
NI Water have undertaken Energy Audit surveys at a number of Wastewater sites (WwTW and Wastewater Pumping Stations) to assist in identifying further energy efficiency opportunities. Following completion of the Energy Audits a programme of implementation work was developed to realise Energy savings. This programme of work related to the installation of Real Time Control (RTC) and Process Control measures at WW sites. To the end of March 2021 – RTC technology was installed at 13 No. WwTW's. Process Control measures were implemented at a further 7 No WwTW's with pump refurbishment work completed at one large WwPS. Financial benefits realised in 20/21 period for this work amounted to £240k. Further work is being progressed with regard to RTC/Digital Twin technology installation in Year 1 PC21.

3.1.5. PPP

During 20/21 FY the PPP Energy Gains report recommendations were implemented at 7 sites. The energy benefits for this work will be realised in 21/22 FY of circa £70k.

3.1.6. Negative Opex

NI Water currently generates revenue from existing electricity generation assets:

- Raw Water Turbines at Silent Valley and Oaklands
- Sale of ROCs
- Participation in an Aggregated Generation Unit with fixed standby generation
- Exporting electricity to the grid

This revenue is considered "unregulated" and has not been treated as "negative Opex" in the UR's Corrected Ordinary Least Squares (COLS) econometric and unit cost models used for PC10, PC13 and PC15 determinations.

The UR is currently developing a new methodology for the assessment of NI Water's efficiency gap to inform the upcoming PC21 period. NI water are hopeful that the new methodology will allow revenue from energy generation to be treated as negative expenditure in line with the approach adopted by Ofwat in England and Wales.

3.1.7. Not Defined as Energy Efficiency Capital

KR627 and KS974 Energy Efficiency to Inlet and Primary Effluent Pumps, Return Activated Sludge Pumps. (Screw Pumps)

Capital Requested in DD Business Plan: £0

Current Assessment of Funding Required: £1.54m

Energy efficiency improvements to screw pumps is a further project identified as a key driver to assist NI Water reduce electricity consumption. NI Water have completed a programme of work at Screw Pumps to reduce consumption (kWh) at Belfast & Culmore WwTW's. The total benefits realisation from this work is outlined as c£115k. No further work was planned or progressed on these initiatives in 20/21 FY.

3.1.8. Additional PC15 Energy Efficiency Activity and Projects

Mindful of the need to stay cognisant of and respond accordingly to changes in the energy landscape, on February 24th 2018 the NI Water Executive Committee approved the NI Water Energy Sustainability and Resilience Strategy (ESRS) and Energy Action Plan (EAP) to collectively embed energy 'best practice' within the business. The ESRS is an overarching strategy document. The EAP is a live document that is used to capture energy related ideas and innovation from within the business. These saving opportunities are assessed and prioritised to inform the Energy Efficiency delivery programme on an ongoing basis.

Specific ESRS activities scheduled for delivery through the PC15 period, include:

- Achieve ISO 50001 accreditation – this was achieved in November 2019. ISO 50001 is an internationally recognised energy management Standard (EnMs) that is aligned with ISO 14001 (a suite of environmental standards that NI Water has already attained). Encompassing existing and planned energy management activity within an internationally recognised energy management standard will embed energy management into NI Water's business processes and drive continual improvement. NIW achieved this accreditation in the 19/20 FY.
- Deploy a Metering, Monitoring & Targeting system that will; detect avoidable energy waste, target energy efficiency activity; provide feedback for staff, improve budget setting, enable benchmarking, and quantify savings. The eSight application is now being used in NI Water as an MM&T analysis tool with Power BI also being used to review multiple sites across the portfolio.
- Optimise NI Water energy income potential by; fully understanding Capacity & DS3 payment income structures; working with NIEN and the Utility Regulator to harness more NI water generating capacity; enhancing existing commercial arrangements for the third party management of these income related services; and by exploring the potential to stack revenue streams through the use of technological innovation.
- Contract for the supply of a significant proportion of NI Water's energy requirements via Corporate Power Purchase Agreements (CPPA), in particular those that are behind the meter (sometimes referred to as 'private wire'). CPPAs are relatively new to Northern Ireland but well established in GB, where large electricity users increasingly buy renewable energy via supply contracts negotiated for periods lasting 10 to 15 years. These contracts are attractive because they cut CO_2 emissions, provide price certainty and security of supply and are commercially competitive.

As in the case of the Dunore Solar Farm project, NI Water are working closely with the Strategic Investment Board (SIB) in their review of NI Public Sector arrangements for

managing and procuring electricity, including CPPAs. The company anticipates being fully aligned with this strategy and playing an important role in the implementation of it.

Reporting requirement 3.5

3.15 In the PC15 Final Determination we noted that confirmation of the scope, costs and benefits for the sub-meter schemes were subject to the completion of a feasibility study and that NI Water needed to demonstrate that the investment was beneficial and confirm this to the Utility Regulator before embarking on wide spread sub-metering. Progress on this issue should also be addressed in this section of the consolidated report."

3.2. NI Water Response

Sub-metering pilots have been conducted at two sites - Antrim WwTW (KI545) and Brick Row WPS (JI071). These projects do not seek to deliver any direct energy reductions, rather their purpose was to quantify the full range of benefits and costs with which to inform the business case for further implementation.

Due to technical data retrieval difficulties, the data verification exercise for these pilot sites is still in progress. In an attempt to minimise costs, NI Water's in-house IT section have been developing bespoke IT architecture systems with which to retrieve the data.

Since identifying these projects in PC13 and conducting pilots in PC15, sensor, communications and cybersecurity innovation and compliance requirements have developed that will need to be considered in any future sub-metering business case.

A programme of sub-metering a mixture of WTW / WwTW's in PC21 has been funded – this will provide process area performance data which will be built into a dashboard by Data Analytics to better inform capital investment decisions and key areas to target on a site by site basis.

3.2.1. NIS Directive

The UK is in the process of implementing the EU directive on the security of Networks and Information Systems (known as the NIS Directive). Under the NIS Directive, NI Water are categorised as an Operator of Essential Services (OES) within the drinking water supply and distribution subsector, the definition for which is; supply of potable water to 200,000 or more people.

During the NIS Directive implementation period, OES, such as NI Water, have to take appropriate and proportionate security measures to manage risks to their network and information systems and are required to notify serious incidents to the relevant national authority.

With implementation of the NIS Directive underway, NI Water are strategically reviewing sub metering provision with a view towards compliance and cross cutting work streams under way; including the Digital Strategy and Business Analytics.

4. Conclusion

The PC15 Draft Determination Energy Efficiency programme outlined a requirement for approximately £9.0m of capital investment (nominal terms).

NI Water's 2016 response identified that the water regulations compliance elements of the clean and wastewater ("Buildings, water treatment sites - water regulation compliance &

energy efficiency") projects were excluded. As a result, the baseline requirements for the Energy Efficiency programme were reduced to £7.43m.

NI Water invested c. £400k in energy efficiency reduce use initiatives in the 20/21 FY, predominantly relating NA061 (RTC & Pump Optimisation) and KI626 (Energy Efficiency).

NI Water is seeing encouraging results from these investments. Overall electricity consumption within NI Water has out turned at 290GWh in 17/18, 286GWh in 18/19 FY, 291 GWh in 19/20 and 294GWh in 20/21 FY.

Up to 31 March 2021, cumulative sustainable energy efficiency benefits over the PC15 period amount to in excess of £4.9m with an additional £670k of 'one-off' benefits over this period.

5. Next steps & actions

The PC15 Energy Efficiency programme has been impacted by changes to the NIE Networks connection process and incentive mechanisms for renewable energy generation (e.g. ROCs). Whilst these issues impacted the programme as originally conceived, NI Water has pro-actively sought alternative saving opportunities through reduced use, renewables and increased income to ensure the PC15 Energy Efficiency target of £4.1m was achieved and indeed exceeded.

6. Appendices

Appendix 1 - Detailed list of investment in energy efficiency and renewable energy schemes and the allocation of this investment by purpose

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Renewable	JI040	Recovering energy within the water distribution system	1.350	0.003	Y	The viability of this initiative was dependent on obtaining ROCs, with only 4 sites viable for ROCs. Updated profile reflects current expenditure incurred.	0	0	100	0
Renewable	JI041	Hydro power from raw water	0.439	0.003	Y	The viability of delivering all 10 Hydro Turbines was dependent on obtaining ROCs. 5 Hydro sites are still being considered for viability but grid connections will be difficult to obtain.	0	0	100	0

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Renewable	EP017	Electricity generation from wind power or alternative green energy solution	2.176	1.188	Y	46 sites were completed before the 3 ROCs deadline of 30 Sept 16. Further extensions at Westland and New Holland WwTW also occurred in March 17 before the 2 ROCs deadline. 3 more sites were added prior to March 2018 end of ROCs deadline.	0	0	100	0
Renewable	BE017	Energy M&G	0.000	0.008	N	6 installations completed under this investment (before ROCs deadline). With a further 3 sites completed before end March 18 (BE020)	0	55	45	0
Cleanwater	JI032	Buildings, water treatment sites - water regulation compliance & energy efficiency	1.822	0.217	Y	Combined total of Water Regulation element and energy efficiency	59	40	0	0

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Cleanwater	JI032	Water regulation compliance	1.081	N/A	Y	The Water Regulation element of this project can be considered distinct from the Energy element. The baseline has been split based on an assessment of the business case.	100	0	0	0
Cleanwater	JI032	Energy efficiency	0.741	N/A	Y	NIW has commenced with this project: Initial business case appears to have over-estimated the level of investment and benefits. NI Water has proceeded with caution, a reduced scope and therefore a reduced investment is envisaged.	0	100	0	0
Cleanwater	JI069	WPS Pump Efficiency Capital Investment Phase 1	1.286	0.502	Y	This project has completed with benefits realisation in 16/17 and 17/18.	0	100	0	0

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Cleanwater	JI075	WPS Pump Efficiency Capital Investment Phase 2	0.000	0.043	Y	NI Water are taking time to take stock of the output of JI069 and WPS analysis before proceeding with phase 2.	0	100	0	0
Cleanwater	JI071	Electrical Sub-meters (water)	0.488	0.007	Y	Spend profile broadly tracking PC15 baseline, but final form of delivery will depend on outcome of trends from data and success of data verification.	0	0	100	0
Cleanwater	WD083	Time of day pumping	0.000	0.243	N	Time of Day pumping was not included in the PC15 baseline. While not delivering any reductions in kWh, it does deliver more efficient pumping practices and reduce overall costs.			100	

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Wastewater	KI514	Buildings, wastewater treatment sites - water reg. compliance & energy efficiency	0.790	N/A	Y		65	35	0	0
Wastewater	KI514	Water regulation compliance	0.514	N/A	Y	The Water Regulation element of this project can be considered distinct from the Energy element. The baseline has been split based on an assessment of the business case.	100	0	0	0

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Wastewater	KI514	Energy efficiency	0.277	0.008	Y	NIW has commenced with this project and is due to be completed in 2017/18. Initial business case appears to have over-estimated the level of investment and benefits. NI Water have proceeded with caution, reduced scope and therefore reduced investment required. 5 Wastewater sites completed under KI514 with energy benefits estimated at £40k with investment of £32k	0	100	0	0
Wastewater	KI517	Appraisal of Energy Efficiency at Waste Water Pumping Stations	0.021	0.003	Y		0	100	0	0

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Wastewater	KI553	Energy efficiency at wastewater pumping stations	0.000	0.000	Y		0	100	0	0
Wastewater	KI545	Electrical Sub-meters (wastewater)	0.651	0.01	Y	Spend profile broadly tracking PC15 baseline, but final form of delivery will depend on outcome of outcome of trends from data and success of data verification.	0	0	100	0
Wastewater	PL005	Energy Efficiency - Process Optimisation	0.000	0.253	N	Although not included in the scope of energy projects identified in Annex 6, this is a valuable project which has been successfully delivered during PC15.	0	55	45	0

Type of project	Project code	Project title	Capital funding as requested in DD PC15 BP (£m)	Current assessment of funding required (£m)	Included in Annex 6 baseline?	Note	Q	B	E	G
Wastewater	BN048	Energy Efficiency - Process Optimisation	0.000	0.1	N	Although not included in the scope of energy projects identified in Annex 6, this is a valuable project which has been successfully delivered during PC15.	0	100	0	0
Renewable	JA312	Dunore Point WTW Renewable Energy	0	8.122	N	Completion of MW solar farm at Dunore Point WTW in 17/18 FY.	0	0	100	0
Wastewater	KI626	Energy Audit Implementation	0	1.275	N	Implementation capital funding following Water & Wastewater Audits	0	0	100	0
Water & Wastewater Efficiency	NA061	RTC and Pumping Efficiency	0	£0.5	N	Implementation of RTC at 2 No WwTW sites and Water & Wastewater Pumping efficiency	0	0	100	0
Total			**7.671**	**12.485**						

Appendix 2 – Energy related capital expenditure

Type of project	Project code	Project title	15/16 expenditure, nominal (£m)	16/17 expenditure, nominal (£m)	17/18 expenditure, nominal (£m)	18/19 expenditure, nominal (£m)	19/20 expenditure, nominal (£m)	20/21 expenditure, nominal (£m)
Renewable	JI040	Recovering energy within the water distribution syst	0.003	0	0	0	0	0
Renewable	JI041	Hydro power from raw water	0.009	0	0.03	-0.009	0	0
Renewable	EP017	Electricity generation from wind power or alternativ	0.003	1.173	0.018	-0.011	0.005	-0.007
Renewable	BE017	Energy M&G	0.012	-0.002	-0.002	0	0	0
	NA061	Energy Reduction by Pump / Pump Control Optimisa	0	0	0	0	0.251	0.173
	NA068	Energy SBRI					0.15	0.139
Cleanwater	JI032	Buildings, water treatment sites - water regulation c	0.022	0.028	0.133	0.037	-0.003	0.001
Cleanwater	JI032	Water regulation compliance	0	0	0	0	0	0
Cleanwater	JI032	Energy efficiency	0	0	0	0	0	0
Cleanwater	JI069	WPS Pump Efficiency Capital Investment Phase 1	0.432	0.064	0.006	0	0	0
Cleanwater	JI075	WPS Pump Efficiency Capital Investment Phase 2	0.037	0	0.006	0	0	0
Cleanwater	JI071	Electrical Sub-meters (water)	0.007	0	0	0	0	0
	JI162	Solar installation						0.18
Wastewater	KI514	Buildings, wastewater treatment sites - water reg. cc	0	0	0	0.034	-0.026	0
Wastewater	KI514	Water regulation compliance	0	0	0	0	0	0
Wastewater	KI514	Energy efficiency	0.023	0.061	0.001	0	0	0
Wastewater	KI517	Appraisal of Energy Efficiency at Waste Water Pump	0.003	0	0	0	0	0
Wastewater	KI553	Energy efficiency at wastewater pumping stations	0	0	0	0	0	0
Wastewater	KI545	Electrical Sub-meters (wastewater)	0.011	0	-0.001	0	0	0
	KI650	Energy storage						0.175
	KI771	EV Charging infrastructure						0.1
	KI765	Sub-metering programme						0.1
Wastewater	PL005	Energy Efficiency - Process Optimisation	0.176	0.072	0.004	0.001	0	0
Wastewater	BN048	Energy Efficiency - Process Optimisation	0	0.1	0	0	0	0
Renewable	JA312	Dunore Point WTW Renewable Energy	0	0	7.53	0.592	0	-0.007
Wastewater	KI626	PC21 Energy Efficiency Programme	0	0	0	0.300	0.846	0.232
Total			**0.982**	**1.54**	**7.862**	**0.944**	**1.223**	**1.086**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 32 FINANCIAL MEASURES

ANALYSIS OF FIXED ASSET ADDITIONS AND ASSET MAINTENANCE BY ASSET TYPE (HISTORIC COST ACCOUNTING) (NIW Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7
				WATER SERVICE			SEWERAGE SERVICE			
				INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	TOTAL
A	NIW ADDITIONS -NEW ASSETS (ENHANCEMENT)									
1	Water resource facilities	£m	3	0.013	0.362	0.376				0.376
2	Water treatment works	£m	3		4.792	4.792				4.792
3	Water distribution mains	£m	3	17.721	1.455	19.176				19.176
4	Service reservoirs and water towers	£m	3		6.679	6.679				6.679
5	Pumping stations	£m	3		2.190	2.190				2.190
6	Water management and general	£m	3	0.959	3.083	4.042				4.042
7	Sewerage	£m	3				49.657	1.995	51.653	51.653
8	Sea outfalls and headworks	£m	3				-0.004	0.517	0.513	0.513
9	Sewage treatment works	£m	3					20.990	20.990	20.990
10	Sludge treatment works	£m	3					0.194	0.194	0.194
11	Sludge disposal	£m	3				0.000	0.000	0.000	0.000
12	In-line pumping stations	£m	3					4.180	4.180	4.180
13	Terminal pumping stations	£m	3					0.247	0.247	0.247
14	Sewerage management and general	£m	3				2.440	4.051	6.492	6.492
15	Total infrastructure additions (Enhancement)	£m	3	18.693		18.693	52.094		52.094	70.787
16	Total non-infrastructure additions (Enhancement)	£m	3		18.561	18.561		32.174	32.174	50.736
17	Total additions (Enhancement)	£m	3	18.693	18.561	37.255	52.094	32.174	84.268	121.523
B	NIW BASE SERVICE PROVISION									
18	Water resource facilities	£m	3	1.681	0.564	2.245				2.245
19	Water treatment works	£m	3		5.839	5.839				5.839
20	Water distribution mains	£m	3	17.797	0.427	18.224				18.224
21	Service reservoirs and water towers	£m	3		2.713	2.713				2.713
22	Pumping stations	£m	3		2.758	2.758				2.758
23	Water management and general	£m	3	2.162	7.297	9.459				9.459
24	Sewerage	£m	3				11.066	0.031	11.097	11.097
25	Sea outfalls and headworks	£m	3				0.000	0.034	0.034	0.034
26	Sewage treatment works	£m	3					26.663	26.663	26.663
27	Sludge treatment works	£m	3					0.239	0.239	0.239
28	Sludge disposal	£m	3				0.000	0.000	0.000	0.000
29	In-line pumping stations	£m	3					6.920	6.920	6.920
30	Terminal pumping stations	£m	3					0.341	0.341	0.341
31	Sewerage management and general	£m	3				4.011	5.812	9.823	9.823
32	Total infrastructure renewals (Base)	£m	3	21.639		21.639	15.077		15.077	36.717
33	Total non-infrastructure expenditure (Base)	£m	3		19.599	19.599		40.040	40.040	59.639
34	Total expenditure (Base service provision)	£m	3	21.639	19.599	41.238	15.077	40.040	55.118	96.356

Table 32 – Analysis of Fixed Asset Additions and Asset Maintenance by Asset Type (Current Cost Accounting)

Refer to Chapter 30 for detailed commentary on this table. There are no reconciling items to report.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (HISTORIC COST ACCOUNTING)
DEPRECIATION CHARGE BY ASSET TYPE (NIW Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18		19	20	21	22	23	24	25	26	27	
				Water Service										Sewerage Service										Total									
				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG
A	**DEPRECIATION CHARGE FOR THE YEAR**																																
1	HCD as at 31 March of the year	£m	3	80.086	47.905	33.476	38.517	16.635	16.839	29.363	29.363		B3	66.802	83.520	66.627	67.861	35.670	36.141	45.549	46.333		B3	146.888	131.425	100.103	106.378	52.305	52.980	73.771	75.696		B3
2	HCD on additions (enhancement assets) post 1 April 2014	£m	3									0.935	B3									0.854	B3									1.789	B3
3	HCD on additions (MNI assets) post 1 April 2014	£m	3									0.374	B3									0.555	B3									0.929	B3
4	Total depreciation charge for the year	£m	3									1.309	B3									1.409	B3									2.718	B3
5	Total depreciation charged	£m	3	80.086	47.905	33.476	38.517	16.635	16.839	29.363	29.363	30.375	B3	66.802	83.520	66.627	67.861	35.670	36.141	45.549	46.333	48.959	B3	146.888	131.425	100.103	106.378	52.305	52.980	73.771	75.696	79.334	B3

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18		19	20	21	22	23	24	25	26	27	
				Water Service										Sewerage Service										Total									
				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG
B	**EXPENDITURE AND PROVISION**																																
6	Infrastructure renewals expenditure	£m	3	22.593	22.391	23.055	11.134	19.497	17.015	17.726	22.299	21.684	B2	8.775	7.727	8.502	9.010	10.434	13.235	14.864	14.280	15.195	B2	31.368	30.118	31.557	20.144	29.931	30.250	32.590	36.579	36.879	B2
7	Infrastructure renewals charges	£m	3	19.902	23.935	22.488	14.410	10.253	14.679	15.077	15.325	15.418	C5	10.859	9.474	9.821	10.876	14.755	11.078	11.379	11.566	11.636	C5	30.761	33.409	32.309	25.286	25.008	25.757	26.456	26.891	27.054	C5
8	Infrastructure renewals prepayment/ (accrual)	£m	3	12.134	10.590	11.157	7.881	17.125	19.462	22.111	29.085	35.352	C5	-10.312	-12.059	-13.378	-15.244	-19.565	-17.408	-13.923	-11.209	-7.650	C5	1.822	-1.469	-2.221	-7.363	-2.440	2.054	8.188	17.876	27.702	C5

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (HISTORIC COST ACCOUNTING)
DEPRECIATION CHARGE BY ASSET TYPE (PPP Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18		19	20	21	22	23	24	25	26	27	
				Water Service										Sewerage Service										Total									
				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG
A	**DEPRECIATION CHARGE FOR THE YEAR**																																
1	HCD as at 31 March of the year	£m	3	4.007	4.033	4.082	4.146	3.407	3.442	3.804	3.891		B3	0.000	0.000	0.000	0.000	0.000	0.000	4.590	4.687		B3	4.007	4.033	4.082	4.146	3.407	3.442	8.394	8.578		B3
2	HCD on additions (enhancement assets) post 1 April 2014	£m	3									0.000	B3									0.000	B3									0.000	B3
3	HCD on additions (MNI assets) post 1 April 2014	£m	3									0.061	B3									0.170	B3									0.231	B3
4	Total depreciation charge for the year	£m	3									0.061	B3									0.170	B3									0.231	B3
5	Total depreciation charged	£m	3	4.007	4.033	4.082	4.146	3.407	3.442	3.804	3.891	3.953	B3	0.000	0.000	0.000	0.000	0.000	0.000	4.590	4.687	4.793	B3	4.007	4.033	4.082	4.146	3.407	3.442	8.394	8.578	8.746	B3

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18		19	20	21	22	23	24	25	26	27	
				Water Service										Sewerage Service										Total									
				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG
B	**EXPENDITURE AND PROVISION**																																
6	Infrastructure renewals expenditure	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	B2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	B2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	B2
7	Infrastructure renewals charges	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	C5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	C5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	C5
8	Infrastructure renewals prepayment/ (accrual)	£m	3	1.519	1.519	1.519	1.519	1.519	1.519	1.519	1.519	1.519	C5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	C5	1.519	1.519	1.519	1.519	1.519	1.519	1.519	1.519	1.519	C5

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (HISTORIC COST ACCOUNTING)
DEPRECIATION CHARGE BY ASSET TYPE (Total)

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18		19	20	21	22	23	24	25	26	27	
				Water Service										Sewerage Service										Total									
				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG
A	DEPRECIATION CHARGE FOR THE YEAR																														
1	HCD as at 31 March of the year	£m	3	84.093	51.938	37.558	42.663	20.042	20.281	32.026	33.254		B3	66.802	83.520	66.627	67.861	35.670	36.141	50.139	51.020		B3	150.895	135.458	104.185	110.524	55.712	56.422	82.165	84.274		B3
2	HCD on additions (enhancement assets) post 1 April 2014	£m	3									0.935	B3									0.854	B3									1.789	B3
3	HCD on additions (MNI assets) post 1 April 2014	£m	3									0.435	B3									0.725	B3									1.160	B3
4	Total depreciation charge for the year	£m	3									1.370	B3									1.579	B3									2.949	B3
5	Total depreciation charged	£m	3	84.093	81.938	37.558	42.663	20.042	20.281	32.026	33.254	34.328	B3	66.802	83.520	66.627	67.861	35.670	36.141	50.139	51.020	53.752	B3	150.895	135.458	104.185	110.524	55.712	56.422	82.165	84.274	88.080	B3

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18		19	20	21	22	23	24	25	26	27	
				Water Service										Sewerage Service										Total									
				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	CG
B	EXPENDITURE AND PROVISION																														
6	Infrastructure renewals expenditure	£m	3	22.593	22.391	23.055	11.134	19.497	17.015	17.726	22.299	21.684	B2	8.775	7.727	8.502	9.010	10.434	13.235	14.864	14.280	15.195	B2	31.368	30.118	31.557	20.144	29.931	30.250	32.590	36.579	36.879	B2
7	Infrastructure renewals charges	£m	3	19.902	23.935	22.488	14.410	10.253	14.679	15.077	15.325	15.418	C5	10.859	9.474	9.821	10.876	14.755	11.078	11.379	11.566	11.636	C5	30.761	33.409	32.309	25.286	25.008	25.757	26.456	26.891	27.054	C5
8	Infrastructure renewals prepayment/ (accrual)	£m	3	13.653	12.109	12.676	9.400	18.644	20.981	23.630	30.604	36.871	C5	-10.321	-12.059	-13.378	-15.244	-19.565	-17.408	-13.923	-11.209	-7.650	C5	3.341	0.050	-0.702	-5.844	-0.921	3.573	9.707	19.395	29.221	C5

Table 33 – Depreciation Charge by Asset Type

IFRS Depreciation Charge

The depreciation charge for the year has been populated using the same methodology used to populate Table 25. IFRS depreciation was calculated using the Fixed Asset Register (Real Asset Management).

The final IFRS depreciation report was used to analyse assets into each of their respective asset categories and service activities to identify the water and sewerage services. The management and general service activity could not be readily identified as water and sewerage services and have used the following percentages split as per IFM: Water 41% and Sewerage 59%.

The table has been populated using actual depreciation figures for each financial year contained in the relevant Regulatory Accounts.

With respect to Confidence Grades this is reported as B3. This is applied given the close link with the CIDA allocations data source which has been reported as B3 in the capital expenditure tables 35 and 36.

Assets to be decommissioned or written off resulted in accelerated depreciation in the year. Assets with a NBV of £1,015,681.11 were decommissioned in 2020/2021– the corresponding accelerated depreciation is included in Table 33.

There are three main PPP Projects – Alpha, Omega and Kinnegar. The depreciation for these PPP assets is shown separately in the second table for PPP only.

Depreciation for the year in relation to the PPP Alpha Project was [redacted] for 2020/21 (2019/20: [redacted]). Depreciation for Omega in 2020/21 is [redacted] (2019/20: [redacted]) and Kinnegar [redacted] (2019/20: [redacted]).

The asset lives used in calculating depreciation are consistent with those that have been used to populate Table 34.

During the year, decommissioned assets with a net book value (NBV) of £1,015,681.11 were included within the current year depreciation charge.

	Water (20/21)	Sewerage (20/21)	Total (20/21)
IFRS Depreciation in year	£33,582,517	£53,481,766	£87,064,283
Accelerated Depreciation	£745,691	£269,990	£1,015,681
Total (2020/2021)	£34,328,208	£53,751,756	£88,079,964

	Water (19/20)	Sewerage (19/20)	Total (19/20)
IFRS Depreciation in year	£33,254,166	£50,845,025	£84,099,191
Accelerated Depreciation		£174,777	£174,777
Total (2019/2020)	£33,254,166	£51,019,802	£84,273,968

Infrastructure Renewals accounting

The IRC calculation for 20/21 is based on the final determination arising from PC15. The Regulator determined that the IRC and IRE will be the same for the six year period of PC15. The projected IRE forms part of the PC15 capital expenditure plans.

The difference between the actual out-turn IRE and the IRC is treated as an accrual or prepayment.

2020-2021 IRC

The IRC for 2020-2021 based on PC15 can be summarised as follows:

Water - £15.417m
Sewerage - £11.636m
Total - £27.053m

The out-turn IRE for 2020-2021 can be shown as follows:

Water - £21.684m
Sewerage - £15.195m
Total - £36.879m

The accrual at 31 March 2021 can be shown as follows:

	W TOTAL £m	S TOTAL £m	Total TOTAL £m
IRE	21.684	15.195	36.879
IRC	(15.417)	(11.636)	(27.053)
In year prepayment / (accrual)	6.267	3.559	9.826
c/f prepayment / (accrual)	30.604	(11.209)	19.395
Cumulative prepayment / (accrual)	36.871	(7.650)	29.221

At the end of the year to 31 March 2021 a prepayment balance of £29.221m was evident. This balance arose as the in-year prepayment of £9.826m for 2020-21 was added to the cumulative brought forward prepayment balance of £19.395m, which existed at 31st March 2020.

In line with the underlying principles of infrastructure renewals accounting it is anticipated that the cumulative level of IRE and IRC should broadly match over the longer term. The water prepayment and sewerage accrual at 31st March 2021 will be monitored to ensure that the level of IRC charged in the future to the profit and loss account is appropriate given actual levels of IRE.

PPP

Alpha, Omega and Kinnegar have not given rise to any IRE for this year and therefore no IRC has been allocated to the PPP services.

The Statutory accounts are prepared under IFRS and infrastructure renewals accounting is not applied. Infrastructure depreciation is charged in the statutory accounts and the value of this would differ from the IRC in the regulatory accounts. However, AIR 21 has been prepared under IFRS as directed by the Utility Regulator. No IRC is reported in the regulatory accounts. IRC and IRE are only reported in Table 33.

NORTHERN IRELAND WATER LIMITED ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN TABLE 34 FINANCIAL MEASURES (HISTORIC COST ACCOUNTING)
ANALYSIS OF NON INFRASTRUCTURE FIXED ASSET ADDITIONS BY LIFE CATEGORIES NI WATER ONLY

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18	
				Water Service										Sewerage Service									
				2012 13	2013 14	2014 15	2015 16	2016 17	2017 18	2018 19	2019 20	2020 21	CG	2012 13	2013 14	2014 15	2015 16	2016 17	2017 18	2018 19	2019 20	2020 21	CG
A	ACCOUNTING FIXED ASSET ADDITIONS NON INFRASTRUCTURE ASSET ADDITIONS (ENHANCEMENT) BY ASSET LIFE																						
1	Very Short	£m	3	0.108	0.702	0.135	0.077	0.199	0.032	0.018	0.031	0.000	B2	-0.005	0.473	0.088	0.071	0.156	-0.001	0.025	0.043	0.008	B2
2	Short	£m	3	2.457	3.136	2.779	1.154	2.954	2.858	1.710	1.921	4.082	B2	3.923	3.506	4.763	4.272	1.908	2.049	4.274	5.731	6.440	B2
3	Medium	£m	3	2.610	2.425	7.433	2.279	1.536	7.662	3.562	6.407	8.395	B2	10.142	9.775	9.873	4.251	6.604	6.082	8.813	10.114	11.946	B2
4	Medium long	£m	3	0.000	0.383	0.014	0.000	0.000	-0.003	0.000	0.111	0.000	B2	0.000	0.000	0.010	0.002	0.001	0.012	-0.003	0.001	0.000	B2
5	Long	£m	3	2.640	1.566	4.926	2.715	2.094	3.405	7.858	7.250	5.860	B2	14.217	13.256	10.907	6.455	9.202	9.578	9.093	14.158	13.266	B2
6	Land	£m	3	0.000	0.000	0.007	0.000	0.009	0.695	0.230	0.215	0.287	B2	0.102	0.050	0.021	0.261	0.340	0.538	0.201	-0.041	0.000	B2
7	Land Disposals	£m	3	-0.111	-0.351	-0.066	-0.164	-0.166	-0.128	0.046	0.000	0.000	B2	-0.160	-0.190	-0.079	-0.251	-0.120	-0.114	0.049	0.000	0.000	B2
8	Total	£m	3	7.704	7.861	15.229	6.061	6.626	14.520	13.425	15.937	18.624	B2	28.219	26.870	25.583	15.060	18.091	18.144	22.452	30.005	31.659	B2
B	NON INFRASTRUCTURE ASSET ADDITIONS (BASE SERVICE) BY ASSET LIFE																						
9	Very Short	£m	3	2.119	1.948	0.950	1.705	2.044	1.504	0.959	1.774	1.219	B2	1.916	1.886	2.390	0.811	1.780	1.143	1.071	2.092	1.015	B2
10	Short	£m	3	3.285	5.839	3.416	4.524	4.585	4.186	6.558	6.413	8.261	B2	4.859	6.151	5.762	4.545	4.560	4.781	9.834	7.272	8.600	B2
11	Medium	£m	3	6.817	3.874	7.652	10.926	12.066	11.994	10.006	5.668	6.299	B2	24.145	30.514	14.642	22.828	25.713	23.372	19.223	19.412	20.655	B2
12	Medium long	£m	3	0.000	0.134	0.506	0.380	0.481	0.149	0.053	0.034	0.078	B2	0.000	0.250	0.137	0.092	0.164	0.084	0.166	0.119	0.068	B2
13	Long	£m	3	3.688	5.029	5.366	5.701	4.368	4.159	4.398	3.676	3.889	B2	10.338	12.185	7.153	14.523	14.031	13.473	13.574	10.934	10.008	B2
14	Total	£m	3	15.909	16.825	17.891	23.235	23.543	21.992	21.974	17.564	19.746	B2	41.258	50.986	30.084	42.799	46.247	42.854	43.868	39.830	40.345	B2
C	NON INFRASTRUCTURE ADDITIONS AVERAGE LIFE (YEARS)																						
	Lines 15-19 not used	years	0																				

NORTHERN IRELAND WATER LIMITED ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN TABLE 34 FINANCIAL MEASURES (HISTORIC COST ACCOUNTING)
ANALYSIS OF NON INFRASTRUCTURE FIXED ASSET ADDITIONS BY LIFE CATEGORIES PPP

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18	
				Water Service										Sewerage Service									
				2012 13	2013 14	2014 15	2015 16	2016 17	2017 18	2018 19	2019 20	2020 21	CG	2012 13	2013 14	2014 15	2015 16	2016 17	2017 18	2018 19	2019 20	2020 21	CG
A	ACCOUNTING FIXED ASSET ADDITIONS NON INFRASTRUCTURE ASSET ADDITIONS (ENHANCEMENT) BY ASSET LIFE																						
1	Very Short	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
2	Short	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
3	Medium	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
4	Medium long	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
5	Long	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
6	Land	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
7	Land Disposals	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
8	Total	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	n/a
B	NON INFRASTRUCTURE ASSET ADDITIONS (BASE SERVICE) BY ASSET LIFE																						
9	Very Short	£m	3																				
10	Short	£m	3																				
11	Medium	£m	3																				
12	Medium long	£m	3																				
13	Long	£m	3																				
14	Total	£m	3																				
C	NON INFRASTRUCTURE ADDITIONS AVERAGE LIFE (YEARS)																						
15	Very Short	years	0																				

Table 34 – Financial Measures (Current Cost Accounting) - Analysis of Non-Infrastructure Fixed Asset Additions by Life Categories

Commentary and methodology

All the capital expenditure tables have been populated using project data extracted from the company's core project control system (CPMR), as well as ORACLE (Financial management system).

Internal training and mentoring has been ongoing with key staff mainly with Asset Delivery, Customer Service Delivery, PPP and Finance & Regulation directorates. This training has been delivered to external consultants where requested each year since 2010/11. Further training will be provided in future to provide refresher training for existing staff.

Methodology NIW Table

Capital expenditure is analysed in 3 separate streams as follows:

a) Capital Works Programme delivered by Engineering Procurement Directorate
b) Operations Capital
c) Management & General (M & G).

The methodology is explained in detail under these 3 areas as follows:

Capital works programme

Capital investment driver allocation (CIDA) processes have continued as per previous years.

a) CAPTRAX – CAPTRAX continues to be reconciled on a monthly basis with ORACLE so the final reports can be run directly from CAPTRAX. Two CIDA reports are generated from CAPTRAX as follows:
    - CIDA non lands – This reports the accrual in 2020/21 against each project, excluding land acquisition, with a full CIDA output.
    - CIDA lands – This reports the accrual in 2020/21 against land acquisition and the associated CIDA output.
b) CWP AIR reporting Model – The model developed in Excel for AIR19 and subsequent years has been adopted for AIR20 reporting. The model takes the outputs from the above reports from CAPTRAX and completes the tables 32, 34, & 36, 36a with the CWP element of Capital expenditure.

Costs are apportioned between infrastructure and non-infrastructure according to the process outlined in the CIDA manual.

NI Water continually review their existing processes regarding the application of CIDA and seek to ensure compliance and consistency.
No major control weaknesses were identified during 2020/21.

M & G

As commenced in AIR14 CPMR M&G has been used to report M & G investment directly from the system in a similar way to the Capital Works Programme. A single report provides all the information from the CPMR system.

Operating capital

This area captures all Capital expenditure which is not managed via the CWP or included within M & G. For all Capital projects not on the CWP (herein referred to Operating Capital expenditure) the CIDA information has been captured at project level within CPMR Coptrax.

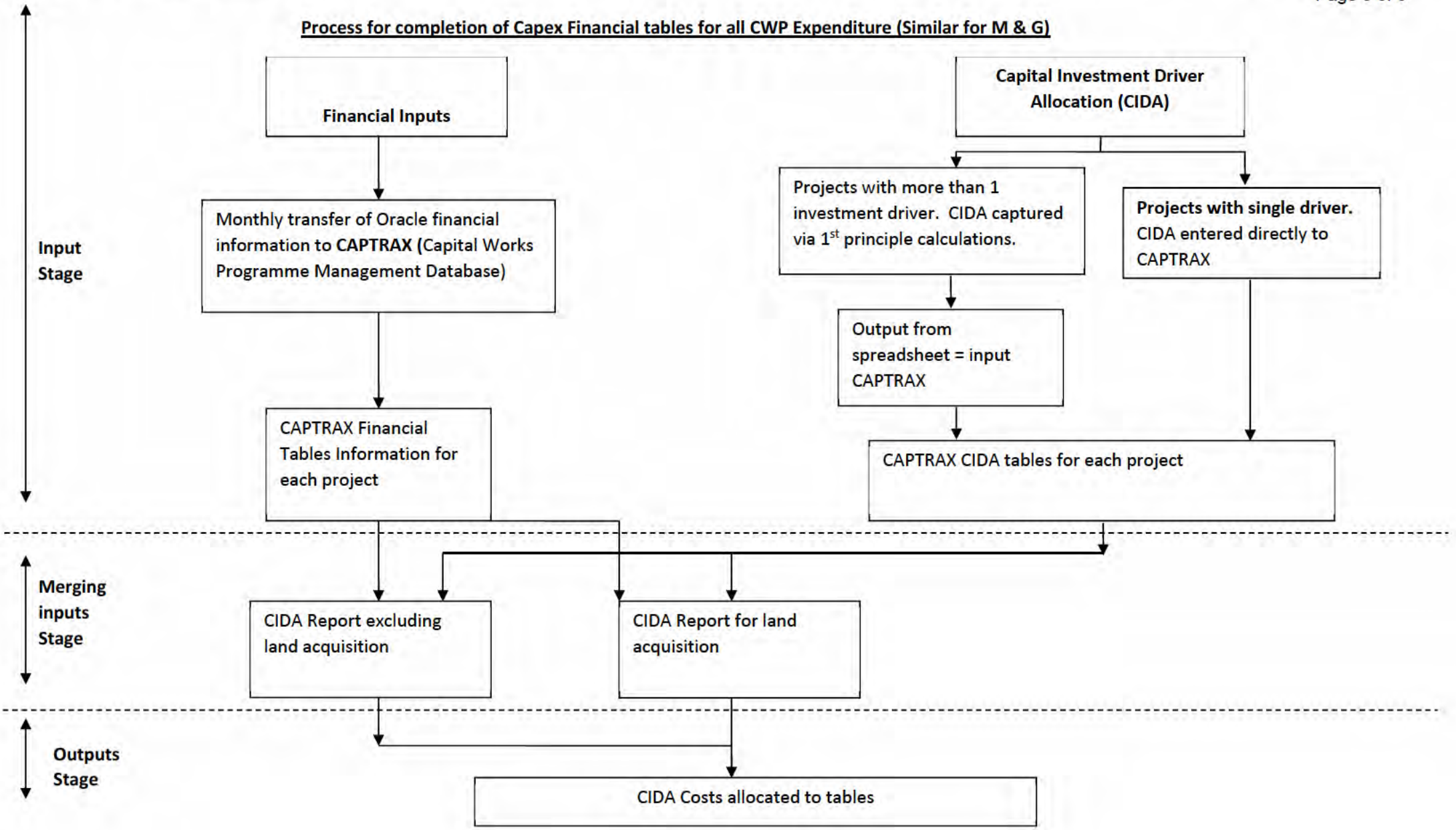
This has been used in AIR21 for completion of Table 40. Unfortunately the system needs further refinement to enable reporting information for Tables 32, 34, 36 and 36a accurately as there are a significant number of contracts within each project with combinations of a number of service areas, asset types and financial categories. For reporting in AIR21, each of the contacts was verified manually in order to ensure that accurate information was used for the population of the AIR tables in a similar manner to recent years. This approach uses the Asset In Course of Construction (AICC) database and ORACLE as data sources.

Table population

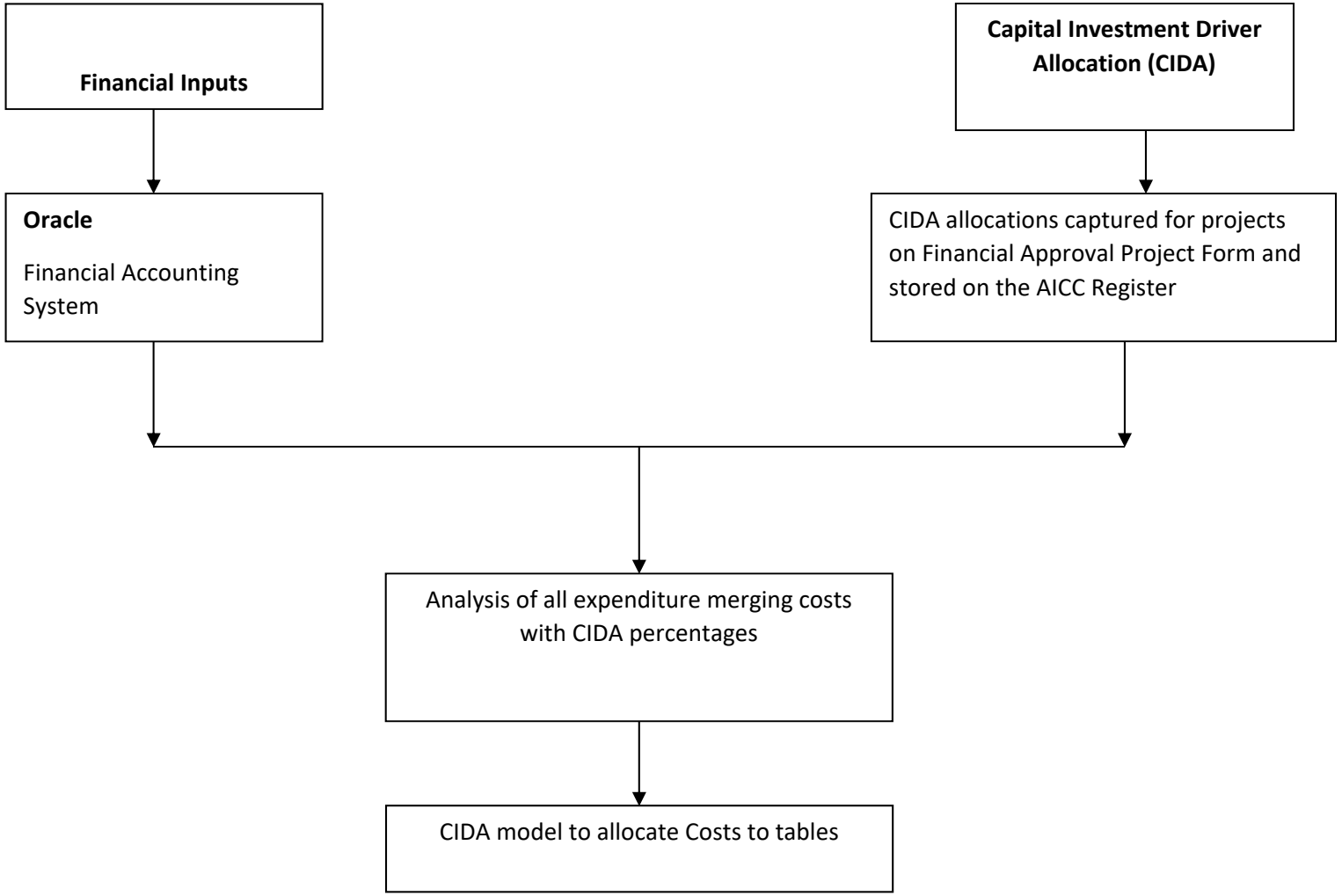
Data used in the population of the table is based on data extracted from the company's core systems and no assumptions are made in the allocation of project expenditure to the lines in the tables for all the expenditure with CIDA directly attributed. Any small rounding figures of CWP expenditure (due to CATPRAX rounding finance to the nearest £k), are apportioned in each table in equal portions to the allocated expenditure.

Process diagrams below show the process for completing the tables.

Process for completion of Capex Financial tables for all CWP Expenditure (Similar for M & G)



Process for Completion of Capex financial tables for Operating Capital



Asset lives

The last comprehensive review of asset lives was completed as part of NIAMP2 in 2001. An interim review was completed in 2011/12 following the reporter recommendations in AIR11 and 8 new financial categories have been added to list used in NI Water. Any further changes will be processed as they occur. Asset lives on historic projects have not been amended to reflect new asset life categories. The new financial categories added and in use from April 2012 are as follows:

Table 1: New financial categories

Financial Category	Definition	Life in years
Fences	All fences around sites	40
Meters	Domestic Water Meters	17
Batteries	Batteries for loggers, toughbooks etc.	4
Filter Media	Media in Biological filters, Sand filters etc.	20
MBR Membranes	MBR membranes	5
Rotating Biological Filters	RBC package plants	20
Kiosks	All kiosk type structures including small control kiosks and prefabricated control buildings	20
Steel Tanks	All Steel tanks for storage and processes	40

Following reporter review of the PC15 plan a change initiated for AIR16 has been continued in AIR21. This change applies to the life for Meters which have been changed to 17 years to align with PC15 Business plan assumptions.

The above categories have been added to CPMR/Captrax for CIDA allocation. The availability of the financial category is dependent on the asset type selected so for example MBR membranes are only available for selection within WwTW. The definitions have also been uploaded within the selection process, as a reminder to the project manager when selections are being made.

Individual judgements on asset lives are not made during this annual process of AIR collation.

Methodology PPP table

Figures for PPP Alpha Capital maintenance have been taken directly from the PPP Model and apportioned between Fixed Plant and Civils as per the PPP Model. This is the same process as adopted since AIR09.

PPP - Omega

No PPP OMEGA capital has been reported in the AIR21 financial tables for the following reasons:

- The Capital Cost split between Civils and M & E has been extracted from the PPP Model. This does not distinguish between infra and non infra elements and unlike ALPHA no valid assumptions can be made to define individual projects as some of the projects contain both infra and non infra elements.

- QBEG information has been captured on each project within OMEGA in a similar basis as was captured for the SBP submission which includes backlog base. In order to maintain consistency within all the tables we have not populated any of the OMEGA capital expenditure within the tables.

PPP - Kinnegar

No PPP Kinnegar residual interest finance has been populated as NI Water has no information on either the QBEG or the Asset Life categories for this project.

NI Water Table

The asset lives adopted for Regulatory reporting are consistent with those in the Fixed Asset Register (FAR). The links for reporting purposes are outlined in the Capital investment Driver allocation manual.

The last comprehensive review of asset lives was completed as part of NIAMP2 in 2001. An interim review was completed in 2011/12 and new financial categories have been added to NI Water systems for application from April 2012.

Expenditure is charged to individual projects and these are assigned individual asset lives for regulatory reporting.

This table is consistent with the analysis in Table 32. All expenditure reported in Table 34 is in outturn prices, gross of grants and contributions.

PPP Table

The expenditure of [redacted] on this table relates to the Capital Maintenance element of PPP Alpha expenditure for 2020/21. The [redacted] is reported in Section B of the table and is split using the Asset lives split assumed in the PPP Model. There is no PPP Capital on Sewerage.

Land Disposal

The HCA book value is determined from the Fixed Asset Register based upon the Asset Mgt plan completed in 2001. The figures stated are the HCA book values for all disposals in the stated year.

Assets fully depreciated but still in use at year-end

The total current cost Gross Book Value (GBV) of assets on the fixed asset register at 31st March 21 with zero Net Book Value (NBV) is £181,863,731.10.

Confidence grades

Confidence grades have been assigned to the elements of Table 34 based on guidance received from the Reporter in AIR11:

> "the Company should apply a confidence grade of B2 for most lines, with B3 for the smaller numbers (where a single misallocation could be more significant)."

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 35 FINANCIAL MEASURES
CAPITAL INVESTMENT - PUBLIC EXPENDITURE RECONCILIATION

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
A	**Available PE capital budget in nominal prices**											
1	Public Expenditure capital budget available	£m	3									
B	**Capital budget statement in nominal prices**											
2	Public Expenditure capital budget used	£m	3	0.000	165.540	154.946	140.291	147.099	174.969	162.956	153.441	170.659
3	Alpha PPP maintenance	£m	3	0.000	-1.483	-0.271	-1.228	-0.500	-3.176	-1.857	-1.652	-2.384
4	Residual interest in off-balance sheet PPP	£m	3									
5	IFRS infrastructure renewal charge adjustment	£m	3	0.000	0.988	1.154	1.194	1.117	1.188	1.213	0.000	0.000
6	*Further adjustments.....*	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6a	Unwinding of capital provision	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6b	Rounding	£m	3	0.000	0.013	-0.006	-0.001	0.000	-0.003	0.002	-0.009	-0.002
6c	Decapitalised assets	£m	3	0.000	0.000	0.238	0.005	0.000	0.000	0.000	0.000	0.000
6d	Project Clear: Aquistion of Alpha PPP	£m	3						-29.179	0.000	0.000	0.000
7	Capital grants and contributions	£m	3	0.000	6.586	7.331	7.985	11.550	14.009	14.005	25.970	14.396
8	Capital grants and contributions transferred to deferred credits	£m	3	0.000	-0.693	-1.025	-0.999	-1.284	-1.452	-1.354	-1.457	-1.295
9	NI Water gross capital budget	£m	3	0.000	167.566	158.898	143.691	154.337	152.620	171.135	172.366	177.352

Table 35 – Financial Measures – Capital Investment – Public Expenditure Reconciliation

Introduction

This table provides a statement of the capital budget available and capital budget utilised in Public Expenditure terms and the gross capital expenditure by NI Water, all expressed in nominal terms. The table follows the content and structure of Table 3.2 of the PC21 information requirements to facilitate comparison between the Business Plan submission and actual expenditure.

Block A reports the available Public Expenditure capital budget agreed with the Department for infrastructure, DfI, for the relevant financial year. Block B provides a reconciliation between the Public Expenditure capital budget used and NI Water's gross capital expenditure, identifying differences arising from changes due to the treatment of PPP unitary charge, different accounting treatments and the impact of income from capital grants and contributions.

Line 1 - Public Expenditure capital budget available

Entries to line 1 represent the total budget 'Capital DEL Acquisitions' agreed with DfI for each financial year and includes movements to funding resulting from budget transfers within monitoring rounds. This is all expenditure which DfI classifies as 'capital DEL' and includes normal capital expenditure (both base & enhancement), PPP capital maintenance on on-balance sheet PPP contracts and residual interest on off-balance sheet PPP contracts.

As DfI have adopted IFRS as an accounting framework, the available PE will also be stated on an IFRS basis.

In the reporting year, the PE capital DEL budgeted at the beginning of the year was £150.0m including £5.0m LWWP. This was £26.0m short of that assumed within the PC15 FD. This is set out in the table below and shows that the £26.0m reduction in capital DEL is equivalent to a £25.3m drop in gross capital expenditure, once other capital allocations are taken into account.

	Final Determination	Budget	Variance
	2020-21	2020-21	2020-21
	£M	£M	£M
PE Capital DEL Acquisitions	176.0	150.0	(26.0)
Alpha PPP maintenance / capex	(0.2)	(2.3)	(2.1)
Residual interest in off balance sheet PPP	(4.0)	(4.0)	-
IFRS infrastructure renewal charge adjustment	1.1	-	(1.1)
Capital grants and contributions	7.2	11.1	+3.9
Capital grants and contributions transferred to deferred credits	(0.9)	(0.9)	-
NI Water gross capital budget	179.2	164.0	(25.3)

In terms of movements in funding within the current year, NI Water's 'Capital DEL Acquisitions' budget was increased by £15.0m in the October Monitoring. There were also additional allocations due to SBRI, LWWP and additional funding for a Hydrogen/Electrolyser project. .

The PE capital DEL funding (DEL Acquisitions) at the end of the reporting year is as follows:

	2020/21
	£m
PE Capital DEL budget at start of year	150.000
October MR allocation	15.000
SBRI funding	0.478
Additional LWWP funding	0.300
Hydrogen/Electrolyser DfE	4.825
Grossed up for disposals	0.056
Final DfI budget available	**170.659**

Taking into account these and other movements, gross capital expenditure available to NI Water was £177.4m, £1.8m lower than assumed in the PC15 FD.

	Final Determination	Final Outturn	Variance
	2020-21	2020-21	2020-21
	£M	£M	£M
PE Capital DEL Acquisitions	176.0	170.7	(5.3)
Alpha PPP maintenance / capex	(0.2)	(2.4)	(2.2)
Residual interest in off balance sheet PPP	(4.0)	(4.0)	-
IFRS infrastructure renewal charge adjustment	1.1	-	(1.1)
Capital grants and contributions	7.2	14.4	+7.2
Capital grants and contributions transferred to deferred credits	(0.9)	(1.3)	(0.4)
NI Water gross capital budget	179.2	177.4	(1.8)

NI Water was subject to Public Expenditure capital budget reductions in in all six years of PC15, receiving approximately £71m less Capital DEL funding than was assumed in the Utility Regulator's PC15 final determination.

Although the impact of these budget adjustments was somewhat mitigated by lower than expected inflation, the real terms budget reduction at the start of PC15 led to delays in capital output delivery which continued to impact the programme through the PC15 period.

Line 2 – PE capital budget used

Represents total 'Capital DEL Acquisitions' calculated as line 9 minus the sum of lines 3 – 8 inclusive.

Taking into account the additional budget transfers received, actual spend was in line with available 'Capital DEL Acquisitions'.

Note the PE capital used has been agreed to our 2020/21 'provisional outturn' return submitted to DfI on the 27th April 2021. The 2020/21 'final outturn' will be provided to DfI mid-July. At this time we are not aware of any potential change to the provisional figure we have used but will update the Utility Regulator of any change post submission.

Line 3 – Alpha PPP maintenance

Following the Alpha purchase in 2017/18, actual capital expenditure by the Alpha group of companies now scores as Capital DEL under Public Expenditure.

The amounts reported within line 3 includes £2.306m capital expenditure incurred directly by NI Water Alpha Ltd.

Line 4 – Residual interest in off-balance sheet PPP

This represents the element of the Omega and Kinnegar PPP unitary payments which is allocated against residual interest in the relevant year.

Although the Regulatory Accounts are now presented in IFRS, for government reporting purposes, Omega & Kinnegar remain off-balance sheet.

Each year a portion of the unitary charge is debited against a 'residual interest asset' on the balance sheet with the aim of building up an asset which can be transferred to NI Water at end of the PPP contract term. The value of this asset would equal the forecast residual value of the relevant assets at the time of transfer.

Values for residual interest are sourced directly from the original contractors' financial models. The breakdown between Omega & Kinnegar is shown below.

	2020/21
Kinnegar Residual Interest	[redacted]
Omega Residual Interest	[redacted]
Total	[redacted]

Due to the move to IFRS, entries to this line no longer reconcile directly to Table 42. This is due to Omega and Kinnegar remaining off balance sheet for Government reporting.

Line 5 – IFRS infrastructure renewals charge adjustment

No longer required as this adjustment is included within gross capital expenditure within Table 36.

Line 6 – Further adjustments

Rounding difference of £0.002m reported

Line 7 – Capital grants and contributions

This represents the total of capital grants and contributions received in nominal prices.

Entries to this line are consistent with Table 37 line 17.

Line 8 – Capital grants and contributions transferred to deferred credits

An element of the capital grants and contributions received is assumed to relate to non-infrastructure assets with an associated useful life. Adoption of the financial 'matching' principle, i.e. the process of linking revenue to associated costs means that we must match the amortisation of the contribution against the depreciation charge on the assets over their useful economic life.

We currently assume 30% of infrastructure charges relate to non-infrastructure and is transferred to a deferred capital contribution account and released to the P&L over a 20 year period.

We have also received and deferred a number of capital grants in 2020/21. These are being released over a period of 60 years. As noted above, a different approach has been adopted in PE for these grants.

Entries to this line are consistent with Table 37 line 18.

Line 9 – NI Water gross capital expenditure

Represents gross capital expenditure as per Table 36. This line now incorporates the IFRS repairs adjustment which was previously reported in Table 35 Line 5.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 36 FINANCIAL MEASURES
CAPITAL INVESTMENT - GROSS CAPITAL INVESTMENT SUMMARY

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13		2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**Water service**																				
1	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	15.909		16.825	B3	17.891	B3	23.235	B2	23.543	B3	21.992	B3	21.415	B3	17.198	B3	19.599	B3
2	Infrastructure renewals expenditure (gross)	£m	3	22.593		22.391	B3	23.055	B3	11.133	B2	19.497	B3	16.687	B3	17.725	B3	22.280	B3	21.691	B3
3	Capital expenditure - quality enhancement programme	£m	3	9.972		14.396	B3	21.913	B3	14.646	B2	14.177	B3	7.347	B3	11.233	B3	10.372	B3	10.637	B3
4	Capital expenditure - customer service	£m	3	3.126		3.262	B3	2.616	B3	1.194	B2	3.175	B3	11.304	B3	5.068	B3	9.088	B3	13.424	B3
5	Capital expenditure - supply demand balance	£m	3	17.782		15.049	B3	21.478	B3	13.791	B2	7.393	B3	5.554	B3	14.867	B3	16.718	B3	13.194	B3
5a	Capex - new development	£m	3	8.323		4.777	B3	4.628	B3	5.258	B2	4.721	B3	3.045	B3	5.835	B3	7.716	B3	6.418	B3
5b	Capex - growth	£m	3	0.244		0.309	B3	0.634	B3	0.051	B3	0.016	B3	-0.012	B3	4.118	B3	2.535	B3	0.523	B3
5c	Capex - security of supply	£m	3	9.214		9.842	B3	16.099	B3	8.436	B2	2.625	B3		B3	4.890	B3	6.447	B3	6.245	B3
5d	Capex - free meters	£m	3	0.000		0.121	B3	0.117	B3	0.046	B3	0.031	B3	0.034	B3	0.024	B3	0.020	B3	0.008	B3
6	Gross capital expenditure - water service	£m	3	69.382		71.923	B3	86.953	B3	63.999	B2	67.786	B3	62.885	B3	70.308	B3	75.657	B3	78.544	B3
B	**Sewerage Service**																				
7	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	41.258		50.986	B3	30.084	B3	42.799	B2	46.247	B3	42.854	B3	43.019	B3	38.908	B3	40.040	B3
8	Infrastructure renewals expenditure (gross)	£m	3	8.775		7.727	B3	8.502	B3	9.010	B2	10.434	B3	10.475	B3	14.864	B3	14.310	B3	15.179	B3
9	Capital expenditure - quality enhancement programme	£m	3	21.626		21.238	B3	15.179	B3	13.851	B2	13.559	B3	16.305	B3	19.301	B3	24.448	B3	21.316	B3
10	Capital expenditure - customer service	£m	3	2.899		3.955	B3	4.137	B3	4.406	B2	5.359	B3	7.518	B3	10.517	B3	7.292	B3	8.389	B3
11	Capital expenditure - supply demand balance	£m	3	18.318		11.736	B3	14.043	B3	9.626	B2	10.951	B3	12.584	B3	13.127	B3	11.752	B3	13.883	B3
11a	Capex - new development	£m	3	17.871		11.579	B3	14.013	B3	9.626	B2	10.951	B3	12.578	B3	13.127	B3	11.064	B3	8.867	B3
11b	Capex - sewage treatment	£m	3	0.447		0.158	B3	0.030	B3	0.000	B3	0.000	B3	0.007	B3	0.000	B3	0.687	B3	5.016	B3
12	Gross capital expenditure - sewerage service	£m	3	92.876		95.643	B3	71.945	B3	79.692	B2	86.551	B3	89.735	B3	100.828	B3	96.710	B3	98.807	B3
C	**Gross capital expenditure total**																				
13	Gross capital expenditure total	£m	3	162.258		167.566	B3	158.898	B3	143.691	B2	154.337	B3	152.620	B3	171.135	B3	172.366	B3	177.352	B3
D	**Adopted assets, nil cost assets**	£m	3																		
14	Water service assets adopted at nil cost	£m	3	0.000		0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	n/a
15	Water service assets adopted in return for an payment	£m	3	0.000		0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	n/a
16	Sewerage service asset adopted at nil cost	£m	3	48.233		59.566	B3	48.406	B3	32.724	B2	32.071	B3	31.145	B3	34.295	B3	46.713	B3	40.680	B3
17	Sewerage service assets adopted in return for a payment.	£m	3	0.000		0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	B3	0.000	n/a
18	Total adopted assets and nil cost assets	£m	3	48.233		59.566	B3	48.406	B3	32.724	B3	32.071	B3	31.145	B3	34.295	B3	46.713	B3	40.680	B3
E	**Infrastructure renewals expenditure (net)**																				
19	Water service infrastructure renewals expenditure (net) (NIW only)	£m	3	22.514		22.277	B3	23.022	A2	10.930	B2	19.430	A2	16.609	A2	17.579	A2	22.180	A2	21.639	A2
20	Sewerage service infrastructure renewals expenditure (net) (NIW only)	£m	3	8.609		7.632	B3	8.438	A2	9.010	B2	10.434	A2	10.461	A2	14.861	A2	14.300	A2	15.077	A2
21	Total infrastructure renewals expenditure (net) (NIW only)	£m	3	31.123		29.909	B3	31.460	A2	19.941	B2	29.864	A2	27.070	A2	32.440	A2	36.479	A2	36.717	A2
F	**Total asset additions**																				
22	Water service total asset additions	£m	3	46.788		49.532	B3	63.898	B3	52.866	B2	48.289	B3	46.197	B3	52.582	B3	53.376	B3	56.853	B3
23	Sewerage service total asset additions	£m	3	132.334		147.482	B3	111.849	B3	103.406	B2	108.188	B3	110.405	B3	120.258	B3	129.112	B3	124.309	B3
24	Total asset additions	£m	3	179.122		197.014	B3	175.747	B3	156.272	B2	156.477	B3	156.603	B3	172.841	B3	182.489	B3	181.162	B3

Table 36 - Capital Investment - Gross Capital Investment Summary

Refer to Chapter 30 for detailed commentary on this table. There are no reconciling items to report.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 36A FINANCIAL MEASURES
CAPITAL INVESTMENT - GROSS CAPITAL INVESTMENT VARIANCE

	DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
				PC15 OUTTURN (£M)							PC15 FINAL DETERMINATION (£M)							PC15 VARIANCE FROM FD (£M)							PC15 VARIANCE FROM FD (%)						
				REPORTING YEAR 2015-16	REPORTING YEAR 2016-17	REPORTING YEAR 2017-18	REPORTING YEAR 2018-19	REPORTING YEAR 2019-20	REPORTING YEAR 2020-21	TOTAL TO DATE PC15	REPORTING YEAR 2015-16	REPORTING YEAR 2016-17	REPORTING YEAR 2017-18	REPORTING YEAR 2018-19	REPORTING YEAR 2019-20	REPORTING YEAR 2020-21	TOTAL TO DATE PC15	REPORTING YEAR 2015-16	REPORTING YEAR 2016-17	REPORTING YEAR 2017-18	REPORTING YEAR 2018-19	REPORTING YEAR 2019-20	REPORTING YEAR 2020-21	TOTAL TO DATE PC15	REPORTING YEAR 2015-16	REPORTING YEAR 2016-17	REPORTING YEAR 2017-18	REPORTING YEAR 2018-19	REPORTING YEAR 2019-20	REPORTING YEAR 2020-21	TOTAL TO DATE PC15
A	**Water service**																														
1	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	23.235	23.543	21.992	21.415	17.198	19.599	126.983	22.576	23.060	23.673	24.292	24.691	24.153	142.445	-0.659	-0.483	1.680	2.877	7.493	4.554	15.462	-2.9	-2.1	7.1	11.8	30.3	18.9	10.9
2	Infrastructure renewals expenditure (gross)	£m	3	11.133	19.497	16.687	17.725	22.280	21.691	109.015	14.012	14.313	14.693	15.077	15.325	14.991	88.411	2.879	-5.184	-1.994	-2.648	-6.958	-6.700	-20.604	20.5	-36.2	-13.6	-17.6	-45.4	-44.7	-23.3
3	Capital expenditure - quality enhancement programme	£m	3	14.646	14.177	7.347	11.233	10.372	10.637	68.412	13.810	14.106	19.365	19.283	15.269	17.538	99.372	-0.835	-0.071	12.018	8.050	4.897	6.901	30.960	-6.0	-0.5	62.1	41.7	32.1	39.3	31.2
4	Capital expenditure - customer service	£m	3	1.194	3.175	11.304	5.068	9.088	13.424	43.252	4.036	4.123	3.707	3.459	3.768	3.680	22.773	2.842	0.947	-7.597	-1.609	-5.319	-9.744	-20.479	70.4	23.0	-204.9	-46.5	-141.2	-264.8	-89.9
5	Capital expenditure - supply demand balance	£m	3	13.791	7.393	5.554	14.867	16.718	13.194	71.517	14.109	14.411	15.309	15.410	19.301	19.517	98.057	0.318	7.018	9.755	0.543	2.582	6.323	26.539	2.3	48.7	63.7	3.5	13.4	32.4	27.1
6	Gross capital expenditure - water service	£m	3	63.999	67.786	62.885	70.308	75.657	78.544	419.179	68.544	70.013	76.748	77.520	78.354	79.878	451.057	4.545	2.227	13.863	7.213	2.697	1.334	31.878	6.6	3.2	18.1	9.3	3.4	1.7	7.1
B	**Sewerage Service**																														
7	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	42.799	46.247	42.854	43.019	38.908	40.040	253.867	36.143	36.918	37.899	38.889	39.528	38.667	228.044	-6.656	-9.329	-4.955	-4.130	0.620	-1.373	-25.823	-18.4	-25.3	-13.1	-10.6	1.6	-3.6	-11.3
8	Infrastructure renewals expenditure (gross)	£m	3	9.010	10.434	10.475	14.864	14.310	15.179	74.273	10.575	10.802	11.089	11.379	11.566	11.314	66.725	1.565	0.368	0.614	-3.485	-2.744	-3.865	-7.548	14.8	3.4	5.5	-30.6	-23.7	-34.2	-11.3
9	Capital expenditure - quality enhancement programme	£m	3	13.851	13.559	16.305	19.301	24.448	21.316	108.779	20.380	20.817	14.489	17.616	16.793	14.329	104.424	6.529	7.258	-1.815	-1.685	-7.655	-6.986	-4.355	32.0	34.9	-12.5	-9.6	-45.6	-48.8	-4.2
10	Capital expenditure - customer service	£m	3	4.406	5.359	7.518	10.517	7.292	8.389	43.481	8.802	8.991	10.080	5.954	5.855	5.075	44.757	4.396	3.632	2.561	-4.563	-1.437	-3.314	1.276	49.9	40.4	25.4	-76.6	-24.5	-65.3	2.9
11	Capital expenditure - supply demand balance	£m	3	9.626	10.951	12.584	13.127	11.752	13.883	71.923	8.016	8.188	8.474	11.411	12.513	13.265	61.867	-1.610	-2.764	-4.110	-1.716	0.761	-0.619	-10.056	-20.1	-33.8	-48.5	-15.0	6.1	-4.7	-16.3
12	Gross capital expenditure - sewerage service	£m	3	79.692	86.551	89.736	100.828	96.710	98.807	552.323	83.917	85.715	82.031	85.249	86.255	82.650	505.817	4.225	-0.836	-7.704	-15.579	-10.455	-16.158	-46.506	5.0	-1.0	-9.4	-18.3	-12.1	-19.5	-9.2
C	**Gross capital expenditure total**																														
13	Gross capital expenditure total	£m	3	143.691	154.337	152.620	171.135	172.366	177.352	971.502	152.461	155.728	158.779	162.769	164.608	162.528	956.874	8.770	1.391	6.159	-8.366	-7.758	-14.824	-14.628	5.8	0.9	3.9	-5.140	-4.713	-9.121	-1.5
D	**CAPITAL CONTRIBUTIONS NET OF DEFERRED CREDITS**																														
14	Capital contributions for new connections	£m	3	7.782	11.483	13.917	14.243	14.243	14.243	75.911	4.174	4.263	4.431	4.575	4.679	4.605	26.728	-3.608	-7.220	-9.486	-9.668	-9.564	-9.637	-49.183	-86.4	-169.3	-214.1	-211.3	-204.4	-209.3	-184.0
15	Other capital contributions	£m	3	0.203	0.067	0.092	0.154	0.154	0.154	0.823	1.226	1.253	1.300	1.109	1.133	1.114	7.135	1.023	1.186	1.208	0.955	0.980	0.961	6.313	83.4	94.7	92.9	86.2	86.4	86.2	88.5
16	Total capital contributions net of deferred credits	£m	3	7.985	11.550	14.009	14.396	14.396	14.396	76.733	5.400	5.516	5.731	5.684	5.812	5.720	33.863	-2.585	-6.034	-8.278	-8.712	-8.584	-8.677	-42.870	-47.9	-109.4	-144.4	-153.3	-147.7	-151.7	-126.6
E	**TOTAL CAPITAL EXPENDITURE (NET)**																														
17	Total capital expenditure (net)	£m	3	135.706	142.787	138.611	156.739	157.970	162.955	894.769	147.061	150.212	153.048	157.085	158.796	156.808	923.011	11.355	7.425	14.437	0.346	0.826	-6.147	28.242	7.7	4.9	9.4	0.2	0.5	-3.9	3.1

Table 36a – Capital Investment – Expenditure comparison by service and purpose

Refer to Chapter 30 for detailed commentary on this table. There are no reconciling items to report.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 37 FINANCIAL MEASURES
CAPITAL INVESTMENT - CAPITAL GRANTS AND CONTRIBUTIONS

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
A	**Water Service - Maintenance grants and contributions**											
1	MNI - grants and contributions.	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	Infrastructure renewals grants and contributions.	£m	3	0.079	0.114	0.033	0.203	0.067	0.078	0.146	0.101	0.052
3	Total maintenance grants and contributions	£m	3	0.079	0.114	0.033	0.203	0.067	0.078	0.146	0.101	0.052
B	**Water Service - Enhancement grants and contributions**											
4	Infrastructure charge receipts - new connections	£m	3	1.127	1.272	1.426	1.800	2.284	2.561	2.446	2.589	2.328
5	Enhancement requisitions, grants and contributions	£m	3	2.031	2.054	2.387	2.553	4.038	3.339	4.575	3.722	3.140
6	*Other categories of capital grants and contributions to be added by NI Water*	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	Total enhancement capital grants and contributions	£m	3	3.158	3.326	3.813	4.353	6.322	5.900	7.021	6.310	5.467
C	**Water Service - Deferred credits**											
8	Capital grants and contributions transferred to deferred credits	£m	3	0.500	0.382	0.666	0.545	0.685	0.768	0.734	0.777	0.698
D	**Sewerage Service - Maintenance grants and contributions**											
9	MNI - grants and contributions.	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	Infrastructure renewals grants and contributions.	£m	3	0.166	0.095	0.064	0.000	0.000	0.014	0.003	0.010	0.102
11	Total maintenance grants and contributions	£m	3	0.166	0.095	0.064	0.000	0.000	0.014	0.003	0.010	0.102
E	**Sewerage Service - Enhancement grants and contributions**											
12	Infrastructure charge receipts - new connections	£m	3	0.911	1.036	1.195	1.515	1.997	2.280	2.065	2.269	1.988
13	Enhancement requisitions, grants and contributions	£m	3	1.443	2.015	2.226	1.914	3.164	5.737	4.770	17.279	6.787
14	*Other categories of capital grants and contributions to be added by NI Water*	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	Total enhancement capital grants and contributions	£m	3	2.354	3.051	3.421	3.429	5.161	8.017	6.835	19.548	8.776
F	**Sewerage Service - Deferred credits**											
16	Capital grants and contributions transferred to deferred credits	£m	3	0.404	0.311	0.359	0.454	0.599	0.684	0.620	0.681	0.597
G	**Totals for the Water and Sewerage Services**											
17	Total enhancement capital grants and contributions	£m	3	5.757	6.586	7.331	7.985	11.550	14.009	14.005	25.970	14.396
18	Total capital grants and contributions transferred to deferred credits	£m	3	0.904	0.693	1.025	0.999	1.284	1.452	1.354	1.457	1.295

Table 37 – Capital Investment - Capital Grants and Contributions

Line 1 – Water service MNI – grants and contributions

Nil for 2020-21.

Line 2 – Water service maintenance grants and contributions

This line shows £0.052m and represents contributions from developers towards the cost of watermains diversions.

Line 4 – Water service infrastructure charge receipts - new connections

This line shows £2.328m and represents the receipts from developers for water infrastructure charges. This is stated gross prior to accounting for the element that is deemed to contribute to non-infrastructure expenditure.

Line 5 – Water service enhancement requisitions, grants and contributions

This line can be summarised as follows:

New water connections	£ 2.725m
Water requisitions	£ 0.133m
Grants	£ 0.282m
Total Line 5	**£ 3.140m**

Line 6 – Water service other categories of capital grants and contributions

Nil for 2020-21.

Line 8 – Water service deferred credits

This line shows £0.698m and represents the element of the receipts from developers for water infrastructure charges that are deemed to contribute to non-infrastructure expenditure.

This is calculated as follows:
Line 4 £2.328m x 30% = £0.698m

The 30% used in this calculation is based on an estimate of the future capital expenditure that relates to non-infrastructure growth.

Line 9 – Sewerage service MNI – grants and contributions

Nil for 2020-21.

Line 10 – Sewerage service - maintenance grants and contributions

This line shows £0.102m and represents contributions from developers towards the cost of realignment of sewers.

Line 12 – Sewerage service - Infrastructure charge receipts - new connections

This line shows £1.988m and represents the receipts from developers for sewerage infrastructure charges. This is stated gross prior to accounting for the element that is deemed to contribute to non-infrastructure expenditure.

Line 13 – Sewerage service - enhancement requisitions, grants and contributions

This can be summarised as follows:

New sewerage connections	£ 1.068m
Sewerage requisitions	£ 0.723m
Sewers for adoption –application fees	£ 0.816m
Grants	£ 4.180m
Total Line 13	**£ 6.787m**

Line 14 – Sewerage service - other categories of capital grants and contributions

Nil for 2020-21.

Line 16 – Sewerage service deferred credits

This line shows £0.597m and represents the element of the receipts from developers for sewerage infrastructure charges that are deemed to contribute to non-infrastructure expenditure.

This is calculated as follows:
Line 12 £1.988m x 30% = £0.597m

The 30% used in this calculation is based on an estimate of the future capital expenditure that relates to non-infrastructure growth.

Comparison of 2020-2021 to PC15*

The following table shows a comparison of the actual contributions for 2020-21 compared to PC15.

	2020-21 Actual £m	**2020-21 PC15 £m**	**2020-21 Variance £m**	**2020-21 Variance %**
Water				
Infrastructure – base	0.0	0.0	0.0	N/A
Infrastructure charges - gross	2.3	1.7	0.6	35.3%
Connections	2.7	2.4	0.3	12.5%
Requisitions	0.1	0.1	0.0	0.0%
Grants	0.3	0.0	0.3	300.0%
Total	**5.4**	**4.2**	**1.2**	**28.6%**
Included in the gross Infrastructure charges above the non infrastructure element - 30%	0.7	0.5	0.2	40.0%
Sewerage				
Infrastructure – base	0.1	0.0	0.1	100.0%
Infrastructure charges – gross	2.0	1.4	0.6	42.9%
Connections	1.1	1.0	0.1	10.0%
Requisitions	0.7	0.2	0.5	250.0%
Sewers for adoption	0.8	0.5	0.3	60.0%
Grants	4.2	0.0	4.2	420.0%
Total	**8.9**	**3.1**	**5.8**	**187.1%**
Included in the gross Infrastructure charges above the non infrastructure element - 30%	0.6	0.4	0.2	50.0%
Total contributions	**14.3**	**7.3**	**7.0**	**95.9%**
Which includes: *non-infrastructure contributions*	**1.3**	**0.9**	**0.4**	**44.4%**

**This table is rounded to one decimal place to reflect the presentation of these figures in the PC15 submission.*

Note: no base infrastructure contributions or new grants were assumed in PC15.

The level of activity around developer contributions is very difficult to project.

The Developers Services Team has made the following observations in regards to the current status of the new development market.

The development market has been relatively depressed over the past eight years with few developments brought to completion since 2009. However the development sector is now showing signs of strengthening with NIW noting an increase of approximately 30% in the activity in the sector over the last two years which is consistent with a recent NHBC UK Report. However the trend shows a smaller average number of units being constructed per development which will impact on all the associated developer contributions.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 38 FINANCIAL MEASURES

CAPITAL INVESTMENT - ADDITIONAL OPEX FROM CAPEX

	DESCRIPTION	UNITS	DP	1 2012-13	2 2013-14	3 2014-15	4 2015-16	5 2016-17	6 2017-18	7 2018-19	8 2019-20	9 2020-21
A	OPEX from CAPEX											
1	Additional OPEX arising from Water Service projects	£m	3		0.215	0.004	0.027	0.026	0.022	0.029	0.000	-0.012
2	Additional OPEX arising from Sewerage Service projects	£m	3		1.483	0.403	0.003	-0.021	0.025	0.065	-0.024	-0.171
3	Total additional OPEX	£m	3		1.698	0.407	0.030	0.005	0.047	0.094	-0.024	-0.183

Table 38 - Capital investment - Additional Opex from Capex

A list of sites with CAR IDs is obtained and the Opex costs for 2020/21 are calculated for these sites through various reports.

The Opex from Capex costs have been calculated by taking the difference between the total 2020/21 costs and the 2019/20 costs.

Line 1 Additional OPEX arising from water service projects

The total of water pumping stations and water treatment plants has been used to populate Line 1 in Table 38 which is (£0.012M) which is lower than the PC15 submission amount for 2020-21 by circa £0.1M. Work done on the projects detailed in the PC15 submission has been either accelerated due to prioritisation or deferred to later years or the PC21 period. NIW are now focussing on delivery of targets at a PC period level rather than in year.

Line 2 - Additional OPEX arising from sewerage service projects

The total of the sewage pumping stations and the wastewater treatment works have been used to populate Line 2 in Table 38 and for 2020/21 there is a is a reduction of costs of £0.2M. This is mainly due to work done at various sites which has substantially reduced power costs i.e. Dungannon WWTW Nereda Plant. Also work done to reduce total costs including Strabane WWTW and Newpoint SPS. This is less than what was forecast in the PC15 submission for 2020-21. Work done on the projects detailed in the PC15 submission has been either accelerated due to prioritisation or deferred to later years or the PC21 period. NIW are now focussing on delivery of targets at a PC period level rather than in year.

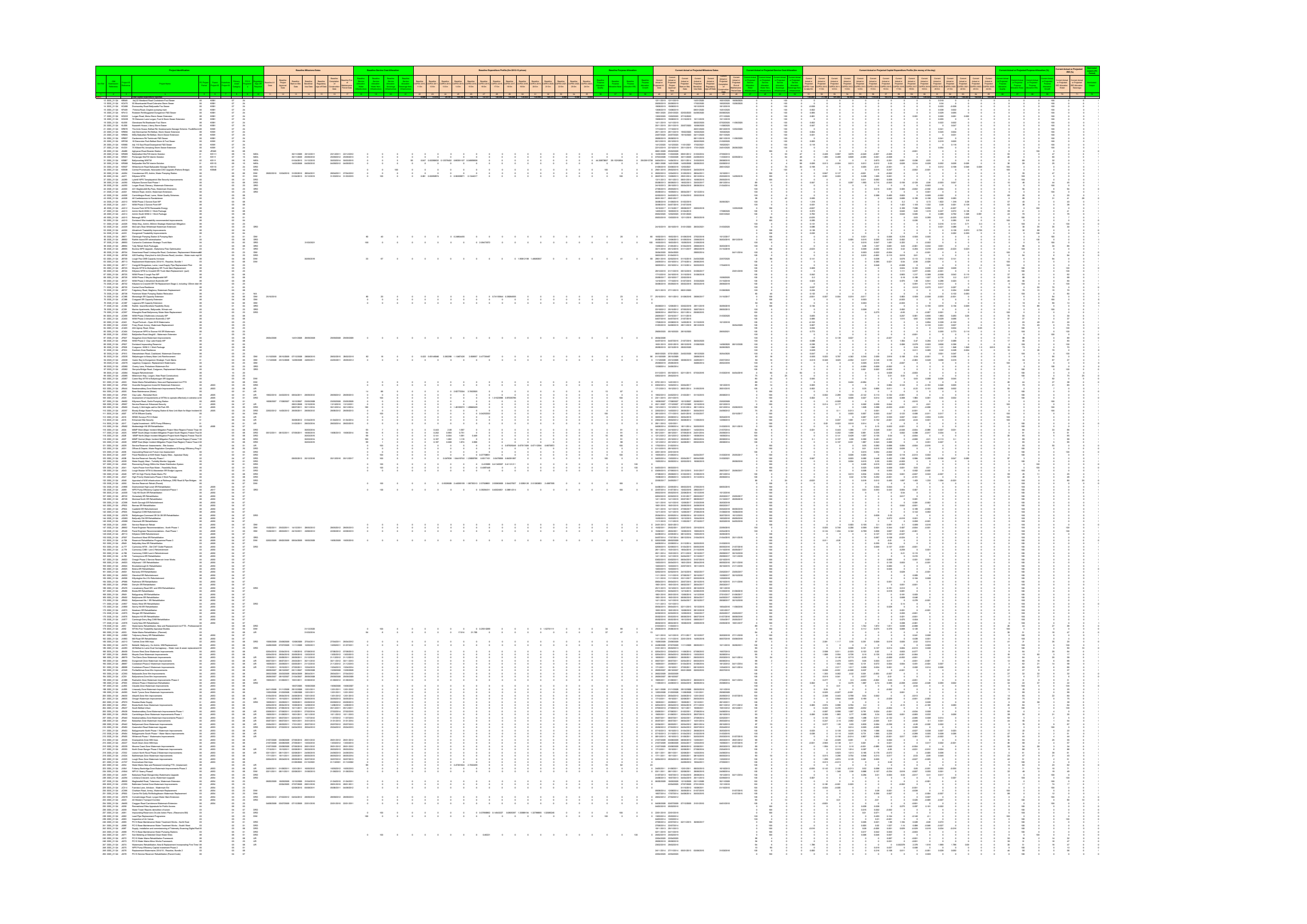
Line 3 - Total additional OPEX

The total figure is a reduction of costs of £0.2M. This is less than what was forecast in the PC15 submission amount for 2020-21. Work done on the projects detailed in the PC15 submission has been either accelerated due to prioritisation or deferred to later years or the PC21 period. NIW are now focussing on delivery of targets at a PC period level rather than in year.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RET

ANNUAL INFORMATION RETURN - TABLE A1 CAPITAL INVESTME
CAPITAL INVESTMENT MONITORING - DS
ANNUAL INFORMATION RETURN 2020 /

Project Identification									Baseline Milestone Dates						Baseline Service Cost Allocation				Baseline Expenditure Profile (De-2012-13 prices)												Baseline Purpose Allocation			Current Actual or Projected Milestone Dates				Current Actual or Projected Service Cost Allocation			Current Actual or Projected Capital Expenditure Profile (De-vacuy of this day)												Current Actual or Projected Purpose Allocation (%)			Current Actual or Projected RM (No.)		Current Actual or Projected RM (£m)
Asset Plan	Unit Reference Number	Project ID	Project Name	Purpose Code	Project Type	Expenditure Type	Primary Driver	PC13 Programme	Regulatory Key Project	Baseline Approval Date	Baseline Baseline Date	Baseline Start Date	Baseline Regulatory Cap/Collar	Baseline Completion Date	Baseline Post Completion Period (Ex)	Baseline Service Cost Allocation	Baseline Service Cost Allocation (Wholesale)	Baseline Service Cost Allocation (Retail)	Baseline Service Cost Allocation (Shared)	Baseline 11/12	Baseline 12/13	Baseline 13/14	Baseline 14/15	Baseline 15/16	Baseline 16/17	Baseline 17/18	Baseline 18/19	Baseline 19/20	Baseline 20/21	Baseline 21/22	Baseline 22/23	Baseline 23/24	Baseline 24/25	Baseline Purpose Allocation	Baseline Purpose Allocation (Wholesale)	Baseline Purpose Allocation (Retail)	Current Approved or Projected Milestone Date	Current Actual or Projected Start Date	Current Actual or Projected Completion Date	Current Actual or Projected Regulatory Cap or Collar	Current Actual or Projected Milestone Date Comment	Current Actual or Projected Service Cost Allocation	Current Actual or Projected Service Cost Allocation (Wholesale)	Current Actual or Projected Service Cost Allocation (Retail)	Current Actual or Projected Capital Expenditure Profile (£m) 11/12 Year	Current Actual or Projected Capital Expenditure Profile (£m) 12/13 Year	Current Actual or Projected Capital Expenditure Profile (£m) 13/14 Year	Current Actual or Projected Capital Expenditure Profile (£m) 14/15 Year	Current Actual or Projected Capital Expenditure Profile (£m) 15/16 Year	Current Actual or Projected Capital Expenditure Profile (£m) 16/17 Year	Current Actual or Projected Capital Expenditure Profile (£m) 17/18 Year	Current Actual or Projected Capital Expenditure Profile (£m) 18/19 Year	Current Actual or Projected Capital Expenditure Profile (£m) 19/20 Year	Current Actual or Projected Capital Expenditure Profile (£m) 20/21 Year	Current Actual or Projected Capital Expenditure Profile (£m) 21/22 Year	Current Actual or Projected Capital Expenditure Profile (£m) 22/23 Year	Current Actual or Projected Capital Expenditure Profile (£m) 23/24 Year	Current Actual or Projected Capital Expenditure Profile (£m) 24/25 Year	Current Actual or Projected Purpose Allocation (%)	Current Actual or Projected Purpose Allocation (%)	Current Actual or Projected Purpose Allocation (%)	Current Actual or Projected RM (No.)	Current Actual RM Allocation (No.)	Current Actual or Projected RM (£m)	Current Actual RM Allocation (£m)
Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Date	Date	Date	Date	Date	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Date	Date	Date	Date	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text	Text
Enter Year	Unique Reference Number	Project ID	Project Name	Purpose Code	Project Type	Expenditure Type	Primary Driver	PC13 Programme	Regulatory Key Project	Baseline Approval Date	Baseline Baseline Date	Baseline Start Date	Baseline Regulatory Cap/Collar	Baseline Completion Date	Baseline Post Completion Period (Ex)	Baseline Service Cost Allocation	Baseline Service Cost Allocation (Wholesale)	Baseline Service Cost Allocation (Retail)	Baseline Service Cost Allocation (Shared)	Baseline 11/12	Baseline 12/13	Baseline 13/14	Baseline 14/15	Baseline 15/16	Baseline 16/17	Baseline 17/18	Baseline 18/19	Baseline 19/20	Baseline 20/21	Baseline 21/22	Baseline 22/23	Baseline 23/24	Baseline 24/25	Baseline Purpose Allocation	Baseline Purpose Allocation (Wholesale)	Baseline Purpose Allocation (Retail)	Current Approved or Projected Milestone Date	Current Actual or Projected Start Date	Current Actual or Projected Completion Date	Current Actual or Projected Regulatory Cap or Collar	Current Milestone Date Comment	Current Actual or Projected Service Cost Allocation	Current Actual or Projected Service Cost Allocation (Wholesale)	Current Actual or Projected Service Cost Allocation (Retail)	Current Actual or Projected Capital Expenditure Profile (£m) 11/12 Year	Current Actual or Projected Capital Expenditure Profile (£m) 12/13 Year	Current Actual or Projected Capital Expenditure Profile (£m) 13/14 Year	Current Actual or Projected Capital Expenditure Profile (£m) 14/15 Year	Current Actual or Projected Capital Expenditure Profile (£m) 15/16 Year	Current Actual or Projected Capital Expenditure Profile (£m) 16/17 Year	Current Actual or Projected Capital Expenditure Profile (£m) 17/18 Year	Current Actual or Projected Capital Expenditure Profile (£m) 18/19 Year	Current Actual or Projected Capital Expenditure Profile (£m) 19/20 Year	Current Actual or Projected Capital Expenditure Profile (£m) 20/21 Year	Current Actual or Projected Capital Expenditure Profile (£m) 21/22 Year	Current Actual or Projected Capital Expenditure Profile (£m) 22/23 Year	Current Actual or Projected Capital Expenditure Profile (£m) 23/24 Year	Current Actual or Projected Capital Expenditure Profile (£m) 24/25 Year	Current Actual or Projected Purpose Allocation (%)	Current Actual or Projected Purpose Allocation (%)	Current Actual or Projected Purpose Allocation (%)	Current Actual or Projected RM (No.)	Current Actual RM Allocation (No.)	Current Actual or Projected RM (£m)	Current Actual RM Allocation (£m)
Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
2020																				20.000	12.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000																																		
																				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																																		
1 2020_21 Qtr	101597	Moneyhill Road Horseshoe Pond & Storm Sewer Extensions	05	40951	07	24	2020																																																																		
2 2020_21 Qtr	101223	Carnagat Road Storey Pond & Storm Sewer Reqnaution	05	40951	07	24																																																															
3 2020_21 Qtr	101224	Ballyhanwood Road Storey Pond & Storm Sewer	05	40951	07	24																																																															
4 2020_21 Qtr	101227	Drumsaxon Rd, Kesty Glen and Pond Rewire	05	40951	07	24																																																															
5 2020_21 Qtr	101229	Ben Crom Place, 60dwd, Storm Sewer Extension	05	40951	07	24																																																															
6 2020_21 Qtr	101235	Pound Hill, Dromore, - Storm Sewer Extension	05	40951	07	24																																																														
7 2020_21 Qtr	40865	LWWP - Storm water separation pilot study phase 2	06	40995	07	12																																																																
8 2020_21 Qtr	40866	LWWP - Storm water separation pilot study phase 2	06	40995	07	12																																																														
9 2020_21 Qtr	40256	Dunwood Drive Maintenance FSS Sewer	05	40951	07	24																																																													
10 2020_21 Qtr	40256	Shanes Castle BS at No. 12 Castle Rd Antrim Foul Sewer	05	40951	07	24																																																													
11 2020_21 Qtr	40547	Union Street Aughnacloy, Storm Sewer Extension	05	40951	07	24																																																												



Project Identification									
Sort Ref	CIM Submission Reference	Project ID Reference	Project Name	PC Project Period	Parent Project ID	Substitute Project ID	Primary Asset Category	PC10 Programme	Regulatory Sign-Off Required
1	2	3	4	5	6	7	8	9	10
CALC			Total capital expenditure reported						
1446	2020_21 Q4	SP016	MG CWP Baseline	06			15	20	
1447	2020_21 Q4	SP017	Water Catchment Baseline	00			01	03	
1448	2020_21 Q4	xx999	EP Management Adjustment					99	
1449	2020_21 Q4	AM086	CAR FME Server	00			15	20	
1450	2020_21 Q4	AM089	Positional Improvement (OSNI)	04			15	20	
1451	2020_21 Q4	AM090	Cost Base and Capex Comparative Efficiency	03			15	20	UR
1452	2020_21 Q4	AM093	PC15 M&G Parent	06			15	20	
1453	2020_21 Q4	AM094	Corporate GIS Project	06			15	20	
1454	2020_21 Q4	AM096	Westland - Main Building Kitchen / Coffee Lounge Extension	06			15	20	
1455	2020_21 Q4	AM106	CPMR System Development & Integration	07			15	20	N/A
1456	2020_21 Q4	AP036	CCTV Surveys Asset Performance 2011 - 2012	00			07	02	DRD
1457	2020_21 Q4	AP055	Condition Assessment	05			06	20	
1458	2020_21 Q4	AP059	Netownbreda MBV	02			14	20	DRD
1459	2020_21 Q4	AP066	LWWP - Carrick MBV	03			14	20	DRD
1460	2020_21 Q4	AP084	Provision of Interim Bridging Services (Previously KI522)	00			06	20	DRD
1461	2020_21 Q4	AP089	Network Model Updates	03			06	20	DRD
1462	2020_21 Q4	AP093	Sewer network models- Cushendall,Ballykelly, Dungiven	03			14	20	
1463	2020_21 Q4	AP094	Service Reservoir Condition Assessments Pilot Study	05			06	20	
1464	2020_21 Q4	AP096	Base Maintenance Prioritisation	03			15	20	
1465	2020_21 Q4	AP100	PC13 Network Modelling Support Services	03			06	20	
1466	2020_21 Q4	AP101	Storm Analysis Reports	03			14	20	
1467	2020_21 Q4	AP102	Provision of PPRA Reports	03			03	20	
1468	2020_21 Q4	AP103	Investigation of Polluted Stormwater Outfalls	03			07	20	
1469	2020_21 Q4	AP105	Larne MBV	03			14	20	
1470	2020_21 Q4	AP106	Drainage Area Study Specification revision	03			14	20	
1471	2020_21 Q4	AP107	Sewer Network Modelling Support	03			14	20	
1472	2020_21 Q4	AP111	Larne Network Investigation	03			14	20	
1473	2020_21 Q4	AP114	Development of PC15 Lead Pipe Replacement Programme	04			06	23	DWI
1474	2020_21 Q4	AP120	Asset Performance CCTV surveys - 14/15	03			14	20	
1475	2020_21 Q4	AP122	Investigation of polluted stormwater outfalls - phase 1	05			07	12	
1476	2020_21 Q4	AP128	Trunk Main Condition Assessment 14/15	03			03	20	
1477	2020_21 Q4	AP130	Hydraulic Review + Verification of Water Network Schemes	03			03	20	DRD
1478	2020_21 Q4	AP142	Provision of Pressure Logging Equipment	06			06	20	
1479	2020_21 Q4	AP143	SR and CWB Risk and Consequence Model Update	06			06	20	
1480	2020_21 Q4	AP150	Provision of Flow Monitoring Equipment	00			14	20	
1481	2020_21 Q4	BC006	Meter reconciliation phase 2	01			06	20	DRD
1482	2020_21 Q4	BC007	Debt and Collections phase 2	01			06	20	DRD
1483	2020_21 Q4	BC009	CS Data Quality Programme	05			15	20	
1484	2020_21 Q4	BC010	Digital Customer Phase 1	03			15	20	
1485	2020_21 Q4	BC013	CBC Implementation	04			15	20	
1486	2020_21 Q4	BC014	Meter to Bill Improvement	06			06	20	DRD
1487	2020_21 Q4	BC016	Click Schedule Licences	06			15	20	
1488	2020_21 Q4	BC017	Additional FME Licence and Server	01			15	20	
1489	2020_21 Q4	BC018	Call Centre Resilience	01			15	20	
1490	2020_21 Q4	BE006	Vehicle GPS	01			15	20	DRD
1491	2020_21 Q4	BE012	Monthly Pay and Oracle Enhancements	06			15	20	
1492	2020_21 Q4	BE016	Plant Purchasing Project (Short Term Strategy)	06			06	20	
1493	2020_21 Q4	BE017	Energy M&G	06			09	02	
1494	2020_21 Q4	BE020	Additional Solar Installations	06			15	20	
1495	2020_21 Q4	BE022	EY Sow for IOC	06			15	20	
1496	2020_21 Q4	BI121	Contractor Ellipse Interface	02			14	20	
1497	2020_21 Q4	BI139	SCaMP (Sustainable Catchment Management Plan) Mournes Water restr	00			01	20	
1498	2020_21 Q4	BI151	DG2 Stage 2	06			03	20	
1499	2020_21 Q4	BI152	Nisrans automated interface	01			15	20	
1500	2020_21 Q4	BI156	Optimal Control & management System site surveys	00			14	20	
1501	2020_21 Q4	BI226	Sustainable Local Power	01			06	20	
1502	2020_21 Q4	BI231	AGGREGATED GENERATION	01			15	20	
1503	2020_21 Q4	BI232	Installation of Sub Electricity Meters - Pilot Study @ Killyhevlin WTW	01			06	20	
1504	2020_21 Q4	BI240	Development of ICAT Standards	03			15	20	
1505	2020_21 Q4	BI249	Test and Development Telemetry System	01			06	20	
1506	2020_21 Q4	BI250	ANSWER Agricultural Need for Sustainable Willow Effluent Recycling	03			09	20	NIEA
1507	2020_21 Q4	BI254	Network Distribution Systems Control (NDCS) Phase 1	03			04	20	
1508	2020_21 Q4	BI259	Network Distribution control system pilot sites.	01			04	20	
1509	2020_21 Q4	BI272	Project Manager for the Property Address Cleansing Project Phase 3 (PI	01			06	20	
1510	2020_21 Q4	BI280	ICAT Programme Manager - Level 3	03			14	20	
1511	2020_21 Q4	BI282	ILMS Schneider Hardware & Software Support	03			03	20	
1512	2020_21 Q4	BI287	PC15 Innovation Programme Projects	06			15	20	
1513	2020_21 Q4	BI291	MCC replacement at Killyclogher SR	03			04	20	
1514	2020_21 Q4	BI295	Sludge Density Monitoring Using Coreolis Flowmeters	03			02	20	
1515	2020_21 Q4	BI301	i WATCH (Intelligent Water Automation, Telemetry and Control Hybrid) si	06			03	20	
1516	2020_21 Q4	BI303	Use of thermal and near infrared camera's in conjunction with an UAV	06			15	20	
1517	2020_21 Q4	BI305	Revision of Sewers for Adoption (N.I.)	06			14	20	
1518	2020_21 Q4	BI313	Jet Vac Screening Trial	06			07	20	
1519	2020_21 Q4	BT004	Telemetry Radio Digital Upgrade	00			15	20	
1520	2020_21 Q4	BT005	Scada Services Provision	00			15	20	
1521	2020_21 Q4	BT012	Document Management	01			15	20	
1522	2020_21 Q4	BT021	Enhancement program for End of Life equiptments 7 Ethernet delivery for	01			15	20	
1523	2020_21 Q4	BT023	HVCA Implementation Project	01			15	20	
1524	2020_21 Q4	BT026	Business Services Office Signage Requirements	06			15	20	
1525	2020_21 Q4	CA003	Water Bus	07			15	20	
1526	2020_21 Q4	CA004	Silent Valley Development	07			15	20	
1527	2020_21 Q4	CE004	SME support for Capital Efficiency Portfolio	06			15	20	
1528	2020_21 Q4	CE006	In-sourcing Network Modelling Into Strategic Client	06			15	20	
1529	2020_21 Q4	CO001	Commercial Excellence	06			15	20	
1530	2020_21 Q4	CS001	Customer Connections	02			06	20	
1531	2020_21 Q4	CS007	Account Services Case Mgmt	01			15	20	DRD
1532	2020_21 Q4	CS008	Self Service Phase 2	01			14	20	DRD
1533	2020_21 Q4	CU001	1CEX1 Metering & Billing	06			15	20	
1534	2020_21 Q4	CU002	PC15 ICAT Delivery - Omagh / Cookstown Area	04	BE014		06	20	
1535	2020_21 Q4	CU003	PC15 ICAT Delivery - Belfast Area	06	BE014		04	20	
1536	2020_21 Q4	CU004	PC15 ICAT Delivery - Newry Area	06			06	20	
1537	2020_21 Q4	CU006	PC15 ICAT Delivery - Ards / Bangor Area	06			04	20	
1538	2020_21 Q4	CU007	PC15 ICAT Delivery - Derry / Coleraine Area	06			04	20	
1539	2020_21 Q4	CU011	Service Incentive Mechanism (SIM) Improvements	06			15	20	
1540	2020_21 Q4	CU012	IVR	06			15	20	
1541	2020_21 Q4	CU013	Self Service Web Enhancements	06			15	20	
1542	2020_21 Q4	CU014	Knowledge Centre	06			15	20	
1543	2020_21 Q4	CU015	Digital Client Side Support	06			15	20	
1544	2020_21 Q4	CU016	Customer Interface Renewal	06			15	20	
1545	2020_21 Q4	CU017	ESRI Network Schematics	06			15	20	
1546	2020_21 Q4	CU019	Digital Services	06			15	20	
1547	2020_21 Q4	CU020	Smart Meter Implementation (Phase 1)	06			15	20	
1548	2020_21 Q4	CU021	Activat8 Scoping	06			15	20	
1549	2020_21 Q4	CU023	Robotic Process Automation (RPA) Proof of Value	06			15	20	
1550	2020_21 Q4	CU024	Business Analytics SBRI funding	06			02	20	
1551	2020_21 Q4	CU025	Netbase upgrade	06			06	20	
1552	2020_21 Q4	EP013	Capitalisation of Estates Maintenance	00			15	20	
1553	2020_21 Q4	EP017	Electricity generation from wind power or alternative green energy solutio	06			09	02	
1554	2020_21 Q4	EP031	Intelligent Pump Manager IWWF West Region	02	EP046		12	20	DRD
1555	2020_21 Q4	EP037	Climate Change Mitigation - Reducing Emissions	02			15	20	
1556	2020_21 Q4	EP038	NIW Head Office & IOC facilities	00			14	20	DRD
1557	2020_21 Q4	EP039	NIW Contaminated Land Remedial Project	06			15	20	
1558	2020_21 Q4	EP040	Ballycastle Depot - Remediation of Contamination.	01			15	20	NIEA
1559	2020_21 Q4	EP043	Capital Maintenance 13/14 & 14/15	03			15	20	
1560	2020_21 Q4	EP045	Enniskillen Area: Provision of MIP Facilities	03			06	20	DRD
1561	2020_21 Q4	EP052	CPMR imps PC15	06			11	20	
1562	2020_21 Q4	EP053	Estates management PC15	06			15	20	
1563	2020_21 Q4	EP056	CALM Network Facility	06			06	20	
1564	2020_21 Q4	ER002	Purachse of Automatic Sampling Machines for TE Charging and Complian	06			14	20	
1565	2020_21 Q4	ER003	Trade Effluent Store - Tullygarley	06			14	20	
1566	2020_21 Q4	ER005	UKAS Accreditation of Trade Effluent Sampling	06			15	20	
1567	2020_21 Q4	ER006	LIMS Server Upgrade PC15 2	06			15	20	
1568	2020_21 Q4	ER007	Trade Effluent Sampling Equipment	06			14	20	N/A
1569	2020_21 Q4	ER008	Fleet replacement of Isco Trade Effluent Sampling Machines	01			15	20	
1570	2020_21 Q4	FR014	Oracle E-business suite minor enhancements during PC13	03			15	20	
1571	2020_21 Q4	FR015	Capital allowance review	05			15	20	
1572	2020_21 Q4	FR017	Computer Associates upgrade related to new Oracle E-business suite Co	05			15	20	
1573	2020_21 Q4	FR018	Enhancements to the Oracle E-Business Suite and Associated Systems	06			15	20	
1574	2020_21 Q4	FR020	16/17 Enhancement to Oracle E-Bus Suite and Associated Systems	06			15	20	
1575	2020_21 Q4	FR021	Migration of Oracle EBS & OBIEE to new OVM/Linux hardware	06			15	20	
1576	2020_21 Q4	FR022	17/18 Minor enhancements to the Oracle E-business suite and OBIEE	06			15	20	
1577	2020_21 Q4	FR024	Project Alpha Transition	06			15	04	DRD
1578	2020_21 Q4	FR025	18/19 Oracle Minor Enhancements	06			15	20	
1579	2020_21 Q4	FR026	Oracle Upgrade	06			15	20	
1580	2020_21 Q4	FR027	19/20 Oracle Reactive Enhancements	06			15	20	
1581	2020_21 Q4	FR028	Making Tax Digital for VAT	06			15	20	
1582	2020_21 Q4	FR029	Microsoft VM Upgrades	06			15	20	
1583	2020_21 Q4	FR031	Financials, HR & Supply Chain Implementation	06			15	20	
1584	2020_21 Q4	FR032	20/21 Oracle Enhancements	01			15	20	
1585	2020_21 Q4	FR034	21/22 Oracle Reactive Enhancements	07			15	20	
1586	2020_21 Q4	HR002	Creation of Interface between NI Water's payroll and Capita Employee Be	03			15	20	
1587	2020_21 Q4	HR005	Payroll Changes in relation to CARE 2015 pension introduction	06			15	20	
1588	2020_21 Q4	HR006	Oracle OLM Change Request	06			15	20	
1589	2020_21 Q4	IA001	Data Analytics Solution	06			15	20	
1590	2020_21 Q4	IT002	Provision and support of corporate AutoCAD MAP 3D Licenses	00			14	20	
1591	2020_21 Q4	IT004	PC Refresh Programme	01			06	20	
1592	2020_21 Q4	IT010	ICT – Telemetry Base Maintenance	02			15	20	
1593	2020_21 Q4	IT017	Upgrade Programme for the Protection of Lightning Protection Phase 2	01			15	20	
1594	2020_21 Q4	IT038	MWM Toughbook Refresh Project	03			15	20	
1595	2020_21 Q4	IT039	Mobile Work Management (MWM) Contract Renewal	03			15	20	
1596	2020_21 Q4	IT043	Information Flows 2	03			15	20	
1597	2020_21 Q4	IT044	Critical Security Controls	03			15	20	
1598	2020_21 Q4	IT050	Telecoms Infrastructure Improvement	03			15	20	
1599	2020_21 Q4	IT052	Internet Web Server Refresh	03			15	20	
1600	2020_21 Q4	IT053	Windows Servers & Storage Array (2013)	03			15	20	
1601	2020_21 Q4	IT055	MC2 Implementation	03			15	20	DRD
1602	2020_21 Q4	IT056	Slieve Gallion mast site refurbishment	06			15	20	
1603	2020_21 Q4	IT068	Site SCADA Upgrade	03			14	20	
1604	2020_21 Q4	IT069	ICT Base Maintenance	05			15	20	
1605	2020_21 Q4	IT070	EMCI	03			15	20	
1606	2020_21 Q4	IT071	MC1 Exit Plan	03			15	20	
1607	2020_21 Q4	IT072	Implementation of PCI DSS	04			15	20	
1608	2020_21 Q4	IT073	EMCI Phase 2	04			15	20	
1609	2020_21 Q4	IT076	ICT Base Maintenance 15/16	06			15	20	
1610	2020_21 Q4	IT077	SCADA Services Provision	06			15	20	
1611	2020_21 Q4	IT082	Telemetry Server Hardware Replacement	03			15	20	
1612	2020_21 Q4	IT084	End of Life Hardware and Software upgrade – Db Authorise in	03			15	20	
1613	2020_21 Q4	IT085	Microsoft Enterprise Agreement	06			15	20	
1614	2020_21 Q4	IT086	ICT Base Maintenance	06			15	20	
1615	2020_21 Q4	IT087	Additional Blades and Finance Netbackup Licenses	06			15	20	
1616	2020_21 Q4	IT089	Corporate Wifi	06			15	20	
1617	2020_21 Q4	IT090	Mobile Phone Refresh 2016	06			15	20	
1618	2020_21 Q4	IT091	Desktop & Laptop Refresh	06			15	20	
1619	2020_21 Q4	IT093	CSD Dashboard	06			15	20	
1620	2020_21 Q4	IT094	ICT Base Maintenance 17 18	06			15	20	
1621	2020_21 Q4	IT095	Desktop Hardware Refresh	06			15	20	
1622	2020_21 Q4	IT099	Telemetry Outstation Refresh Project - Phase 2	06			15	20	
1623	2020_21 Q4	IT101	ICT Telemetry and Telecoms Base Maintenance	06			15	20	
1624	2020_21 Q4	IT102	MC2 XRM Pilot	06			15	20	
1625	2020_21 Q4	IT105	Mobile Phone Refresh 2018	06			15	20	
1626	2020_21 Q4	IT106	ICT Base Maintenance 18/19	06			15	20	
1627	2020_21 Q4	IT107	Data Centre Refresh	06			15	20	
1628	2020_21 Q4	IT111	Cyber Resilience Programme	06			15	20	
1629	2020_21 Q4	IT112	Field Device Replacement 2019	06			15	20	
1630	2020_21 Q4	IT113	IT Ops Base Maintenance	06			15	20	
1631	2020_21 Q4	IT114	SITE SCADA UPGRADE	06			15	20	
1632	2020_21 Q4	IT115	ICT Telecoms and Telemetry Base Maintenance	06			15	20	
1633	2020_21 Q4	IT116	Telephony Modernisation	06			15	20	
1634	2020_21 Q4	IT117	Mobile Phones 2020	06			15	20	
1635	2020_21 Q4	IT118	MWM/CAR support contract post December 2020	06			15	20	DRD
1636	2020_21 Q4	IT119	ICT Telemetry & Telecoms Base Maintenance 20/21	06			15	20	
1637	2020_21 Q4	IT121	HVCH Updates	06			15	20	
1638	2020_21 Q4	IT123	BCP Laptops	06			15	20	
1639	2020_21 Q4	IT124	BCP-Mobile Phones	06			15	20	
1640	2020_21 Q4	IT125	CRC Call Metrics Platform	06			15	20	
1641	2020_21 Q4	IT128	Telecoms 21 / 22 Base Mtce	07			15	20	
1642	2020_21 Q4	IT129	IT Base Maintenance 21/22	07			15	20	N/A
1643	2020_21 Q4	IT130	Radio Workshop AV	06			15	20	N/A
1644	2020_21 Q4	IT131	ICT Telemetry & Telecoms Base Maintenance 21/22	07			15	20	N/A
1645	2020_21 Q4	IT133	MS Teams Huddle rooms	07			15	20	
1646	2020_21 Q4	LC001	Silent Valley Park Enhancement	01			06	20	
1647	2020_21 Q4	NA004	Laboratory Capital Equipment	01			15	20	
1648	2020_21 Q4	NA006	NIAMP4 Project Support	02			15	20	
1649	2020_21 Q4	NA018	LIMS Server Upgrade	06			15	20	
1650	2020_21 Q4	NA020	Remote Sampler Hardware Refresh	03			15	20	
1651	2020_21 Q4	NA025	Upgrade of LIMS AQC Module to AqcTools	05			15	20	
1652	2020_21 Q4	NA035	Purchase of Automatic Sampling Equipment and Batteries	06			14	20	
1653	2020_21 Q4	NA060	MMT	06			15	20	
1654	2020_21 Q4	NA061	19/20 Energy (draft)	06			15	20	
1655	2020_21 Q4	NA062	Pilot on Wireless Sub Metering	06			15	20	
1656	2020_21 Q4	NA064	Additional Functionality of Energy Management Software	06			15	20	
1657	2020_21 Q4	NA066	Business Analytics partner	06			15	20	
1658	2020_21 Q4	NA068	Energy Storage SBRI	06			15	20	
1659	2020_21 Q4	NA069	Improving Efficiency in Wastewater Treatment via Process En	06			14	20	
1660	2020_21 Q4	NA072	Improving Efficiency in Water Treatment via Process Engineer	06			02	20	
1661	2020_21 Q4	NA074	Source Optimisation - West Zone	06			02	05	
1662	2020_21 Q4	NA075	SBRI Water Treatment Phase 2	06			02	20	
1663	2020_21 Q4	NA076	SBRI Waste Water Treatment Phase 1	06			09	20	
1664	2020_21 Q4	NA084	Regreening Programme - Tree Planting Initiative	07			15	20	
1665	2020_21 Q4	NA085	2021 Apprentice Toughbooks & Accesories	06			15	20	N/A
1666	2020_21 Q4	NA086	Servers for Royal Haskonings North Coast Demonstrator	06			09	20	N/A
1667	2020_21 Q4	OP041	Meter Reading Hand Held Units & Software	05			06	20	
1668	2020_21 Q4	OP042	TMG - Fleet Purchases 13/14	03			15	20	DRD
1669	2020_21 Q4	OP048	Toughbook Refresh Project – Cradle purchase & installation	03			15	20	DRD
1670	2020_21 Q4	OP058	M&E Stores Rationalisation	06			15	20	
1671	2020_21 Q4	OP060	TMG Fleet Purchases - 15/16	06			15	20	
1672	2020_21 Q4	OP061	Emergency Planning 15/16	06			15	20	
1673	2020_21 Q4	OP062	Water Fittings Regulations Connect3 System	06			06	20	
1674	2020_21 Q4	OP063	Emergency Emergency Holding line 16/17	06			15	20	
1675	2020_21 Q4	OP064	TMG - Vehicle & Plant Replacements 16/17	06			15	20	
1676	2020_21 Q4	OP065	Lone Worker Refresh	06			15	20	
1677	2020_21 Q4	OP067	TMG - V&P Requirements (17/18)	06			15	20	
1678	2020_21 Q4	OP068	TMG - V&P Requirements (18/19)	06			15	20	
1679	2020_21 Q4	OP069	TMG - V&P Requirements (19/20)	06			15	20	
1680	2020_21 Q4	OP070	TMG - V&P Requirements (20/21)	06			15	20	
1681	2020_21 Q4	OP071	ITS Restoration Trailer	06			15	20	N/A
1682	2020_21 Q4	PL001	Ops Contracts Material Testing	06			15	20	
1683	2020_21 Q4	PL002	2PL2 Wastewater PL Phase 1	06			15	20	
1684	2020_21 Q4	PL005	Energy Efficiency - Process Optimisation	06			15	20	

Baseline Milestone Dates						
Baseline A1 Date	Baseline Project Approval Date	Baseline Start on Site Date	Baseline Beneficial Use Date	Baseline Regulatory sign-off Date	Baseline Completion of Construction Date	Baseline End of Maintenance Period Date
11	12	13	14	15	16	17

Baseline Service Cost Allocation			
Baseline Service Allocation Water Infrastructure	Baseline Service Allocation Water Non-Infrastructure	Baseline Service Allocation Sewerage Infrastructure	Baseline Service Allocation Sewerage Non-Infrastructure
18	19	20	21

Baseline Expenditure Profile (£m 2012-13 prices)													
Baseline CAPEX 2010-11 £m	Baseline CAPEX 2011-12 £m	Baseline CAPEX 2012-13 £m	Baseline CAPEX 2013-14 £m	Baseline CAPEX 2014-15 £m	Baseline CAPEX 2015-16 £m	Baseline CAPEX 2016-17 £m	Baseline CAPEX 2017-18 £m	Baseline CAPEX 2018-19 £m	Baseline CAPEX 2019-20 £m	Baseline CAPEX 2020-21 £m	Baseline CAPEX 2021-22 £m	Baseline CAPEX 2022-23 £m	Baseline CAPEX 2023-24 £m
22	23	24	25	26	27	28	29	30	31	32	33	34	35
8.009	13.616	29.781	108.560	100.713	127.877	128.494	126.845	125.844	124.990	126.375	0.000	0.000	0.000

Baseline Purpose Allocation			
Baseline Purpose Allocation Quality	Baseline Purpose Allocation Base	Baseline Purpose Allocation ESL	Baseline Purpose Allocation Growth
36	37	38	39

Current Actual or Projected Milestone Dates						
Current Actual or Projected A1 Date	Current Actual or Projected Project Approval Date	Current Actual or Projected Start on Site Date	Current Actual or Projected Beneficial Use Date	Current Actual or Projected Regulatory sign-off Date	Current Actual or Projected Completion of Construction Date	Current Actual or Projected End of Maintenance Period Date
40	41	42	43	44	45	46

Current Actual or Projected Service Cost Allocation			
Current Actual or Projected Service Allocation Water Infrastructure	Current Actual or Projected Service Allocation Water Non-Infrastructure	Current Actual or Projected Service Allocation Sewerage Infrastructure	Current Actual or Projected Service Allocation Sewerage Non-Infrastructure
47	48	49	50

Current Actual or Projected Capital Expenditure Profile (£m money of the day)														
Current Actual or Projected CAPEX Year to date £m	Current Actual or Projected CAPEX 2010-11 £m	Current Actual or Projected CAPEX 2011-12 £m	Current Actual or Projected CAPEX 2012-13 £m	Current Actual or Projected CAPEX 2013-14 £m	Current Actual or Projected CAPEX 2014-15 £m	Current Actual or Projected CAPEX 2015-16 £m	Current Actual or Projected CAPEX 2016-17 £m	Current Actual or Projected CAPEX 2017-18 £m	Current Actual or Projected CAPEX 2018-19 £m	Current Actual or Projected CAPEX 2019-20 £m	Current Actual or Projected CAPEX 2020-21 £m	Current Actual or Projected CAPEX 2021-22 £m	Current Actual or Projected CAPEX 2022-23 £m	Current Actual or Projected CAPEX 2023-24 £m
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
125.490	71.195	101.450	92.392	104.953	119.845	103.314	106.980	114.567	129.028	113.673	125.490	186.400	122.022	108.493

Current Actual or Projected Purpose Allocation (%)				Current Actual or Projected IRE (%)		Nominated outputs (PC Period)
Current Actual or Projected Purpose Allocation Quality	Current Actual or Projected Purpose Allocation Base	Current Actual or Projected Purpose Allocation ESL	Current Actual or Projected Purpose Allocation Growth	Current Actual or Projected IRE Allocation Water	Current Actual or Projected IRE Allocation Sewerage	Nominated Output
66	67	68	69	70	71	72

Project Identification										Baseline Milestone Dates							Baseline Service Cost Allocation				Baseline Expenditure Profile (£m 2012-13 prices)														Baseline Purpose Allocation				Current Actual or Projected Milestone Dates							Current Actual or Projected Service Cost Allocation				Current Actual or Projected Capital Expenditure Profile (£m money of the day)															Current Actual or Projected Purpose Allocation (%)				Current Actual or Projected IRE (%)		Nominated outputs (PC Period)
Sort Ref	CIM Submission Reference	Project ID Reference	Project Name	PC Project Period	Parent Project ID	Substitute Project ID	Primary Asset Category	PC10 Programme	Regulatory Sign-Off Required	Baseline A1 Date	Baseline Project Approval Date	Baseline Start on Site Date	Baseline Beneficial Use Date	Baseline Regulatory sign-off Date	Baseline Completion of Construction Date	Baseline End of Maintenance Period Date	Baseline Service Allocation Water Infrastructure	Baseline Service Allocation Water Non-Infrastructure	Baseline Service Allocation Sewerage Infrastructure	Baseline Service Allocation Sewerage Non-Infrastructure	Baseline CAPEX 2010-11 £m	Baseline CAPEX 2011-12 £m	Baseline CAPEX 2012-13 £m	Baseline CAPEX 2013-14 £m	Baseline CAPEX 2014-15 £m	Baseline CAPEX 2015-16 £m	Baseline CAPEX 2016-17 £m	Baseline CAPEX 2017-18 £m	Baseline CAPEX 2018-19 £m	Baseline CAPEX 2019-20 £m	Baseline CAPEX 2020-21 £m	Baseline CAPEX 2021-22 £m	Baseline CAPEX 2022-23 £m	Baseline CAPEX 2023-24 £m	Baseline Purpose Allocation Quality	Baseline Purpose Allocation Base	Baseline Purpose Allocation ESL	Baseline Purpose Allocation Growth	Current Actual or Projected A1 Date	Current Actual or Projected Project Approval Date	Current Actual or Projected Start on Site Date	Current Actual or Projected Beneficial Use Date	Current Actual or Projected Regulatory sign-off Date	Current Actual or Projected Completion of Construction Date	Current Actual or Projected End of Maintenance Period Date	Current Actual or Projected Service Allocation Water Infrastructure	Current Actual or Projected Service Allocation Water Non-Infrastructure	Current Actual or Projected Service Allocation Sewerage Infrastructure	Current Actual or Projected Service Allocation Sewerage Non-Infrastructure	Current Actual or Projected CAPEX Year to date £m	Current Actual or Projected CAPEX 2010-11 £m	Current Actual or Projected CAPEX 2011-12 £m	Current Actual or Projected CAPEX 2012-13 £m	Current Actual or Projected CAPEX 2013-14 £m	Current Actual or Projected CAPEX 2014-15 £m	Current Actual or Projected CAPEX 2015-16 £m	Current Actual or Projected CAPEX 2016-17 £m	Current Actual or Projected CAPEX 2017-18 £m	Current Actual or Projected CAPEX 2018-19 £m	Current Actual or Projected CAPEX 2019-20 £m	Current Actual or Projected CAPEX 2020-21 £m	Current Actual or Projected CAPEX 2021-22 £m	Current Actual or Projected CAPEX 2022-23 £m	Current Actual or Projected CAPEX 2023-24 £m	Current Actual or Projected Purpose Allocation Quality	Current Actual or Projected Purpose Allocation Base	Current Actual or Projected Purpose Allocation ESL	Current Actual or Projected Purpose Allocation Growth	Current Actual or Projected IRE Allocation Water	Current Actual or Projected IRE Allocation Sewerage	Nominated Output
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
CALC			Total capital expenditure reported																		8.009	13.616	29.781	108.560	100.713	127.877	128.494	126.845	125.844	124.990	126.375	0.000	0.000	0.000																125.490	71.195	101.450	92.392	104.953	119.845	103.314	106.980	114.567	129.028	113.673	125.490	186.400	122.022	108.493							
1685	2020_21 Q4	PL006	Repair & Maintenance Review Project	06			06	20																															42916	42927						0	100	0	0	-0.004	0	0	0	0	0	0	0	0.067	0.141	0.013	-0.004	0	0	0	0	100	0	0	0	0	0
1686	2020_21 Q4	PL009	Water Production Line Sluice Valve & Fire Hydrant Replaceme	06			03	20																																						100	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	100	0	0	100	0	0
1687	2020_21 Q4	PL010	Temporary IOC	06			15	20																															43860	43860						0	50	0	50	1.091	0	0	0	0	0	0	0	0	0	0.375	1.091	1.135	0	0	0	0	100	0	0	0	0
1688	2020_21 Q4	QC011	Laboratory Capital Equipment 12/13	01			15	20																															40935	40942						0	51	0	49	0	0	0	0.071	0	0	-0.004	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
1689	2020_21 Q4	QC012	Laboratory Equipment 13/14 & 14/15	03			15	20	DWI																														41430	41437						0	51	0	49	0	0	0	0	0.223	0.234	-0.022	0.087	0	0	0	0	0	0	0	0	100	0	0	0	0	0
1690	2020_21 Q4	QC015	Defibrillators for NIW depots & Hubs	03			06	20																															41491	41498						0	50	0	50	0	0	0	0	0.015	0	-0.003	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0
1691	2020_21 Q4	QC018	Laboratory Capital 15/16	06			15	20																															42159	42159						0	51	0	49	0	0	0	0	0	0	0.046	0.004	-0.001	0	0	0	0	0	0	0	100	0	0	0	0	0
1692	2020_21 Q4	QC019	2015/16 SCAMP NI (Sustainable Catchment Area Managemer	06			06	03																															42132	42135						0	100	0	0	0	0	0	0	0	0	0.15	0.001	-0.002	0	0	0	0	0	0	30	20	40	10	0	0	0
1693	2020_21 Q4	QC020	Watson Marlow pump - Crypto	06			15	20																															42109	42109						0	100	0	0	0	0	0	0	0	0	0.002	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
1694	2020_21 Q4	QC021	2016/17 SCAMP NI (Sustainable Catchment Area Managemer	06			06	03																															42475	42476						0	100	0	0	-0.004	0	0	0	0	0	0	0.207	-0.015	0.014	0	-0.004	0	0	0	30	20	40	10	0	0	0
1695	2020_21 Q4	QC022	Laboratory Capital 16/17	06			06	20																															42579	42579						0	51	0	49	0	0	0	0	0	0	0	0.041	0.003	0	0	0	0	0	0	0	100	0	0	0	0	0
1696	2020_21 Q4	QC023	Laboratory Capital 17/18	06			06	20																															42818	42823						0	51	0	49	0	0	0	0	0	0	0	0	0.039	0	0	0	0	0	0	0	100	0	0	0	0	0
1697	2020_21 Q4	QC024	2017/18 SCAMP NI (Sustainable Catchment Area Managemer	06			06	03																															42725	42739						0	100	0	0	-0.004	0	0	0	0	0	0	0	0.199	0.028	0	-0.004	0	0	0	0	30	50	20	0	0	0
1698	2020_21 Q4	QC026	Laboratory Capital 18/19	06			15	20																															43213	43213						0	51	0	49	-0.008	0	0	0	0	0	0	0	0	0.065	0	-0.008	0	0	0	0	100	0	0	0	0	0
1699	2020_21 Q4	QC027	2018/19 SCAMP NI Projects	06			06	20																															43164	43167						0	100	0	0	-0.006	0	0	0	0	0	0	0	0	0.128	0	-0.006	0	0	0	0	30	50	20	0	0	0
1700	2020_21 Q4	QC028	CSOLS AQC Tools UOM Licensing	06			06	20																															43236	43236						0	51	0	49	-0.001	0	0	0	0	0	0	0	0	0.01	0.002	-0.001	0	0	0	0	100	0	0	0	0	0
1701	2020_21 Q4	QC029	Laboratory Capital 19/20	06			15	20																															43511	43516						0	51	0	49	0.039	0	0	0	0	0	0	0	0	0	0.237	0.039	0.001	0	0	0	100	0	0	0	0	0
1702	2020_21 Q4	QC030	Laboratorys Additional Capital 18/19	06			15	20																															43390	43391						0	51	0	49	0	0	0	0	0	0	0	0	0	0.023	0.013	0	0	0	0	0	100	0	0	0	0	0
1703	2020_21 Q4	QC031	Laboratory Capital 20/21	06			15	20																															44054	44061						0	51	0	49	0.523	0	0	0	0	0	0	0	0	0	0	0.523	0.091	0	0	0	100	0	0	0	0	0
1704	2020_21 Q4	QC032	Waste Water Random Sampling Project 18/19	06			09	20																															43536	43536						0	0	0	100	-0.001	0	0	0	0	0	0	0	0	0	0.03	-0.001	0	0	0	0	100	0	0	0	0	0
1705	2020_21 Q4	QC033	2019/20 SCAMP NI Projects	06			01	20																															43556	43557						0	100	0	0	0.219	0	0	0	0	0	0	0	0	0	0.133	0.219	0	0	0	0	30	50	20	0	0	0
1706	2020_21 Q4	QC035	Laboratorys additional Capital 19/20	06			15	20																															43657	43657						0	49	0	51	-0.001	0	0	0	0	0	0	0	0	0	0.027	-0.001	0	0	0	0	100	0	0	0	0	0
1707	2020_21 Q4	QC036	Laboratory Capital - Additional need Part 3 19/20	06			15	20																															43731	43732						0	51	0	49	-0.003	0	0	0	0	0	0	0	0	0	0.194	-0.003	0	0	0	0	100	0	0	0	0	0
1708	2020_21 Q4	QC037	Laboratory Capital Need 4	06			15	20																															43832	43832						0	51	0	49	-0.004	0	0	0	0	0	0	0	0	0	0.026	-0.004	0	0	0	0	100	0	0	0	0	0
1709	2020_21 Q4	QC038	UPS Systems for Lab's	06			15	20																															43900	43900						0	51	0	49	0.018	0	0	0	0	0	0	0	0	0	0	0.018	0	0	0	0	100	0	0	0	0	0
1710	2020_21 Q4	QC039	Mournes Sustainable Land Management Project	07			06	20	DWI																														44048	44048						0	100	0	0	0.017	0	0	0	0	0	0	0	0	0	0	0.017	0.027	0	0	0	30	50	20	0	0	0
1711	2020_21 Q4	QC041	Pesticide Analysis Equipment (LCMS) for Analytical Services	06			15	20																															44089	44090						0	51	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0.33	0	0	0	100	0	0	0	0	0
1712	2020_21 Q4	QC042	Laboratory Capital 21/22	07			15	20																																						0	51	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0.19	0	0	0	100	0	0	0	0	0
1713	2020_21 Q4	QC043	SCAMP NI	01			15	20																															44259	44259						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.547	0.542	0	50	0	25	25	0	0	0
1714	2020_21 Q4	KV233	Canal St, Newry - Storm Sewer Extension	06	KI551		07	24																															43306	43306	43326	43392			43476.488	0	0	100	0	0	0	0	0	0	0	0	0	0	0.069	0	0	0	0	0	0	0	0	100	0	0	
1715	2020_21 Q4	KI531	Appraisal of DG5 At-Risk Register Locations (Mitigation Phase	00			07	12	DRD																																					0	0	100	0	0	0	0	0	0.022	-0.015	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	01
1716	2020_21 Q4	KI618	Trade Effluent Consenting of Launderettes	06			07	12																																43108						0	0	100	0	0	0	0	0	0	0	0	0	0	0	-0.04	0	0	0	0	0	100	0	0	0	100	
1717	2020_21 Q4	KR494	East Belfast CSOs Screenings	01			07	12	NIEA				42736				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0	0	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	03
1718	2020_21 Q4	KV177	50 Kilbroney Road Rostrevor Storm Sewer Extension	00	KI538		07	24	NIEA			41113	41155		41155	41520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40879	40885	41141	41576		41687	42185.603	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	
1719	2020_21 Q4	KP672	Tempo WWTW Feasibility Study	06	KI469		14	16	NIEA			41365	41518		41609	41974	0	0	0	100	0	0.0058595	0.0161969	0.3042926	0.0448006	0	0	0	0	0	0	0	0	0	40	40	0	20	41495	41527	41820	42010		42030		0	0	0	100	0	0	0.006	0.017	0.067	0.821	0.01	0.015	0	-0.009	-0.009	0	0	0	0	27	33	0	40	0	0	
1720	2020_21 Q4	KF332	Stewarts Hill, Armagh, Foul & Storm Sewer Extension	00	KI538		07	24	NIEA								0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0	0	100	0	0	0.005	-0.002	0.004	0	0.001	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	
1721	2020_21 Q4	KR579	22 Upper Lisburn Rd, Belfast Storm Sewer	00			07	24																																						0	0	100	0	0	0	0	0	-0.005	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	
1722	2020_21 Q4	BE005	budget profile 12/13	06			15	20																																						0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
1723	2020_21 Q4	CU005	PC15 ICAT Delivery - Enniskillen Area	06			06	20																																						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	29	0	0	0	
1724	2020_21 Q4	CU008	PC15 ICAT Delivery - Pilot Studies	06			06	20																																						0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	29	0	0	0	
1725	2020_21 Q4	FR030	Inventory Stores Enhancements	06			15	20																																						0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
1726	2020_21 Q4	IT109	MC3 Development	06			15	20																																						0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	
1727	2020_21 Q4	BN051	PC15 Ops Capital (Sewerage) BSP & SDB Parent	06			07	18									0	0	23	77						7.3268691	7.2829079	7.2392105	7.1957752	7.1526005	7.1096849				0	91.4836271	0	8.51637295												0	0	0	0	0	0	0	0	0	0	0	0										
1728	2020_21 Q4	CF114	Installation of water meters and separations Baseline	06			03	19									0	100	0	0						3.779818	3.7086724	3.6459526	3.5838519	3.5623488	3.5409747				0	88.6246844	0	11.3753156												0	0	0	0	0	0	0	0	0	0	0	0										
1729	2020_21 Q4	LN134	Leakage Parent PC15	06			03	09									45	55	0	0						2.6868816	2.6871512	2.5541049	2.6292809	2.6106645	2.4801691				0	79.9866463	0	20.0133537												0	0	0	0	0	0	0	0	0	0	0	0										
1730	2020_21 Q4	WS121	Ops Capital (Water) BSP & SDB Parent PC15	06			03	10									56	44	0	0						6.199965	6.1627652	6.1257886	6.0890339	6.0524997	6.0161847				4.84577735	52.5113819	0	42.6428407												0	0	0	0	0	0	0	0	0	0	0	0										
1731	2020_21 Q4	ME999	M&E Balancing Line																																											0	50	0	50	0	0	0	0	0	0	0	0	0	0	0	0				0	100	0	0			
1732	2020_21 Q4	ZZ999	Operational Accrual Balancing Line																																											25	25	25	25	0	0	0	0	0	0	0	0	0	0	0	0				0	100	0	0			
1733	2020_21 Q4	CS020	Capitalised Salaries and On-Costs	00				00									29	12	11	48						11.283935	11.216232	11.202815	11.135598	11.068785	11.002372				23.1896065	57.4857214	3.86493442	15.4597377								23.8892466	21.6999356	15.7759176	38.6349002	15.527927	0	0	0	11.543	11.72437	12.446	12.31827	13.956646	14.629666	15.431634	15.527927				16.1726804	56.443299	12.564433	14.8195876			
1734	2020_21 Q4		Leakage-Detection	00			03	09																																						64.2857143	35.7142857	0	0	0.491	0	0	0	0.538	0.541	0.564	0.514	0.484	0.47	0.491	0.491				0	70	0	30			
1735	2020_21 Q4		Leakage-Repairs	00			03	09																																						100	0	0	0	0.309	0	0	0	0.229	0.229	0.309	0.309	0.309	0.309	0.309	0.309				0	100	0	0			
1736	2020_21 Q4		Leakage-Other	00			03	09																																						67.3267327	32.6732673	0	0	2.804	0	0	0	2.442	2.309	1.895	1.872	1.629	1.741	2.804	2.804				0	51.980198	0	48.019802			
1737	2020_21 Q4		Water Supply	00			02	10																																						13.1736527	86.8263473	0	0	1.566	0	0	0	1.9736	1.425	1.804	1.744	1.206	1.233	1.569	1.566				0	100	0	0			
1738	2020_21 Q4		Wastewater	00			09	18																																						0	1.11111111	70.2222222	28.6666667	4.291	0	0	0	4.191	3.693	4.792	4.851	3.901	3.979	4.231	4.291				0	100	0	0			
1739	2020_21 Q4		Customer Field Services	00			03	19																																						0	100	0	0	1.352	0	0	0	2.301	2.477	3.25	2.747	1.045	1.396	1.352	1.352				0	95.3125	0	4.6875			
1740	2020_21 Q4		DSCT-Water	00			03	10																																						100	0	0	0	1.912	0	0	0	1.419	1.211	1.33	1.716	2.17	2.215	2.208	1.912				0	0	0	100			
1741	2020_21 Q4		DSCT-Sewerage	00			07	18																																						0	0	17.9487179	82.0512821	0.375	0	0	0	0.46	0.561	0.357	0.104	0.25	0.206	0.375	0.375				0	72.5	0	27.5			
1742	2020_21 Q4		M & E	00			09	18																																						0	10.3618421	0	89.6381579	6.445	0	0	0	6.9229018	6.298	6.564	6.524	5.069	5.265	6.475	6.445				0	100	0	0			
1743	2020_21 Q4		Networks Water	00			03	10																																						81.8827709	18.1172291	0	0	4.153	0	0	0	2.3002856	2.171	2.299	2.416	1.885	2.643	4.064	4.153				0	99.6447602	0	0.35523979			
1744	2020_21 Q4		Lead Pipe	00			03	10																																						100	0	0	0	0.302	0	0	0	0.331	0.368	0.421	0.281	0.37	0.351	0.097	0.302				0	100	0	0			
1745	2020_21 Q4		Cost of connections sewerage	00			07	18																																						0	0	100	0	1.4243983	0	0	0	0.6770196	0.827	0.951	0.919	1.678761	1.5637086	1.4243983	1.4243983				0	0	0	100			
1746	2020_21 Q4		Cost of connnections water	00			03	10																																						100	0	0	0	3.0953473	0	0	0	1.7395546	1.787	1.722	2.102	2.3763018	2.515217	3.0953473	3.0953473				0	0	0	100			
1747	2020_21 Q4		Cost of watermains relignment	00			03	10																																						100	0	0	0	0.0949093	0	0	0	0.1100535	0.045	0.082	0.013	0.0428581	0.1329915	0.0949093	0.0949093				0	100	0	0			
1748	2020_21 Q4		Cost of Sewer realignment	00			07	18																																						0	0	100	0	0.0068319	0	0	0	0.0963594	0.018	0	0.015	0.0027857	0	0.0068319	0.0068319				0	100	0	0			
1749	2020_21 Q4		IFRS ADJUSTMENT LINE																																											100	0	0	0	-1.161										-1.161	-1.161				0	100	0	0	100	0	
1750	2020_21 Q4		INTERREG ADJUSTMENT LINE																																											0	6	0	94	4.466										13.154479	4.466				94	0	3	3			

Table 40 – Capital Investment Monitoring (CIM)

Refer to chapter 30 for detailed commentary.

- The data reported in this table reconciles to the other AIR Tables.
- The table has been populated following the column definitions.
- Capitalised Salaries have been allocated by examining each of the 3 main investment areas as follows:
    - Capital works Programme
    - Management and General
    - Operations Capital

  The total Capitalised Salaries and overheads were pro-rated against each project on the CIM to arrive at a Salaries and overheads allocation for the single line on the CIM (Table 40) using the same method as applied in AIR 19.

- The variance between Table 40 (Q4 CIM) and other associated AIR tables is reported in Chapter 30. The main reason for variance is on complex projects which contain a blend of infra and non-infra as well as a blend of purpose allocations which does not allow for creating a robust 16 component summary. The AIR table's data is more reliable than table 40 for accuracy.

Total Asset Additions reconciliations

NI Water moved to IFRS accounting from GAAP in 2018/19

- Total asset additions – Water Service – Check to Table 25 line 5 col 4.
  For AIR 19 the reported numbers in these two tables are as follows:
  Table 25 – £78.525m
  Table 36 – £78.544m

The main variances in the above two figures are explained as follows:

a) PPP Alpha Capital maintenance of £227k is not included in Table 36
b) No decapitalised projects in 2020/21
c) An element of Capital Interest (Total value £5.477m) is included in table 25

- Total asset additions – Sewerage Service – Check to Table 25 line 5 Col 8.
  For AIR 19 the reported numbers in these two tables are as follows:
  Table 25 – £139.464m
  Table 36 – £139.488m

The main variances in the above two figures are explained as follows:

d) PPP Omega Capital Maintenance of [redacted] was not included in Table 36.
e) No decapitalised projects in 2020/21
f) An element of Capital Interest (Total value £5.477m) is included in table 25

Note: NI Water has complied with the column definitions in respect of the baseline and current actual or projected milestone dates in Table 40. The milestones dates are relevant, sequential and relate to the PC15 outputs.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 40A
NOMINATED OUTPUTS DELIVERED BY PC15 CAPITAL PROJECTS AND PROGRAMMES OF WORK

A								B																	
Project Information								Project Outputs														PC13 Actual		PC15 Current Actual/ Forecast						
Project ID Reference	Project Name	PC13 Programme	Quality Regulator Date (if appropriate)	BU Date per FD (if appropriate)	BU Date per 15/16 MP (if appropriate)	BU Date per 16/17 MP (if appropriate)	Projected BU Date (if appropriate)	PC13 Output Ref Code	Output Units	PC10			PC13 in PC15FD		PC15 FD Baseline											UID Status
PI_Project_ID	PI_Project_Name	PI_PC13_Prog								2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
1	2	3	4		5			6	7	8	9	10	11	12	13	14	15	16	17	18	11	12	13	14	15	16	17	18	
	Water Treatment Base Maintenance																												
JA271	Killylane WTW	1			31/12/2014			7	nr					1								1							
	Water Treatment Works																												
JN390	Lough Bradan WTWs Upgrade	4			02/03/2011			7	nr	1																			
JL723	Carmoney Water Treatment Works Upgrade	4			30/03/2011			7	nr	1																			
JP669	Killyhevlin WTW - Enforcement Order	4			31/03/2015			7	nr					1								1							
JR463	Dorisland WTW GAC plant	4			27/03/2015			7	nr					1								1							
JI052	Glenhordial Treatability	4		30/09/2015	29/01/2016	29/01/2016		7	nr						1								1						
JI052	Dorisland Treatability	4		31/12/2020	n/a		PC21	7												1								x	
JI052	Killyhelvin Treatability	4		31/12/2020	n/a		31/03/2021	7												1								1	
JL772	Caugh Hill Treatability	4		31/01/2019	n/a		PC21	7										1										x	
JC390	Rathlin Borehole	4					29/11/2019	7																			1		
JL795	Ballinrees WTW, MCPA treatment investigations	4					PC21	7																				x	
JN538	Derg WTW MCPA PEO Undertakings	4					PC21	7																				x	
	Trunk Mains																												
JR416	CTM Extension - Barnetts Park to Purdysburn	5			29/11/2010			6	nr	1																			
JG036	Castor Bay to Dungannon Strategic Trunk Mains	5			24/05/2011			6	nr	1																			
JG035	Ballydougan to Newry Main Link Reinforcement Phase 1	5			04/12/2012			6	nr			1																	
JG035	Ballydougan to Newry TM - Phase 2A	5			17/12/2012			6	nr			1																	
JR460	Gravity II McVeighs Well to Oldpark SR	5			30/11/2014			6	nr					1								1							
JG035	Ballydougan to Newry TM - Phase 2B	5		28/08/2015	31/03/2016	31/03/2016		6	nr						1								1						
JR342	Castor Bay to Belfast TM	5		27/03/2015	08/05/2015	08/05/2015		6	nr					1									1						
JB693	Carland to Cookstown Trunkmain	5		31/03/2021	n/a	31/03/2017	21/09/2016	6												1									
JL715	Carmoney to Strabane Strategic Link Watermain	5		31/01/2019	n/a		31/01/2021	6										1										0	
JL790	**Northern WRZ Resilience**	5					31/03/2021	6																				1	
	Service Reservoirs																												
JB665	Tullaghans SR, Dunloy, New Reservoir	6			13/08/2010			8	nr	1																			
JC381	Altnahinch WTP, Ballymoney, New CWB.	6			10/11/2010			8	nr	1																			
JC378	Glenlough SR, Ballymoney, New SR	6			20/12/2010			8	nr	1																			
JR151	West Belfast/ North Lisburn (Crew Hill)	6			18/01/2011			8	nr	1																			
JB648	Dungonnell Command Service Reservoir	6			31/03/2011			8	nr	1																			
JF583	Carland Service Reservoir	6			11/04/2011			8	nr		1																		
JS179	Ballykine Gravity Distribution	6			20/04/2011			8	nr		1																		
JV827	Tullyhappy SR	6			09/12/2011			8	nr		1																		
JB649	Tully SR	6			06/12/2012			8	nr			1																	
JV830	Crieve SR	6			27/03/2015			8	nr					1								1							
JS274	Drumaroad WTW Clear Water Tank	6		31/03/2021	n/a		PC21	8												1								x	
JP631	Killyhelvin Clear Water Tank	6		30/09/2017	n/a	29/03/2019	31/05/2020	8									1											1	
JB709	Lough Fea CWB	6		43738	n/a		24/03/2020	8																			1		
JC385	**Monaclogh SR (additional output in 16/17 draft adjusted outputs submission)**	6		n/a	n/a		01/08/2017	8																					
	Major Incident Mitigation Water Main Projects																												
JI024	MIMP West (Major Incident Mitigation Project West Region) Freeze Thaw Improvements	8			14/02/2014			15	nr				1								1								
JI025	MIMP South (Major Incident Mitigation Project West Region) Freeze Thaw Improvements	8			24/01/2014			15	nr				1								1								
JI027	MIMP Central (Major Incident Mitigation Project Central Region) Freeze Thaw Improvements	8			28/03/2014			15	nr					1							1								
JI028	MIMP East (Major Incident Mitigation Project East Region) Freeze Thaw Improvements	8			09/02/2015			15	nr				1									1							
JI026	**MIMP North (Major Incident Mitigation Project North Region) Freeze Thaw Improvements**	8			18/08/2014			15	nr					1								1							
	Unsatisfactory Intermittent Discharges																												
KR403	Whitehouse DAP Phase 1	11			13/04/2010			12	nr	3																			
KR402	Joymount WWPS	11			01/06/2010			12	nr	1																			
KR400	Lukes Point DAP Phase 1	11			23/06/2010			12	nr	1																			
KL450	Londonderry DAP : Strathfoyle & Drmahoe Work Package : Caw WWPS	11			01/07/2010			12	nr	1																			
KB428	Draperstown DAP	11			02/07/2010			12	nr	2																			
KG153	Gilford Road, Portadown, Sewerage Upgrades	11			10/08/2010			12	nr	3																			
KL449	Londonderry DAP : Strathfoyle & Drmahoe Work Package : Drumahoe Old WWPS	11			02/09/2010			12	nr	1																			
KR440	Ballywalter DAP Phase 1	11			30/09/2010			12	nr	1																			
KL445	Londonderry DAP: Victoria road Work Package - UID's	11			11/10/2010			12	nr	1		1																	
KL448	Londonderry DAP : Victoria Road Work Package : CSO Rationalisation	11			29/10/2010			12	nr	3																			
KL428	Londonderry Sewer Imps Stage 2 - Duke St PS Group Schemes - UID's	11			28/03/2011			12	nr	3																			
KR441	Montgomery Rd, Flood Alleviation - UID's	11			27/04/2012			12	nr		4																		
KS807	Kilkeel Harbour SPS and Sewerage Improvements - UID's	12			04/06/2012			12	nr			2																	
KS379	Murlough SPS Upgrade & Network Improvements - UID's	12			29/04/2011			12	nr		8	1																	
KR452	Baroda Street/Ormeau Park, Belfast CSO	12			07/09/2011			12	nr		2																		
KT138	Beechlawn SPS Hillsborough Upgrade - UID's	12			30/11/2011			12	nr		1																		
KL443	Londonderry DAP Duke Street Work Package - UID's	12			02/12/2011			12	nr		4																		
KR432	Beechmount Avenue/Gortfin Street Belfast Hydraulic Upgrade. - UID's	12			02/12/2011			12	nr		4																		
KL444	Londonderry DAP, Buncrana Road, Work Package Stage 1- UID's	12			07/02/2012			12	nr			2																	
KL446	Londonderry DAP, Duke Street Work Package, Flood Alleviation	12			13/12/2011			12	nr		3																		
KS377	Downs Road/Castle Park Sewer Upgrade/ Attenuation - UID's	12			23/01/2012			12	nr		4																		
KC404	Coleraine DAP Phase 1 - UID's	12			31/01/2012			12	nr		5																		
KR434	Annadale Flats, Belast	12			30/03/2012			12	nr		4																		
KS878	Bangor DAP Work Package 7: WWPS - UID'S	12			28/03/2012			12	nr		3																		
KA201	Ballyeaston, Sewerage System Upgrade	12			23/04/2012			12	nr		1																		
KL447	Londonderry DAP: Foyle Road Work Package: CSO Rationalisation - UID's	12			24/09/2012			12	nr			10																	
KS373	Church Street, SPS Upgrade, Downpatrick - UID's	12			06/05/2013			12	nr																				
KS373	UID046 Meadowlands CSO3	12			06/05/2013			12	nr				1								1								
KS373	UID047 Church Street CSO1	12			06/05/2013			12	nr				1								1								
KS373	UID048 Scotch Street CSO4	12			06/05/2013			12	nr				1								1								
KS373	UID049 Scotch Street CSO11	12			06/05/2013			12	nr				1								1								
KS373	UID050 Rathkeltair Terr CSO12	12			06/05/2013			12	nr				1								1								
KS835	South Street Newtownards WWPS Refurbishment - UID'S	12			28/01/2013			12	nr			1																	
KG184	Portadown Drainage Area Network Improvements - Obins Street and Park Road - UID's	12			31/08/2012			12	nr			4																	
KR488	Linen Gardens Belfast CSO Screening - UID's	12			01/01/2014			12	nr				1								1								
KN595	Brookmount Road, Hunters Cresent, Omagh	12			31/05/2011			12	nr			5																	
KS812	Greyabbey DAP Phase 1 - UID's	12			24/09/2012			12	nr			2																	
KV014	Castlewellan DAP - UIDs	12			19/08/2010			12	nr			2																	
KG178	Annaghanoon Road WWPS, Waringstown	12			05/09/2011			12	nr			1																	
KL451	Londonderry DAP, Strathfoyle + Drumahoe Package: CSO Abandonments - UID's	12			24/09/2012			12	nr			3																	
KR439	Millisle DAP 1	12			29/11/2012			12	nr			1																	
KV063	Newry Rehab	12			05/09/2011			12	nr			1																	
KV159	Water Street/Horners Lane Rostrevor	12			24/06/2011			12	nr			1																	
KN646	Winters Lane, CSO Upgrade - UID	12			27/03/2013			12	nr			1																	
KT415	Glenmore WwPS Lisburn CSO upgrade	12						12	nr																				
KT415	UID065 Glenmore SPS CSO 22	12			25/06/2013			12	nr				1								1								
KS939	Central Promenade, Newcastle CSO Upgrade (Pattons Bridge)	12						12	nr																				PC13
KS939	UID259 Pattons Bridge (Blackrock WwPS	12			31/03/2016	24/03/2016	24/03/2016	12	nr					1									1						
KV154	Newry Road SPS Warrenpoint - UID's	12						12	nr																				
KV154	UID095 Newry Road TPS CSO	12			14/01/2014			12	nr					1							1								
KV154	UID234 Drumsesk Road Header Tank CSO	12			14/01/2014			12	nr					1							1								
KS372	Market Street SPS Upgrade, Downpatrick - UID's	12						12	nr																				PC13
KS372	UID044 Market Street SPS Upgrade, Downpatrick - UID's	12			18/12/2015	18/02/2016	18/02/2016	12	nr					1									1						
KF037	Annagher Sewage Pumping Station and Rising Main - UID's	12						12	nr																				
KF037	UID245 Annagher SPS	12			28/03/2014			12	nr				1								1								
KF037	UID246 Campbells Garage WwPS CSO	12			28/03/2014			12	nr				1								1								
KF037	UID247 Washing bay Road WwPS CSO	12			28/03/2014			12	nr				1								1								

A								B																					
Project Information								Project Outputs																					
Project ID Reference	Project Name	PC13 Programme	Quality Regulator Date (if appropriate)	BU Date per FD (if appropriate)	BU Date per 15/16 MP (if appropriate)	BU Date per 16/17 MP (if appropriate)	Projected BU Date (if appropriate)	PC13 Output Ref Code	Output Units	PC10			PC13 in PC15FD		PC15 FD Baseline							PC13 Actual		PC15 Current Actual/ Forecast						
PI_Project_ID	PI_Project_Name	PI_PC13_Prog								2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	UID Status
1	2	3	4		5			6	7	8	9	10	11	12	13	14	15	16	17	18	11	12	13	14	15	16	17	18	
KF037	UID359 Canal Quay WWPS (not required)	12			x			12	nr				1								x								
KV161	Castlewellan DAP Stage 1 - UIDs	12						12	nr																				
KV161	UID033 Mill Hill CSO 04	12			31/03/2014			12	nr				1								1								
KV161	UID031 Ballylough CSO 04	12			31/03/2014			12	nr				1								1								
KV161	UID036 Annesborough Park CSO 01	12			31/03/2014			12	nr				1								1								
KS937	Annesborough Park WWPS Upgrade	12						12	nr																				PC15 FD
KS937	UID032 Annesborough Park WwPS	12			31/10/2016	30/09/2016	30/06/2016	12	nr						1									1					
KT403	Drumbeg Drive, Lisburn WWPS Enhancement	12						12	nr																				
KT403	UID070 Maralin Ave CSO 02	12			30/09/2014			12	nr					1								1							
KS875	Bangor DAP Works Package 6: Lukes Point WWPS UIDs	12						12	nr																				
KS875	UID189 Bangor DAP Works Package 6: Lukes Point WWPS UIDs	12			30/09/2014			12	nr					1								1							
KT391	Lisburn DAP Stage 1 - UID's	12						12	nr																				
KT391	UID066 Waterside 2 CSO 07	12			12/03/2015			12	nr					1								1							
KT391	UID067 B Hilden PS CSO 13B	12			30/03/2015			12	nr					1								1							PC13
KT391	UID068 Hilden PS CSO 13A	12		31/03/2015	30/10/2015	22/02/2016	15/10/2015	12	nr					1									1						PC15 FD
KT391	UID069 Antrim St CSO 25	12		42422	31/08/2016	30/10/2016	22/08/2016	12	nr						1									1					PC15 FD
KT391	UID072 New Holland WWT (not required)	12			01/01/2015			12	nr						1								x					PC15 FD
KT391	UID073 Duncans Rd CSO 15 (not required)	12			01/01/2015			12	nr						1								x					PC15 FD
KT391	UID074 Laws Yard CSO 14	12		42422	30/10/2015	22/02/2016	30/10/2015	12	nr						1								1					
KT391	UID221 Waterside 1 CSO 01	12			12/03/2015			12	nr					1								1						PC15 FD
KT391	UID222 Linenhall Street CSO 03	12			30/03/2015			12	nr						1							1						PC15 FD
KT391	UID223 Antrim Street CSO 05	12		22/02/2016	31/10/2016	20/09/2017	31/03/2019	12	nr						1											1		PC15 FD
KT391	UID224 Clonevin Park CSO 10	12		42422	09/09/2015	22/02/2016	09/09/2015	12	nr						1								1					
KT391	UID225 Sprucefield WWPS Screen CSO 20	12			30/03/2015			12	nr					1								1						PC15 FD
KT391	UID226 Antrim Road CSO 24 + flooding	12		22/02/2016	30/10/2015	22/02/2016	30/10/2015	12	nr						1								1					PC15 FD
KT391	UID227 Bow Street CSO 26	12		42422	30/10/2015	22/02/2016	22/03/2016	12	nr						1								1					
KT391	UID228 Ballynahinch Rd 2 CSO 27	12			18/03/2015			12	nr					1								1						PC13
KT391	UID229 Grand Street Screen CSO 28	12		42094	30/10/2015	22/02/2016	20/11/2015	12	nr					1									1					
KT391	UID423 Eglantine WWPS CSO 16	12			30/03/2015			12	nr					0								1						
KT391	UID424 Culcavy WWPS CSO 17	12			30/03/2015			12	nr					0								1						
KT391	UID425 Ballinderry WWPS CSO 23	12			30/03/2015			12	nr					0								1						PC13
KT391	UID421 Edgewater WWPS	12		42094	04/09/2015	22/02/2016	04/09/2015	12	nr					1									1					PC15 New
KT391	UID422 Hoggs Weir CSO 04	12		n/a	30/10/2015	30/10/2015	30/10/2015	12	nr														1					
KS873	Bangor DAP Work Package 2: Rathmore Stream UIDs	12						12	nr																				PC13
KS873	UID013 Westburn Cresc. CSO 3A	12		01/03/2015	31/03/2016	27/04/2017	PC21	12	nr					1														x	PC13
KS873	UID014 Crawfordsburn Rd CSO 03B	12		01/03/2015	29/04/2016	22/05/2017	PC21	12	nr					1														x	PC13
KS873	UID015 Crawfordsburn Rd CSO 03C	12		42064	29/04/2016	09/05/2017	PC21	12	nr					1														x	
KR480	Holywood Sewer Catchment Investigations - UIDs	12						12	nr																				PC15 FD
KR480	UID218 Palace Barracks CSO 110	12		42369	29/06/2016	30/11/2016	07/09/2016	12	nr						1									1					
KR480	UID219 Jackson Road CSO 52	12			06/10/2014			12	nr					1								1							
KR640	Holywood Sewer Network Improvements- Phase 2	12						12	nr																				PC15 FD
KR640	UID220 Strathearn Court CSO 53	12		42369	29/06/2016	31/10/2017	20/12/2016	12	nr						1									1					
KS930	Millisle DAP Stage 2 Phase 2	12						12	nr																				PC15 FD
KS930	UID076 Millisle SPS CSO 02	12		42387	31/03/2016	30/03/2017	PC21	12	nr						1													x	
KR417	Ormeau Avenue Sewer investigation and feasibility study for pollution resolution - UID's	12						12	nr																				PC15 FD
KR417	UID191 Cromac Street CSO 95	12		31/03/2017	30/06/2016	31/06/2018	31/03/2019	12	nr							1										1			PC15 FD
KR417	UID192 Outside Holiday Inn CSO97	12		31/03/2017	30/06/2016	31/06/2018	31/03/2019	12	nr							1										1			PC15 FD
KR417	UID193 Dublin Road Cinema CSO 96	12		31/03/2017	30/06/2016	31/06/2018	31/03/2019	12	nr							1										1			PC15 FD
KR417	UID194 Bankmore Street / Dublin Road CSO 81	12		31/03/2017	30/06/2016	31/06/2018	31/03/2019	12	nr							1										1			PC15 FD
KR417	UID265 Sandy Row CSO 94	12		42825	30/06/2016	31/06/2018	31/03/2019	12	nr							1										1			
KG183	Portadown Drainage Area Network Improvements - Meadow Lane and Bann Street - UID's	12						12	nr																				PC15 FD
KG183	UID081 Meadow Lane CSO 06	12		30/09/2017	27/03/2017	04/05/2018	PC21	12	nr								1											x	PC15 FD
KG183	UID082 Meadow Lane CSO 07	12		31/03/2017	27/03/2017	25/05/2018	PC21	12	nr							1												x	PC15 FD
KG183	UID083 Portmore Street CSO 08	12		30/09/2017	27/03/2017	28/09/2018	PC21	12	nr								1											x	PC15 FD
KG183	UID085 Clonavon Avenue CSO 11	12		30/09/2017	27/03/2017	28/09/2018	PC21	12	nr								1											x	PC15 FD
KG183	UID233 Meadow Lane WWPS CSO 32	12		31/03/2017	27/03/2017	06/04/2018	PC21	12	nr							1												x	PC15 FD
KG183	UID086 Meadow Lane CSO 12	12		43008	27/03/2017	06/04/2018	PC21	12	nr								1											x	
KF330	Armagh DAP Stage 1 - UID's	12						12	nr																				PC15 FD
KF330	UID001 Scotch Street CSO. 2	12		31/03/2016	22/02/2016	31/03/2016	25/03/2016	12	nr						1								1						PC15 FD
KF330	UID002 Scotch Street. CSO 1	12		31/03/2016	18/12/2015	31/03/2016	25/03/2016	12	nr						1								1						PC13
KF330	UID003 Courthouse 1 CSO	12		31/03/2015	30/11/2015	31/03/2016	30/11/2015	12	nr					1									1						PC15 FD
KF330	UID005 The Mall East CSO	12		31/03/2016	31/05/2016	31/03/2017	14/10/2016	12	nr						1									1					PC13
KF330	UID006 English St CSO. Scheme 2	12		31/03/2015	31/07/2016	10/03/2017	21/01/2017	12	nr					1									1						
KF330	UID007 Drumcaim SPS. Scheme 3	12		31/03/2015	30/03/2015			12	nr					1								1							
KF330	UID431 Ballycrummy WWPS	12			30/03/2015			12	nr					0								1							
KF330	UID430 Longstone WWPS	12			30/03/2015			12	nr					0								1							PC15 FD
KF330	UID010 Newry Road SPS	12		31/03/2016	29/04/2016	31/03/2017	28/04/2017	12	nr						1										1				PC15 FD
KF330	UID173 Mall West CSO	12		31/03/2016	30/11/2015	31/03/2016	23/03/2016	12	nr						1								1						PC13
KF330	UID175 Alexender Road CSO	12		31/03/2015	13/11/2015	31/03/2016	13/11/2015	12	nr					1									1						
KF330	UID176 Gillis Lane CSO	12		31/03/2015	30/03/2015			12	nr					1								1							PC13
KF396	UID008 Milford SPS	12		31/03/2015	30/03/2018	30/04/2019	04/08/2017	12	nr					1												1			PC13
KF397	UID009 Killylea SPS	12		42094	30/03/2018	30/03/2020	29/01/2020	12	nr					1													1		
KS879	Bangor DAP Work Package 4: Bangor Marina UIDs	12						12	nr																				
KS879	UID018 Somerset Ave. CSO 11	12			27/08/2014			12	nr					1								1							
KS879	UID019 Bridge St CSO 13	12			27/08/2014			12	nr					1								1							
KS879	UID020 Quay St CSO 14	12			27/08/2014			12	nr					1								1							
KS879	UID021 Tennyson CSO 10	12			27/08/2014			12	nr					1								1							
KS879	UID022 Queens parade CSO 12	12			27/08/2014			12	nr					1								1							
KS877	Bangor DAP Works Package 5 - Clandeboye Stream UIDs	12						12	nr																				PC15 FD
KS877	UID023 Castle Park CSO 07	12		31/12/2015	27/10/2016	29/01/2018	31/03/2018	12	nr						1											1			PC13
KS877	UID179 13 Rugby Avenue CS0 8A	12		31/03/2015	27/10/2016	29/01/2018	31/03/2018	12	nr					1												1			PC15 FD
KS877	UID180 11 Brunswick Road CSO 8B	12		31/03/2015	27/10/2016	29/01/2018	31/03/2018	12	nr						1											1			PC15 FD
KS877	UID181 104 Abbey Street CSO 8F	12		31/12/2015	27/10/2016	29/01/2018	31/03/2018	12	nr						1											1			PC15 FD
KS877	UID182 114 Abbey Street CSO 8E	12		31/12/2015	27/10/2016	29/01/2018	31/03/2018	12	nr						1											1			PC13
KS877	UID183 Railway View Street CSO 8G (not required)	12		31/03/2015	27/10/2016	29/01/2018	31/03/2018	12	nr					1												x			PC15 FD
KS877	UID184 Abbey Park CSO 9	12		31/12/2015	27/10/2016	29/01/2018	31/03/2018	12	nr						1											1			PC13
KS877	UID263 57 Belfast Road CSO 8C	12		31/03/2015	27/10/2016	29/01/2018	21/03/2017	12	nr					1										1					PC13
KS877	UID264 17 Belfast CSO 8D	12		42094	27/10/2016	29/01/2018	21/03/2017	12	nr					1										1					
KS958	Bangor DAP Works Package 5 Clandeboye Stream UIDs Phase 2	12						12	nr																				PC13
KS958	UID185 Avonlea Park CSO 6	12		31/03/2015	30/10/2015	31/03/2016	30/03/2016	12	nr					1															PC13
KS958	UID186 Rosemary Crescent / Inglewood Pk CSO 5	12		31/03/2015	30/10/2015	31/03/2016	30/03/2016	12	nr					1															PC13
KS958	UID187 Clandeboye Road CSO 5B	12		42094	30/10/2015	31/03/2016	30/03/2016	12	nr					1															
KS902	Dundrum DAP, UID Upgrades - UID's	12						12	nr																				PC15 FD
KS902	UID237 Parochial House CSO 02	12		31/12/2016	21/08/2017	29/06/2018	PC21	12	nr							1												x	PC15 FD
KS902	UID238 Main Street CSO 04	12		31/12/2016	21/08/2017	29/06/2018	PC21	12	nr							1												x	PC15 FD
KS902	UID239 Flynn's WWPS CSO 05	12		42735	21/08/2017	05/04/2019	PC21	12	nr							1												x	
KT114	Hillsborough WWTW	16						12	nr																				
KT114	UID071 Magherageery PS CSO 18	16			18/03/2014			12	nr				1								1								
KS848	Newcastle WwTW	16						12	nr																				
KS848	UID 260 Harbour WwPS	16			09/12/2013			12	nr				1								1								
KR501	Carricklergus WWTW Upgrade	2						12	nr																				
KR501	UID272 Carricklergus CSO	2			19/03/2015			12	nr					1										1					
KL468	Strathfoyle, Londonderry Syphon Inlet Screen	12						12	nr																				PC13
KL468	UID114 Caw Park CSO 023	12		23/05/2014	31/03/2016	31/03/2016	21/03/2016	12	nr					1										1					PC13
KL468	UID380 Gransha Park WwPS No. 2	12		41782	31/03/2016	31/03/2016	22/03/2016	12	nr					1										1					
KC415	Coleraine	12						12	nr																				PC15 FD
KC415	UID043 Screen Road CSO	12		31/03/2016	30/03/2015			12	nr						1									1					PC15 FD
KC415	UID040 Ballysally CSO	12		42460	30/11/2016	31/03/2017	31/03/2018	12	nr						1											1			
KA248	Ballygally Sewer Rehabilitation	12						12	nr																				
KA248	UID190 Brustin Lee WWPS	12			30/03/2015			12	nr					1								1							

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Project Information								Project Outputs																					
Project ID Reference	Project Name	PC13 Programme	Quality Regulator Date (if appropriate)	BU Date per FD (if appropriate)	BU Date per 15/16 MP (if appropriate)	BU Date per 16/17 MP (if appropriate)	Projected BU Date (if appropriate)	PC13 Output Ref Code	Output Units	PC10			PC13 in PC15FD		PC15 FD Baseline							PC13 Actual		PC15 Current Actual/ Forecast						
PI_Project_ID	PI_Project_Name	PI_PC13_Prog								2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	UID Status
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	11	12	13	14	15	16	17	18				
KA248	UID319 Croft Manor WWPS	12			30/03/2015			12	nr					1								1							
KA248	UID320 Ballygalley Slipway WWPS	12			30/03/2015			12	nr					1								1							
KA248	UID321 Ballygalley North WWPS	12			30/03/2015			12	nr					1								1							
KA248	UID322 Ballygalley Coast Road CSO	12			30/03/2015			12	nr					1								1							
KI488	Removal of Inlet Screens and Installation of Solid Handling Pumps	02						12	nr																				
KI488	UID400 Braeside WWPS	02			01/08/2013			12	nr				1								1								
KI488	UID401 Cloughy Road WWPS	02			01/09/2013			12	nr					1							1								
KI488	UID402 Old Mill Race WWPS	02			01/08/2013			12	nr				1								1								
KI488	UID403 Glen Park WWPS	02			01/09/2013			12	nr				1								1								
KI488	UID404 Kerries Glen	02			01/01/2014			12	nr				1								1								
KI488	UID405 Carnesure Terrace WWPS	02			01/04/2014			12	nr					1								1							
KI488	UID406 Hillside WWPS	02			01/10/2013			12	nr				1								1								
KI488	UID407 Chimera Wood WWPS	02			01/12/2013			12	nr				1								1								
KI488	UID408 Ballystockart WWPS	02			01/11/2014			12	nr					1								1							
KI488	UID409 Milltown WWPS	02			01/10/2014			12	nr					1								1							
KI488	UID419 Ratalla WWPS	02			01/04/2013			12	nr					1							1								
KS374	Hunter's Mill Storm Attenuation and Network Improvements	12						12	nr																				
KS374	UID045 Downpatrick - Stream St CSO	12			19/02/2015			12	nr					1								1							
KS374	UID124 Hunters Mill Attenuation Stream Street CSO2	12			19/02/2015			12	nr					1								1							
KA251	Umry Lodge CSO	12						12	nr																				
KA251	UID394 Clotworthy House CSO	12			22/01/2014			12	nr				1								1								
KT139	River Road SPS Upgrade	02						12	nr																				
KT139	UID276 River Road WWPS	02			09/04/2014			12	nr					1								1							
KS867	Copeland Road, Comber, Tank Sewer	12						12	nr																				
KS867	UID343 Copeland Road CSO 61	12			30/10/2014			12	nr					1								1							
KA252	Glynn WWPS	02						12	nr																				
KA252	UID398 Glynn WWPS	02			19/02/2015			12	nr					1								1							
KS900	WwPS Upgrades at Groomsport, Killinchy & Craigavad	12						12	nr																				
KS900	UID410 Glencraig WWPS	12			01/05/2014			12	nr				0									1							
KF354	Dernagh WWPS Upgrade	02						12	nr																				
KF354	UID416 Dernagh WWPS	02			01/09/2014			12	nr					1								1							
KN644	Greenbridge WWPS Upgrade	02						12	nr																				
KN644	UID417 Greenbridge WWPS	02			14/11/2013			12	nr				1								1								
KF360	Blackwater Town WWPS Upgrade	02						12	nr																				
KF360	UID418 Blackwatertown WWPS	02			31/03/2014			12	nr				1								1								
KN628	Carrickmore WWPS Upgrade	02						12	nr																				
KN628	UID427 Carrickmore WWPS	02			27/08/2014			12	nr					0								1							
KL504	Londonderry DAP : Buncrana Road Work Package, Stage 2	12						12	nr																				PC13
KL504	UID273 Knockalla New WWPS	12		31/03/2015	29/02/2016	31/08/2016	13/09/2016	12	nr					1										1					PC13
KL504	UID274 Upper Gallagh Road WWPS	12		31/03/2015	31/03/2016	31/03/2016	31/03/2016	12	nr					1									1						PC13
KL504	UID275 Glen Road CSO	12		42094	24/04/2015	24/04/2015	24/04/2015	12	nr					1									1						PC15 New
KL504	UID433 Fairview Knockalla CSO	12		n/a		21/03/2016	21/03/2016	12	nr														1						
KS872	Bangor DAP Work Package 1	12						12	nr																				PC15 FD
KS872	UID011 Carnalea Golf Club CSO 1	12		30/09/2018	30/07/2018	31/03/2019	PC21	12	nr									1								0	x		PC15 FD
KS872	UID012 KillaneyWWPS 3	12		30/09/2018	30/07/2018	31/03/2019	31/03/2019	12	nr									1								1			PC15 FD
KS872	UID177 Kilaire WWPS 1	12		43373	30/07/2018	31/03/2016	31/03/2016	12	nr									1					1						
KS874	Bangor DAP Works Package 3	12						12	nr																				PC15 FD
KS874	UID016 Maxwell CSO 4	12		30/09/2016	03/06/2019	29/03/2019	PC21	12	nr							1												x	PC15 FD
KS874	UID017 Stricklands Glen WWPS	12		30/09/2016	03/06/2019	29/03/2019	PC21	12	nr							1												x	PC15 FD
KS874	UID178 Brompton Road SPS (PS06)	12		42643	03/06/2019	29/03/2019	PC21	12	nr							1												x	
KG177	Portadown DAP Stage 2	12						12	nr																				PC15 FD
KG177	UID090 Annagh Catchment CSO 20	12		31/12/2018	04/12/2017	30/09/2020	31/03/2022	12	nr									1								x			PC15 FD
KG177	UID091 Annagh SPS CSO 20	12		31/12/2018	04/12/2017	03/04/2020	31/03/2022	12	nr									1								x			PC15 FD
KG177	UID092 Chambers Park CSO 01	12		31/12/2018	04/12/2017			12	nr									1								x			PC15 FD
KG177	UID093 Ballynacor CSO21	12		43465	04/12/2017	03/04/2020	31/03/2022	12	nr									1								x			
KR489	Glenmachan Strategic Project Phase 1a	12						12	nr																				PC15 FD
KR489	UID411 Balmoral Avenue CSO63	12		31/03/2016	19/06/2017			12	nr						1								x						PC15 FD
KR489	UID412 Balmoral Court CSO54	12		31/03/2016	19/06/2017			12	nr						1								x						PC15 FD
KR489	UID413 Lisburn Road Golf Club CSO58	12		31/03/2017	19/06/2017			12	nr							1								x					PC15 FD
KR489	UID414 Park Royal CSO57	12		31/03/2017	19/06/2017			12	nr							1								x					PC15 FD
KR489	UID415 Priory Park CSO55	12		43008	19/06/2017	30/09/2017	PC21	12	nr								1											x	
KR504	Portaferry Road, N.Ards WWPS Upgrade	12						12	nr																				PC15 FD
KR504	UID351 Portaferry Road WWPS	12		43555	31/03/2017	31/08/2017	12/10/2019	12	nr									1									1		
KB486	Galgorm WWPS Upgrade	12						12	nr																				PC15 FD
KB486	UID399 Galgorm Raphael WWPS	12		42643	31/03/2017	20/03/2018	20/03/2018	12	nr							1										0	1		
KS903	Annalong DAP	12						12	nr																				PC15 New
KS903	UID266 Halfway House CSO	12		n/a	31/03/2016	21/03/2016	21/03/2016	12	nr														1						PC15 New
KS903	UID267 Marine Park CSO	12		n/a	31/03/2016	21/03/2016	21/03/2016	12	nr														1						
KL527	Manorwood WWPS Replacement	12						12	nr																				PC15 New
KL527	UID432 Manorwood WWPS	12				31/10/2016	01/12/2016	12	nr															1					
KL524	Bleachgreen WWPS, Londonderry, Upgrade/Replacement	12						12	nr																				PC15 New
KL524	UID420 Bleachgreen WWPS	12				30/04/2017	60/06/2017	12	nr																1	0			
KA260	Muckamore WWPS Upgrade	12						12	nr																				PC15 New
KA260	UID389 Muckamore WwPS	12				04/04/2017	04/04/2017	12	nr																1				
KA261	Milltown Road WWPS Upgrade	12						12	nr																				PC15 New
KA261	UID388 Milltown Road WWPS Upgrade	12					21/03/2017	12	nr															1					
KA247	Crumlin Town WWPS Upgrade	12						12	nr																				PC15 New
KA247	UID387 Crumlin Town WWPS Upgrade	12					30/07/2019	12	nr																		1		
KA262	Islandreagh WWPS Upgrade	12						12	nr																				PC15 New
KA262	UID391 Islandreagh WWPS Upgrade	12					31/03/2021	12	nr																			1	
KA263	Dunadry WWPS Upgrade	12						12	nr																				PC15 New
KA263	**UID390 Dunadry WWPS Upgrade**	12					PC21	12	nr																			x	
	Wastewater Treatment Works																												
KT102	Dunmurry WwTW Modifications	15			19/03/2012			13	nr		1																		
KB436	Whitehead, Ballystruder & Ballycarry Rationalisation	15			16/02/2012			13	nr		1																		
KR389	Ballyhalbert WwTW Interim Solution	15			28/03/2013			13	nr			1																	
KA195	Mullaghboy WWTW	15			04/04/2011			13	nr		1																		
KR391	Portavogie WwTW Interim Solution	15			24/09/2012			13	nr			1																	
KS253	Drumaness WwTW	15			31/08/2010			13	nr	1																			
KB282	Magherafelt WwTW	15			28/03/2011			13	nr	1																			
KT125	Hook's Corner WwTW	15			28/03/2011			13	nr	1																			
KL393	Ballymonie WwTW	15			18/03/2011			13	nr	1																			
KB269	Toome (Creagh) Sewerage Scheme	15			22/03/2011			13	nr	1																			
KS307	Loughries WWTW	15			25/01/2011			13	nr	1																			
KB281	Magheira WwTW	15			03/02/2011			13	nr	1																			
KL363	Feeny WwTW	15			25/11/2011			13	nr		1																		
KR310	Newtownbreda WwTW	15			04/02/2011			13	nr	1																			
KG145	Derrytrasna WwTW Upgrade	15			29/11/2010			13	nr	1																			
KB333	Cargan WwTW	15			30/11/2010			13	nr	1																			
KC284	Cloughmills WwTW	15			30/11/2010			13	nr	1																			
KB322	Martinstown WwTW	15			13/12/2010			13	nr	1																			
KF005	Coalisland WwTW	15			01/12/2010			13	nr	1																			
KC299	Bushmills + Portballintrae WwTW	15			06/12/2010			13	nr	1																			
KB279	Stewartstown WwTW Improvements	15			10/11/2010			13	nr	1																			
KB284	Coagh WwTW Improvements	15			10/11/2010			13	nr	1																			
KL300	Dungiven WwTW	15			10/11/2010			13	nr	1																			
KV064	Lurganare WwTW	15			30/09/2010			13	nr	1																			
KN533	Rousky Sewerage Scheme	15			09/09/2010			13	nr	1												0							
KB278	Moneymore STW Imps	15			18/08/2010			13	nr	1																			
KS224	Downpatrick WwTW	15			14/12/2009			13	nr	1																			

A								B												C							
Project Information								Project Outputs												PC13 Actual		PC15 Current Actual/ Forecast						
Project ID Reference	Project Name	PC13 Programme	Quality Regulator Date (if appropriate)	BU Date per FD (if appropriate)	BU Date per 15/16 MP (if appropriate)	BU Date per 16/17 MP (if appropriate)	Projected BU Date (if appropriate)	PC13 Output Ref Code	Output Units	PC10			PC13 in PC15FD		PC15 FD Baseline												
PI_Project_ID	PI_Project_NAME	PI_PC13_Prog								2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	UID Status
1	2	3	4	5				6	7	8	9	10	11	12	13	14	15	16	17	18	11	12	13	14	15	16	17	18	
KF319	Annaghmore WwTWs	15			27/09/2010			13	nr	1																			
KS225	Ardglass WWTW	15			20/03/2015			13	nr					1								1							
KT377	New Holland WwTW	16			28/03/2011			13	nr	1																			
KS374	Darragh Cross WwTW	16			07/09/2010			13	nr	1																			
KC338	Causeway/Ard (New Pumping Station)	16			23/08/2011			13	nr		1																		
KC416	Glenstall WwTW - Nutrient Reduction	16			25/02/2013			13	nr			1																	
KN622	Omagh WwTW - Nutrient Reduction	16			25/02/2013			13	nr			1																	
KL465	Limavady WwTW - Nutrient Reduction	16			25/02/2013			13	nr			1																	
KF329	Ardress WWPS Upgrade	16			31/03/2012			13	nr		1																		
KS857	Glassdrumman WWTW	16			23/12/2011			13	nr		1																		
KS216	Dunmore Sewerage - EC Compliance	16			30/06/2011			13	nr		1																		
KF320	Bush WwTW	16			03/06/2010			13	nr	1.00																			
KF028	Keady Wwtw	16			29/11/2012			13	nr			1																	
KL482	Tamnaherin Wwtw	16			28/01/2013			13	nr			1																	
KV105	Newry WwTW Extension Phase 1	16			28/01/2013			13	nr			1																	
KF060	Brockagh Terrace/Mountjoy WtWT	16			13/08/2012			13	nr			1																	
KV125	Forkhill WwTW	16			28/03/2013			13	nr			1																	
KV045	Mullaghbane WwTW	16			28/03/2013			13	nr			1																	
KB287	Swatragh WwTW	16			21/03/2013			13	nr			1																	
KB314	Gulladuff WwTW	16			16/12/2013			13	nr				1								1								
KT114	Hillsborough WWTW	16			18/03/2014			13	nr				1								1								
KS848	Newcastle WwTW	16			09/12/2013			13	nr				1								1								
KR501	Carrickfergus WWTW Upgrade	2			31/03/2014			13	nr				1								1								
KR530	Belfast WwTW Base Maintenance Phase 2	2			18/03/2014			13	nr					1							1								
KN631	Strabane WWTW's Refurbishment	2			20/12/2013			13	nr				1								1								
KL350	Benone Area Sewerage	16			16/09/2013			13	nr																				
KL350	Decommission Benone WwTW & construct WwPS	16			16/09/2013			13	nr				1								1								
KL350	Decommission Drumavelly WwTW & construct WwPS	16			16/09/2013			13	nr				1								1								
KL350	Decommission Aughil WwTW & construct WwPS	16			16/09/2013			13	nr				1								1								
KL350	Decommission McD WwTW & construct WwPS	16			16/09/2013			13	nr				1								1								
KL350	Decommission NIPS WwTW & construct WwPS	16			16/09/2013			13	nr				1								1								
KL350	Provision of new Magilligan WwTW	16			16/09/2013			13	nr				1								1								
KP672	Tempo WwTW	16			06/01/2015			13	nr					1								1							
KS844	Ballyhornan Outfall - NIEA Enforcement	16			31/12/2013			13	nr				1								1								
KL424	Magheramason Wwtw	16			20/03/2015			13	nr					1								1							
KR409	Moneyreagh WwTW (Storm Pumping station)	16			12/12/2013			13	nr				1								1								
KP586	Clabby Wwtw	16		42277	31/03/2017	31/03/2017	30/03/2018	13	nr							1										0	1		
KN599	Donaghmore Wwtw	16			19/03/2015			13	nr					1								1							
KL487	Nixon's Corner	16			30/01/2015			13	nr					1								1							
KL386	Gortnahey Wwtw	16			24/07/2014			13	nr					1								1							
KS389	Ballymartin & Blackrock WwTWs	16						13	nr																				
KS389	Ballymartin WwTW	16			31/03/2015			13	nr						0							1							
KS389	Blackrock WwTW	16		42460	31/03/2016	30/06/2016	20/10/2016	13	nr						1									1					
KS355	Ballynahinch Wwtw	16			21/03/2014			13	nr				1								1								
KS905	Kilmore & Annacloy WwTW	16						13	nr																				
KS906	Kilmore WwTW	16			10/03/2015			13	nr					1								1							
KS907	Annacloy WwTW	16			11/03/2015			13	nr						1							1							
KS887	Ards South (Ballycranbeg WwTW load reduction)	16			31/03/2015			13	nr					1								1							
KL496	Feeny WwTW - Replacement Secondary Treatment	16			08/08/2014			13	nr				1									1							
KF346	Robinsonstown WwTW	16		43831	30/06/2019	31/03/2018	PC21	13	nr																				x
KN596	Ballymagory WWTW	16			30/03/2015			13	nr					1								1							
KL493	Artigarvin WwTW	16		42094	21/12/2015	21/12/2015		13	nr					1								1		1					
KN640	Dromore (Tyrone) WWTW	16			20/03/2015			13	nr					1								1							
KT402	Dunmurry WWTW Sludge Facility	16			18/03/2014			13	nr				1								1								
KB459	Maghera WwTW: Phase 2	16			04/02/2014			13	nr				1								1								
KL394	Drumsurn Wwtw	16			16/12/2014			13	nr					1								1							
KP668	Lisnarrick Wwtw	16			01/12/2014			13	nr					1								1							
KT126	Stoneyford Wwtw	16			28/11/2014			13	nr					1								1							
KI508	UWWTR MCERT compliance	16		31/03/2016	31/01/2016	31/01/2016		13	nr					1	1								1						
KC296	Ballycastle WwTW	16		01/01/2017	30/12/2017	31/03/2018	31/12/2017	13	nr							1									1				
KN656	Castle Archdale WwTW	16		42094	30/03/2016	30/03/2016		13	nr					1									1						
KG202	Aghagallon WwTW	16			31/03/2015			13	nr					1								1							
	Waringsford	16			30/09/2014			13	nr					0								1							
KC302	Ballintoy WwTW	16		43190	31/01/2017	31/01/2018	24/01/2020	13									1										1		
KS235	Ballygowan/Moneyreagh WwTW	16						13																					
KS235	Ballygowan WwTW	16		31/03/2018	28/02/2017		PC21	13									1												x
KS235	Moneyreagh WwTW	16		31/03/2018	28/02/2017		31/03/2019	13									1									1			
KS111	Ards South - Cloughey	16		31/03/2017	n/a	31/03/2019	31/03/2019	13								1										1			
KL489	Ballykelly WwTW	16		31/03/2017	n/a	30/10/2018	PC21	13								1													x
	Dundrum WwTW	16		31/12/2017	n/a		31/03/2019	13									1									0	1		
KS113	Ards North - Carrowdore, Ballywalter, Ballyhaskin	16						13																					
KS113	Carrowdore WwTW	16		31/03/2021	n/a		PC21	13																					x
KS113	Ballywalter WwTW	16		31/03/2021	n/a		PC21	13																					x
KS113	Ballyhaskin WwTW	16		31/03/2021	n/a		PC21	13																					x
KF350	Dungannon WwTW Phase 1	16		01/01/2021	01/01/2021		09/12/2019	13																					
KC463	Ballybogy WwTW	16		31/01/2021	31/01/2021		31/03/2021	13																					
KA239	Mullans WwTW (Antrim)	16		31/03/2021	n/a	30/09/2017	29/03/2018	13																					
KS918	Greyabbey WwTW	16		44286	31/03/2021		23/03/2021	13																					
KG041	Maghaberry WwTW (additional output in 16/17 draft adjusted outputs submission)	16				02/04/2018	29/03/2019	13																					
KI556	**The Loup**	16					42809	13																					
KC427	Ballycoy WwTW	16					44280	13																					
	Small Wastewater Treatment Works																												
	Small Wastewater Treatment Works - PC10 Programme >250pe to be detailed																												
KI486	Annahugh WwTW	17			2010/2011			13	nr	1																			
KI486	Galbally WwTW	17			2010/2011			13	nr	1																			
KI486	Maghery WwTW	17			2010/2011			13	nr	1																			
KI486	Montieth WwTW	17			2011/2012			13	nr		1																		
KI486	Orritor WwTW	17			2011/2012			13	nr		1																		
KI486	Garvaghy WwTW	17			2011/2012			13	nr		1																		
KI486	Donagheady WwTW	17			2010/2011			13	nr	1																			
KI486	Attical Tullyframe WwTW	17			2011/2012			13	nr		1																		
KI486	Donagh WwTW	17			2011/2012			13	nr		1												0	0					
KI486	Glack WwTW	17			2012/2013			13	nr			1																	
KI486	Teemore WwTW	17			2011/2012			13	nr		1																		
	Small Wastewater Treatment Works - PC10 Programme <250pe to be detailed	17			2010-2013			14	nr	11.00	23	14																	
	Small Wastewater Treatment Works - PC13 Programme <250pe to be detailed	17			2013-2015			14	nr				7	18	7	8	7	8	7	8	7	18							
	Small Wastewater Treatment Works - PC15 Programme <250pe to be detailed	17			2015-2021			14	nr														4	8	3	9	8	12	

BP T4.1	Water Outputs		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
19	Completion of nominated trunk main schemes	6	2	0	2	0	2	1	0	0	1	0	1	0	1	2	1	0	0	0	1
20	Completion of nominated water treatment works schemes	7	2	0	0	0	3	1	0	0	1	0	2	0	3	1	0	0	0	1	1
21	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks	8	5	3	1	0	1	0	0	1	0	1	1	0	1	0	0	1	0	1	1

BP T4.2	Sewerage Outputs		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
8	Delivery of improvements to nominated UIDs as part of a defined programme of work	12	20	43	38	25	59	27	16	5	8	0	0	28	39	26	11	11	8	3	1
9	Delivery of improvements to nominated WwTWs as part of a defined programme of work	13	29	14	13	17	18	3	4	4	0	1	7	17	18	3	2	1	6	2	3

A								B														
Project Information								Project Outputs														
Project ID Reference	Project Name	PC13 Programme	Quality Regulator Date (if appropriate)	BU Date per FD (if appropriate)	BU Date per 15/16 MP (if appropriate)	BU Date per 16/17 MP (if appropriate)	Projected BU Date (if appropriate)	PC13 Output Ref Code	Output Units	PC10			PC13 in PC15FD		PC15 FD Baseline					
PI_Project_ID	PI_Project_Name	PI_PC13_Prog								2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	2	3	4		5			6	7	8	9	10	11	12	13	14	15	16	17	18
10	Small wastewater treatment works delivered as part of the rural wastewater investment programme							14		11	23	14	7	18	7	8	7	8	7	8

PC13 Actual		PC15 Current Actual/ Forecast						
2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	UID Status
11	12	13	14	15	16	17	18	
7	18	4	8	3	9	8	12	

Table 40a – Nominated Outputs

The following tables identify those PC15 nominated outputs delivered during the programme. The information aligns with that claimed in the relevant AIR Tables and also endeavours to update the status of the nominated outputs not delivered in period.

The delivery of Nominated Outputs has been measured against the Final Determination Targets with any accepted Change Controls incorporated. This is against a backdrop of a constrained budget within the period for each year.

On the Water side the Watermains Programme has achieved efficiencies through cost management, more efficient delivery methods and utilising the new Risk Management Framework. However, this has been offset against higher costs in the Service Reservoir and Clear Water Tank programme with Killyhevlin CWB outturn costs significantly higher than those initially estimated.

On the Sewerage side the First Time Services programme has out turned at a much higher average run rate per year due to increased demand. The main variance however has related to the UID programme which has seen a major increase in outturn costs against the FD allowance throughout PC15. This can be attributed to the initial allowances for UID work being artificially low and applied pro rata across the programme as opposed to working off individual scheme costs.

The information is presented by Sub-Programme and reflects the layout as submitted in Table 40a.

NIW project Code	Project title	Year claimed	Outstanding outputs/ comments
Sub programme 1 – Base Maintenance Water			
N/A	N/A	N/A	
Sub programme 4 – WTW			
JI052	Glenhordial Treatability	2015/16	
JI052	Dorisland Treatability		
JI052	Killyhelvin Treatability	2020/21	
JL772	Caugh Hill Treatability		See note c
JC390	Rathlin Borehole	2019/20	See note c
JL795	Ballinrees WTW, MCPA treatment investigations		See note c
JN538	Derg WTW MCPA PEO Undertakings		See note c
Sub programme 5 – Trunkmains			
JG035	Ballydougan to Newry TM – Phase 2B	2015/16	
JR342	Castor Bay to Belfast TM	2015/16	See note a
JB693	Carland to Cookstown Trunkmain	2016/17	
JL790	Northern WRZ Resilience	2020/21	
JL715	Carmoney to Strabane Strategic Link Watermain		See note b

Sub programme 6 – Service Reservoirs and Towers			
JS274	Drumaroad WTW Clear Water Tank		
JP631	Killyhelvin Clear Water Tank	2020/21	
JB709	Lough Fea CWB	2019/20	
JC385	Monaclough SR	2017/18	

Note:

a) Castor Bay to Belfast TM – this was a PC13 output. Whilst the trunk main pipeline was complete by the end of March 2015, the new pumps associated with the scheme could not be installed by the PPP contractor without first emptying the Magheraliskmisk service reservoir. This could not be done due to the risk of industrial action. Once the risk of industrial action had ended, the new pumps were installed and the trunk main achieved beneficial use by May 2015. This was included in AIR 16 as a PC15 output.
b) Carmoney to Strabane Strategic Link Watermain – the scope and start date of this scheme was to be informed by the conclusions of the Water Resource and Supply Resilience plan. This project was subject to an ORG Change Control and substituted out for the Northern Zone Resilience project.
c) Caugh Hill WTW was substituted out via Change Control for Rathlin Borehole, Ballinrees WTW, MCPA treatment investigations and Derg WTW MCPA PEO Undertakings.

Summary (Sub programme 12 – UIDs)

UID performance 2020/21

The table below presents UID performance during 2020/21.

UID delivery	2020/21
PC15 FD UIDs delivered in 2020/21	1
Total	**1**

	Category of output	Number of UIDs in category	
		PC15 scope	Outside PC15
	PC15 baseline, delivery in PC15	43	
	PC15 baseline, cannot claim		3
	PC15 baseline, delivery in PC21		8
	PC15 baseline, delivered in PC13	2	
	New, added to PC15	11	
	PC13 carryover, delivery in PC15	24	
	PC13 carryover, cannot claim		1
	Totals	**80**	**12**

Complete PC15 UID programme

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KA260	UID389	Muckamore WwPS		2017/18	NO	YES	Was part of original DAP - had been land issues when the PC15 baseline was set but these were subsequently resolved.
KA261	UID388	Milltown Road WWPS Upgrade		2016/17	NO	YES	Was part of original DAP - had been land issues when the PC15 baseline was set but these were subsequently resolved.
KA247	UID387	Crumlin Town WWPS Upgrade		2019/20	NO	YES	Will assist with completion of Antrim DAP
KA262	UID391	Islandreagh WWPS Upgrade		2020/21	NO	YES	Was part of original DAP - had been land issues when the PC15 baseline was set.
KA263	UID390	Dunadry WWPS Upgrade		PC21	NO	YES	Was part of original DAP - had been land issues when the PC15 baseline was set.
KB486	UID399	Galgorm Raphael WWPS	2016/17	2018/19	YES	YES	
KC415	UID040	Ballysally CSO	2015/16	2017/18	YES	YES	
KC415	UID043	Screen Road CSO	2015/16	2014/15	YES	YES	Delivered during PC13
KF330	UID001	Scotch Street CSO. 2	2015/16	2015/16	YES	YES	
KF330	UID002	Scotch Street. CSO 1	2015/16	2015/16	YES	YES	
KF330	UID003	Courthouse 1 CSO	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KF330	UID005	The Mall East CSO	2015/16	2016/17	YES	YES	
KF330	UID006	English St CSO. Scheme 2	2014/15	2016/17	NO	YES	Originally PC13, delivery in PC15

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KF330	UID010	Newry Road SPS	2015/16	2017/18	YES	YES	
KF330	UID173	Mall West CSO	2015/16	2015/16	YES	YES	
KF330	UID175	Alexender Road CSO	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KF396	UID008	Milford SPS	2014/15	PC21	NO	YES	Originally PC13, delivery in PC15
KF397	UID009	Killylea SPS	2014/15	2019/20	NO	YES	Originally PC13, delivery in PC15
KG177	UID090	Annagh Catchment CSO 20	2018/19	PC21	YES	NO	Modelling has highlighted issues - constraints regarding flows. This scheme has an interdependence with Meadow Lane which must be addressed first.
KG177	UID091	Annagh SPS CSO 20	2018/19	PC21	YES	NO	Modelling has highlighted issues - constraints regarding flows. This scheme has an interdependence with Meadow Lane which must be addressed first.

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KG177	UID092	Chambers Park CSO 01	2018/19	N/A	YES	NO	The area of Chambers Park WwPS and CSO manhole was acquired by ASDA to erect their new store. ASDA designed their site drainage to cater for all flows previously running toward Chambers Park WwPS. The new sewers carry these flows to the new (as yet unadopted) pumping station to the rear of the ASDA site. The pipework was sized to accommodate all flows without the need to retain the existing CSO. On 22/09/2016, NIEA stated that NI Water could not claim this UID.
KG177	UID093	Ballynacor CSO21	2018/19	PC21	YES	NO	Modelling has highlighted issues - constraints regarding flows. This scheme has an interdependence with Meadow Lane which must be addressed first.
KG183	UID081	Meadow Lane CSO 06	2017/18	PC21	YES	YES	
KG183	UID082	Meadow Lane CSO 07	2016/17	PC21	YES	YES	
KG183	UID083	Portmore Street CSO 08	2017/18	PC21	YES	YES	
KG183	UID085	Clonavon Avenue CSO 11	2017/18	PC21	YES	YES	
KG183	UID086	Meadow Lane CSO 12	2017/18	PC21	YES	YES	

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KG183	UID233	Meadow Lane WWPS CSO 32	2016/17	PC21	YES	YES	
KL468	UID114	Caw Park CSO 023	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KL468	UID380	Gransha Park WwPS No. 2	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KL504	UID273	Knockalla New WWPS	2014/15	2016/17	NO	YES	Originally PC13, delivery in PC15
KL504	UID274	Upper Galliagh Road WWPS	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KL504	UID275	Glen Road CSO	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KL504	UID433	Fairview Knockalla CSO		2015/16	NO	YES	Was discovered during delivery of related UID273 – was spilling and was endorsed by NIEA. A pumping station was originally in place but was one pump - pump was removed, benched and manhole constructed. It was only during upgrade of new pumping station that overflow was located. Costs associated with this UID were incurred through the delivery UID273.

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KL524	UID420	Bleachgreen WWPS		PC21	NO	YES	Was not identified in DAP but a large number of NIEA pollution incidents were recorded against this site discharging to the River Faughan. Driven and requested by NIEA: pressure also raised by Loughs Agency due to heavy pollution incidents. Had been raised to highest priority by NIEA.
KL527	UID432	Manorwood WWPS		2016/17	NO	YES	NIEA recognised that this WwPS was problematic and approved that this was a legitimate and UID and that it should be addressed during PC15. NIEA had identified spillage from overflow of WwPS to the Ardnabrocky Burn.
KR417	UID191	Cromac Street CSO 95	2016/17	2018/19	YES	YES	
KR417	UID192	Outside Holiday Inn CSO97	2016/17	2018/19	YES	YES	
KR417	UID193	Dublin Road Cinema CSO 96	2016/17	2018/19	YES	YES	
KR417	UID194	Bankmore Street / Dublin Road CSO 81	2016/17	2018/19	YES	YES	
KR417	UID265	Sandy Row CSO 94	2016/17	2018/19	YES	YES	
KR480	UID218	Palace Barracks CSO 110	2015/16	2016/17	YES	YES	

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KR489	UID411	Balmoral Avenue CSO63	2015/16	PC21	YES	NO	Changes to the design of scheme KR489 (Sicily Park) mean that this UID will not be addressed through that particular project. This UID may be included within the scope of a different project at a later date.
KR489	UID412	Balmoral Court CSO54	2015/16	PC21	YES	NO	Changes to the design of scheme KR489 (Sicily Park) mean that this UID will not be addressed through that particular project. This UID may be included within the scope of a different project at a later date.
KR489	UID413	Lisburn Road Golf Club CSO58	2016/17	PC21	YES	NO	Changes to the design of scheme KR489 (Sicily Park) mean that this UID will not be addressed through that particular project. This UID may be included within the scope of a different project at a later date.
KR489	UID414	Park Royal CSO57	2016/17	PC21	YES	NO	Changes to the design of scheme KR489 (Sicily Park) mean that this UID will not be addressed through that particular project. This UID may be included within the scope of a different project at a later date.

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KR489	UID415	Priory Park CSO55	2017/18	PC21	YES	NO	This UID may be included within the redefined scope of scheme KR489 (Sicily Park) but will not achieve Beneficial Use during PC15. Project KR489 is primarily a DG5 project with only a small fraction of the budget used to address UIDs. The project was 100% Enhanced Service Levels in the PC15 baseline.
KR504	UID351	Portaferry Road WWPS	2018/19	2019/20	YES	YES	
KR640	UID220	Strathearn Court CSO 53	2015/16	2016/17	YES	YES	
KS372	UID044	Market Street SPS Upgrade, Downpatrick - UID's	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KS872	UID011	Carnalea Golf Club CSO 1	2018/19	2020/21	YES	YES	
KS872	UID012	KillaneyWWPS 3	2018/19	2018/19	YES	YES	
KS872	UID177	Killaire WWPS 1	2018/19	2015/16	YES	YES	
KS873	UID013	Westburn Cresc. CSO 3A	2014/15	PC21	NO	YES	Originally PC13, delivery in PC15
KS873	UID014	Crawfordsburn Rd CSO 03B	2014/15	PC21	NO	YES	Originally PC13, delivery in PC15
KS873	UID015	Crawfordsburn Rd CSO 03C	2014/15	PC21	NO	YES	Originally PC13, delivery in PC15
KS874	UID016	Maxwell CSO 4	2016/17	PC21	YES	YES	
KS874	UID017	Stricklands Glen WWPS	2016/17	PC21	YES	YES	

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KS874	UID178	Brompton Road SPS (PS06)	2016/17	PC21	YES	YES	
KS877	UID023	Castle Park CSO 07	2015/16	2017/18	YES	YES	
KS877	UID179	13 Rugby Avenue CS0 8A	2014/15	2017/18	NO	YES	Originally PC13, delivery in PC15
KS877	UID180	11 Brunswick Road CSO 8B	2015/16	2017/18	YES	YES	
KS877	UID181	104 Abbey Street CSO 8F	2015/16	2017/18	YES	YES	
KS877	UID182	114 Abbey Street CSO 8E	2015/16	2017/18	YES	YES	
KS877	UID183	Railway View Street CSO 8G (not required)	2014/15	N/A	NO	NO	Although initially identified as a UID, subsequent modelling indicated that it did not spill with sufficient frequency to be categorised in this manner. There is no financial impact due to the removal of this UID from scope.
KS877	UID184	Abbey Park CSO 9	2015/16	2017/18	YES	YES	
KS877	UID263	57 Belfast Road CSO 8C	2014/15	2016/17	NO	YES	Originally PC13, delivery in PC15
KS877	UID264	17 Belfast CSO 8D	2014/15	2016/17	NO	YES	Originally PC13, delivery in PC15
KS902	UID237	Parochial House CSO 02	2016/17	PC21	YES	YES	
KS902	UID238	Main Street CSO 04	2016/17	PC21	YES	YES	
KS902	UID239	Flynn's WWPS CSO 05	2016/17	PC21	YES	YES	

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KS903	UID266	Halfway House CSO		2015/16	NO	YES	Had potential to pollute Annalong Harbour – delivery endorsed by NIEA. UID advanced following Cross party Councillor complaints regarding discharges.
KS903	UID267	Marine Park CSO		2015/16	NO	YES	Had potential to pollute Annalong Harbour – delivery endorsed by NIEA. UID advanced following Cross party Councillor complaints regarding discharges.
KS930	UID076	Millisle SPS CSO 02	2015/16	PC21	YES	YES	
KS937	UID032	Annesborough Park WwPS	2015/16	2016/17	YES	YES	
KS939	UID259	Pattons Bridge (Blackrock WwPS	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KS958	UID185	Avonlea Park CSO 6	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KS958	UID186	Rosemary Crescent / Inglewood Pk CSO 5	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KS958	UID187	Clandeboye Road CSO 5B	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KT391	UID068	Hilden PS CSO 13A	2014/15	2015/16	NO	YES	Originally PC13, delivery in PC15
KT391	UID069	Antrim St CSO 25	2015/16	2016/17	YES	YES	

NIW Project Code	Nominated outputs reference	Title	Delivery year (as stated in PC15 FD)	Current Actual/ Forecast BU	PC15 FD Baseline Nom. Output?	Revised PC15 Nom. Output?	Change description
KT391	UID072	New Holland WWT	2015/16	N/A	YES	NO	Investigations established that this was not a network UID – it is located within the boundary of the site: this was not a KT391 UID. This was incorrectly carried through into the PC15 outputs.
KT391	UID073	Duncans Rd CSO 15	2015/16	N/A	YES	NO	Investigation during DAS discovered that no CSO exists at this location: it was established that this was not a UID - was a bifurcation. This was incorrectly carried through into the PC15 outputs.
KT391	UID074	Laws Yard CSO 14	2015/16	2015/16	YES	YES	
KT391	UID222	Linenhall Street CSO 03	2015/16	2014/15	YES	YES	Delivered during PC13

Sub-programme 15 and 16 WwTW				
PC15 Cumulative Total	**NI Water project Code**	**Project title**	**Year claimed**	**Outstanding outputs/ comments**
	KS907	Annacloy WwTW	2014/15	See note a
1	KL493	Artigarvin WwTW	2015/16	See note b
2	KI508	UWWTR MCERT compliance	2015/16	
3	KN656	Castle Archdale WwTW	2015/16	See note c
4	KS389	Blackrock WwTW	2016/17	
5		The Loup	2016/17	See note d
6	KC296	Ballycastle WwTW	2017/18	
7	KP586	Clabby WwTW	2018/19	
8	KS235	Moneyreagh WwTW	2018/19	
9	KS111	Ards South - Cloughey	2018/19	
10	KS962	Dundrum WwTW	2018/19	
11	KA239	Mullans WwTW (Antrim)	2018/19	
12		Maghaberry WwTW	2018/19	See note e
13	KC302	Ballintoy WwTW	2019/20	
	KC427	Ballyvoy WwTW	2020/21	
	KL489	Ballykelly WwTW		
	KC463	Ballybogy WwTW	2020/21	
	KS235	Ballygowan WwTW		
		Greyabbey WwTW	2020/21	
	KS113	Carrowdore WwTW		
	KS113	Ballywalter WwTW		
	KS113	Ballyhaskin WwTW		
14	KF350	Dungannon WwTW (Phase 1)	2019/20	
	KF346	Robinsonstown WwTW		

Notes

a) Land issues necessitated combined Kilmore/ Annacloy solution. It is significant to note that Annacloy WwTW was originally scheduled to deliver during PC15 but was successfully delivered during PC13.
b) Artigarvin was originally a PC13 output but a review of the delivery approach delayed completion until 2015/16.
c) Castlearchdale WwTW was added to PC13 scope through change control but carried through into PC15: re-profiling into PC15 was due to the requirement for a wildlife survey.
d) The Loup was initially included in the scope of the Rural Wastewater Treatment Works programme. The actual PE of the site has exceeded the 250 PE threshold and a Change Control has re-designated it as a Sub Programme 16 output.
e) Maghaberry WwTW was added to PC15 scope through the draft adjusted outputs submission.

Sub programme 17 – Small Wastewater Treatment Works				
PC15 Cumulative Total	CAR Site Reference	Project title	Year claimed	Outstanding outputs
1	S01566	Dunmullan	2015/16	
2	S01455	Cappagh	2015/16	
3	S03002	Curglasson	2015/16	
4	S05877	Straid	2015/16	
5	S00320	Drumlough	2016/17	
6	S01462	Glenoe WwTW	2016/17	
7	S04118	Trench Road	2016/17	
8	S02111	Acton	2016/17	
9	S02276	McKinley Park	2016/17	
10	S01160	Longs Glebe	2016/17	
11	S01622	Kilross	2016/17	
12	S02593	Milltown (Aghory)	2016/17	
13	S02284	Oliver Plunkett	2017/18	
14	S00332	Bresagh	2017/18	
15	S02987	Ardgarvan	2017/18	
16	S01137	Bellany WwTW	2018/19	
17	S03104	Edenderry WwTW	2018/19	
18	S01447	Newtown Crommelin WwTW	2018/19	
19	S03088	Drumenny WwTW	2018/19	
20	S01581	Kilbaskey WwTW	2018/19	
21	S02566	Cladymore WwTW	2018/19	
22	S02164	Dougan Place WwTW	2018/19	
23	S01569	Donaghey WwTW	2018/19	
24	S01643	Waterfoot Road WwTW	2018/19	
25	S02153	Dundrod WwTW	2019/20	
26	S02851	Mullyroddan WwTW	2019/20	
27	S01607	Broagh WwTW	2019/20	
28	S01163	Mayboy	2019/20	
29	S02153	Mossvale Terrace	2019/20	
30	S04091	Ballee Road	2019/20	
31	S01575	Gortaclady Cottages	2019/20	
32	S02421	Tartaraghan	2019/20	
33	S01608	Carmean WWTW	2020/21	
34	S01635	Rock Town WWTW	2020/21	
35	S02404	Drumard Primate WWTW	2020/21	
36	S00308	Craignasasonagh WWTW	2020/21	
37	S01192	Lisnagunogue WWTW	2020/21	
38	S02728	Ballymaderfy WWTW	2020/21	
39	S03050	Church Hill WWTW	2020/21	
40	S01170	Ringsend WWTW	2020/21	
41	S01432	Buckna WWTW	2020/21	
42	S02717	St Johns Terrace WWTW	2020/21	
43	S01626	Lisnamuck_Magherafelt WWTW	2020/21	
44	S02710	Moneyscalp WwTW	2020/21	

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN- TABLE 41 KEY OUTPUTS
HEALTH & SAFETY INFORMATION (NIW only)

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**OCCUPATIONAL ILL HEALTH**																				
1	Employee total	nr	0	1,304	A2	1,250	A2	1,240	A2	1,230	A2	1,246	A2	1,261	A2	1,277	A2	1,285	A2	1,291	A2
2	Total days lost due to sickness, accident and occupational ill health	nr	0	9,081	A2	9,962	A2	9,767	A2	10,395	A2	10,188	A2	11,268	A2	11,251	A2	12,929	A2	9,347	A2
3	Total days lost - rate per 1000 employees	nr	2	6,963.96	A2	7,969.60	A2	7,876.61	A2	8,451.22	A2	8,176.57	A2	8,935.77	A2	8,810.49	A2	10,061.48	A2	7,240.12	A2
4	Number of incidents of occupational ill health	nr	0	137	A2	142	A2	131	A2	134	A2	135	A2	143	A2	176	A2	192	A2	119	A2
5	Incidents of occupational ill health - rate per 1000 employees	nr	2	105.06	A2	113.60	A2	105.65	A2	108.94	A2	108.35	A2	113.40	A2	137.82	A2	149.42	A2	92.18	A2
B	**RIDDOR REPORTS**																				
6	Total RIDDOR incidents	nr	0	10	A1	6	25	5	A1	7	A1	4	A1		A1	6	A1	5	A1	5	A1
7	RIDDOR - rate per 1000 employees	nr	2	7.67	A1	4.80	A1	4.03	A1	5.69	A1	3.21	A1	4.76	A1	4.70	A1	3.89	A1	3.87	A1
8	3-day accident rate per 1000 employees	nr	2	7.67	A1	4.80	A1	5	A1	5.68	A1	3.21	A1	4.76	A1	4.70	A1	3.89	A1	3.87	A1
9	Major/fatal accident rate per 1000 employees	nr	2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
C	**AND INCIDENCE OF OCCUPATIONAL ILL HEALTH**																				
10	Contractors' employees total	nr	0	No data		No data		NA		NA		NA		NA		NA		NA		NA	
11	Total days lost due to sickness, accident and occupational ill health	nr	0	No data		No data		NA		NA		NA		NA		NA		NA		NA	
12	Total days lost - rate per 1000 employees	nr	2	No data		No data		No data		No data								NA		NA	
13	Number of incidents of occupational ill health	nr	0	No data		No data		NA		NA		NA		NA		NA		NA		NA	
14	Incidents of occupational ill health - rate per 1000 employees	nr	2	No data		No data		No data		No data								NA		NA	
D	**CONTRACTORS' RIDDOR REPORTS**																				
15	Total RIDDOR incidents	nr	0	6	B2	6	B2	5	BX	7	BX	9	BX	6	BX	5	BX	4	BX	9	BX
16	RIDDOR - rate per 1000 contractors' employees	nr	2	No data		No data		No data		No data		NA		NA		NA		NA		NA	
17	3-day accident rate per 1000 contractors' employees	nr	0	No data		No data		NA		NA		NA		NA		NA		NA		NA	
18	Major/fatal accident rate per 1000 contractors' employees	nr	2	0.00	B2	0.00	B2	0.00	A2	0.00	A2	0.00	A2	0.00	A2	NA		NA		NA	

Table 41 – Health and Safety Information (NIW only)

Lines 1 - 5 - Lost time

In 2020/21 financial year NI Water lost a total of 9,347 working days due to sickness which equates to 7.2 working days lost per employee. The Key Performance Indicator (KPI) for attendance in 20/21 was 96.5% against which NI Water delivered an actual rate of 96.7%, 0.2% above the target.

HR Advisors, in conjunction with line managers, continue to manage employee absence cases that meet the sick absence trigger points to highlight the importance of good attendance and corrective action taken where appropriate.

Human Resources work in partnership with line managers, the Employee Support Officer, Inspire (our Employee Assistance Programme provider), the occupational health provider and employees to assist those on long term sick to return to work and to facilitate reasonable adjustments where required.

Absence reporting is undertaken by the Human Resources department on a weekly basis to update senior management on current absence levels (this information is also reported on in more detail on a monthly and quarterly basis). Senior management are advised of the actual absence rate against NI Water's KPI for attendance. To aid analysis additional information has been included in the reporting, mainly a line graph depicting comparison of % attendance over the current and previous 2 years. Further information provided highlights differences across directorate level and a year-to-date breakdown of short-term and long-term sickness absence. Actions taken each week with regards to occupational health and physio referrals, clinics and meetings with employees following a long-term sick absence are also included.

Our attendance rate has increased from 95.5% in 19/20 to 96.7% in 20/21. The Covid-19 pandemic dominated 20/21 and during the year 91 employees were off work with Covid-19 related sickness with 911 working days lost in total and contributing just under 10% of the total working days lost.

In response to Covid, a recent employee survey with a respondent rate of 65%, 94% of respondents stated that that they would be willing to be vaccinated, with 54% stating that they have already received at least one of the MHRA approved Covid-19 vaccines. This demonstrates strong employee commitment to mitigating the effects of the pandemic as much as possible.

Absences due to other cold/flu/respiratory illnesses (excluding Covid-19) decreased markedly. 180 working days were lost to these illnesses during 20/21, compared to 430 during 19/20.

Psychiatric/psychological absences remain the highest reason for days lost due to sickness in 20/21 at 22.9%. This is a decrease from 19/20 when the percentage of total working days lost was 28.5%. The number of working days lost though for Psychiatric/psychological absences decreased from 3686 in 19/20 to 2136 in 20/21 and reflected a pattern of decreased sickness across many categories.

There were two deaths in service this year and four medical retirements after long periods of long-term absence.

In other proactive health surveillance efforts, frontline operatives attended yearly medical assessments for Hand Arm Vibration, audio and working in confined spaces.

In support of regulatory compliance NI Water also provided medical assessments for driving and HGV which is currently carried out by occupational health providers.

To support employee Wellbeing, NI Water has continued to undertake an extensive programme of Health promotion campaigns. These include initiatives titled “Winter Wellness”, “Spring Forward” and “Summer Sizzlers” wellbeing programmes. These have been designed with our employees for our employees to support physical, mental, financial and emotional health.

Initiatives have been informed by sickness/absence data, feedback from evaluation polls and focus groups, external benchmarking and the analysis from Employee Surveys. According to our recent wellness evaluation poll, over 90% of NIW respondents want the monthly campaigns to continue.

This programme of Wellbeing is ran by a project manager from HR Culture and Engagement and a dedicated project team representing areas of expertise across the business from IT, Communications, HR, Diversity & Inclusion and the Education Team. The programmes provided try to closely align offerings to help address the top 5 reasons for absence in NIW: Stress/ Anxiety Viral / Infection Musculoskeletal Cardio Accident/Injury

As well as the Wellness Monthly Programme of activity, other initiatives offered include:

- Health and Wellbeing Employee Support from Inspire Workplaces with a new wellbeing support hub launched in 2020
- Dedicated Workplace Counselling on site though Inspire Workplaces, 8 Wellbeing Champions representing employee views on wellbeing and providing input to our the Health and Wellbeing programme
- Health awareness campaigns though targeted employee communications on ‘Wellness Wednesdays’
- Provision of facilities for mindfulness, yoga, Zumba, Hobby Buddy Club, company choir, NIW Cycling Club and sports teams.
- Annual Wellbeing roadshow ‘4 Ways to Live Well’ visited at each of our Hubs virtually during October and November 2020 with healthy eating, sleep well advice, 1:1 health checks, mediation and a range of virtual interactive stands
- Suggested walking routes that are close to our sites published for employees
- “Looking after you” employee guides covering key health and home related topics. These guides supplemented with videos from relevant experts across NIW discussed themes including working from home, good mental health, relaxation techniques, physical health tips and others aligned to coping during the Covid-19 period.

In recognition of this work, NIW has been recently recognised for best practice in employee health and wellbeing through a number of awards:

- 2020 Business in the Community, awarded Responsible Business Awards Champions for Wellbeing in the Workplace.
- 2020 Shortlisted for CIPD Best Health &Wellbeing Initiative
- 2019 Winner of CIPD Best Health &Wellbeing Initiative
- 2019 Winner of international CSR Awards for Health & Wellbeing
- 2019 Highly commended for Business in the Community (BITC) Wellbeing at Work award

- 2019 Highly commended for Inspire Workplaces Wellbeing award

NI Water's reason for absence reporting differs to the occupational reasons as listed by the Utility Regulator. This is because our current reporting systems do not specifically record Hand Arm Vibration or work related reasons for absence. In addition to this, work related stress is recorded under the general heading of anxiety/stress/depression.

In conclusion, NIW through a combination of strong management intervention and exceptional employee commitment met our attendance against our KPI this year.

Moving forward to our next reporting period, good attendance continues to remain a high priority to both the Executive Committee and NI Water's Board of Directors along with enhancing the programme of initiatives to improve the health and wellbeing for all our staff.

Line 6 – Total RIDDOR (and >3 Lost Day) Incidents

The NI Water procedure for reporting of all incidents is set out in H&S Procedure PRO 008 within the NI Water Health & Safety Manual, (rev. October 2014). All incidents and near misses must be reported to line management as soon as practical, and at least within 24 hours of any incident. An electronic Risk Management and Reporting System (DATIX) was utilised for recording and tracking of all incidents up until October 2020 when it was replaced by a new electronic system called Assure to provide more flexibility in the monitoring and review of incidents. The new system now also records all vehicle incidents and audits.

It is the relevant Line Manager's responsibility to ensure all incident details are recorded and managed within the Assure system.

Assure entries are monitored by NI Water's Safety, Health and Environment (SHE) Team with statistical safety performance and trends presented monthly by the Head of Safety to the H&S Focus Group, Executive Committee and Board for consideration and discussion.

There were 5 RIDDOR (greater than) >3 Lost Day reportable incidents within NI Water during 2020/21, all of which resulted in more than 3-day work activity-related absences.

Incident Ref	Date of Incident	Brief Description	Underlying / Root Cause	RIDDOR Classification
KPI-01	21/07/2020	Colleague stumbled over a damaged grating cover outside building. Fell against wall and hurting his shoulder.	Damaged gating in need of repair.	> 3 lost days
KPI-02	30/09/2020	Slipped on level surface, possible moss on concrete surface.	Slippery surface untreated.	> 3 lost days
KPI-03	09/11/2020	Colleague went over on his ankle whilst sourcing and assisting with fittings within a storage yard.	Stepped on fitting, on ground.	> 3 lost days
KPI-04	08/02/2021	Frontline member of staff closed the passenger door of the van against his right hand. Resulted in laceration on tip of right hand index finger.	Finger caught in door of vehicle.	> 3 lost days
KPI-05	24/02/2021	Colleague was washing down asset at sludge press with water hose. Caught foot on hose causing fall. Hurt hand and right hip.	Trip fall over hose during work operation.	> 3 lost days

NB: NI Water reports all over 3 day incidents under the RIDDOR (Northern Ireland) Regulations, whilst mainland GB reports on over 7 day absences, in line with recent legislative changes affecting only GB.

Line 7 – RIDDOR Rate per 1000 employees

The process, as described for Line 6 above, provides the total number of RIDDOR (>3 day) incidents, whilst the denominator, the total number of employees, has been calculated by the Human Resources (HR) Directorate as 1292. This gives the RIDDOR Rate per 1000 employees as 3.87 for 2020/21.

Line 8 – Greater than (>) 3 day Incident Rate per 1000 employees

As all RIDDOR incidents refer to incident-related absence (ref. line 6 commentary), the information in Line 8 mirrors that of Line 7.

Line 9 – Major Fatal Incident Rate per 1000 employees

The information gathering process is again as described for Line 6 above. No fatal injuries occurred during 2020/21.

Lines 10 – 14 - Contractor Lost Time Incidents

Contractors continue to be managed and directly engaged on a wide range of work activities, projects and contracts on behalf of NI Water. However, core activity, from a Health and Safety perspective relates only to the assistance given by contractors in relation to the provision of water and sewerage services and includes contractors engaged in the construction of new works (ref. line 15 commentary). NI Water has, throughout 2020/21 been engaged in a continuing process of change, regarding the numbers of contractors assisting in asset delivery and improvement of this core activity, as efficiency measures continue to be put in place,

Given the changing nature of contract provision as outlined above and the variety of work undertaken, NI Water has no available methodology for calculating and determining accurately the number of contractors' staff engaged in all core related activities and this is unlikely to change in the short term.

Line 15 – Contractors' RIDDOR Reports

The Northern Ireland public regards all work related with water and sewerage services, including design and build work, to be closely associated with NI Water. NI Water, in turn, recognises its own duty of care to all of its contractors as a Client organisation when they are carrying out work and therefore sees its duty as one of leadership. NI Water therefore maintains a record of monitoring on all contractor and subcontractor reported incidents, which includes all incidents relating to transient workers. NI Water encourages and requires the reporting of all near-miss incidents involving contractors to facilitate a shared learning experience, in line with NI Water's 'Zero Harm' ambition.

All Contractor and subcontractor incidents are recorded on DATIX (up to Oct 2020) and now on Assure. For 2020/21 the total number of RIDDOR related incidents reported to NI Water by all contractors was 9. This was an increase in reports on the last 2 years. Contractor performance continues to be monitored by NI Water's H&S Focus Group, by Executive Committee and by Board at their monthly meetings. On a Quarterly basis Risk Committee also consider and review safety performance, recent incidents and trend analysis of both NI Water staff and contractor performance.

Incident Ref	Incident Date	Brief Description	RIDDOR Classification
CR01	17/06/2020	Member of Public suffered a slip/fall on temporary walk board outside property.	Fracture - Member of Public.
CR02	07/07/2020	Site Agent - Struck his leg against a protruding reinforcement bar during a site visit, and inspection.	> 3 days lost.
CR03	26/10/2020	Contract operative slipped on a wet sloping bank when inspecting a manhole lid, tried to grab hold of a fence to stop himself falling. Struck something sharp on the fence which pierced through his glove causing injury.	> 3 days lost.
CR04	03/11/2020	Operative was clearing brambles around an area, climbed onto an old tower structure and fell approx. 1-2m.	> 3 days lost.
CR05	23/12/2020	Operative fell from open side door of moving vehicle whilst collecting traffic management signage. Suffered serious head injuries from fall & hospitalised.	Hospitalised.
CR06	13/01/2021	Lime delivery hose came off the connection point at rear of lorry during delivery, spraying the driver with powdered hydrated lime.	> 3 days lost.
CR07	22/01/2021	Contractor's operative slipped/fell from a dumper as he was unclipping a kelly block. Resulted in fracture of left arm plus some abrasions to face.	Fracture and < 3 days lost
CR08	31/01/2021	Operative was in contact with moving mini-excavator whilst lifting cones. Resulted in no fractures but sprained foot.	> 3 days lost.
CR09	30/01/2021	Contractor employee attending blockage had hose from the jetting van across grass and path. Member of Public tripped over the hose and had to attend hospital.	Fracture - Member of Public.

Lines 16 - 17 – Contractor RIDDOR and >3 Day Incident Rates

Information is not collected for this line, as NI Water has no available methodology for calculating and determining accurately the numbers of direct contractor employees working on all NI Water contracts. Incident Rates therefore become difficult to calculate.

Line 18 – Contractor Major Fatal Incident Rate per 1000 employees

There were no fatal incidents connected with NI Water contractors /sub-contractors, including transient workers, during 2020/21.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN- TABLE 42 PPP REPORTING
PPP REPORTING

	DESCRIPTION	UNITS	DP	CG	Corresponding Report	Calculation	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME		TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
A	**PROJECT DESCRIPTION**																											
1	PPP Concession	text	na		na		Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Kinnegar	Omega	Omega	Omega	Omega	Omega	Omega	Omega	Omega	Omega	Alpha	Kinnegar	Omega	Water	Sewerage
2	Service Area	text	na		na		WT	WT	WT	WT	WD/WT	WD	WD	WWT	WWT	WWT	WWT	WWT	WWT	WWS	WWS	WWS	WWS	All	All	All	Service	Sevice
3	Name of works	text	na		na		Balinrees	Castor Bay	Dunore Point	Moyola	DBFO LM & FKd BDG Cont TK	Ballymoney LM	Limavady LM	Kinnegar	Richhill	Armagh	Ballynacor	North Down	Ballyrickard	Ballynacor Lagoons	Ballynacor	Duncrue	Sludge Service	Total	Total	Total	Total	Total
4	Commencement date	date	na		na		10/10/2008	09/12/2008	11/12/2008	16/09/2008	16/12/2008	15/10/2008	15/10/2008	24/05/2001	08/04/2009	27/08/2009	14/11/2009	05/05/2008	20/04/2009	N/A	31/03/2010	31/03/2010	31/03/2010						
5	Service duration	yrs	0		na		23	23	23	23	23	N/A	N/A	23	23	23	22	24	23	N/A	22	22	22					
6	Service completion date	date	na		na		30/05/2031	30/05/2031	30/05/2031	30/05/2031	30/05/2031	N/A	N/A	23/04/2024	07/03/2032	07/03/2032	07/03/2032	07/03/2032	07/03/2032	07/03/2032	07/03/2032	07/03/2032	07/03/2032					
B	**PAYMENT TO PPP CONCESSIONAIRE**																											
7	Unitary Charge Capacity	£m	3		na		2.977	4.911	5.467	2.244	0.711	0.582	0.706											17.598			17.598	
8	Unitary Charge Variable	£m	3		na		0.495	1.656	1.413	0.321	0.000	0.000	0.000											3.885			3.885	
9	Unitary Charge Deductions	£m	3		na		-0.038	-0.086	-0.037	-0.009	0.000	0.000	0.000											-0.170			-0.170	
10	Atypical expenditure	£m	3		na																			-0.632			-0.632	
11	Efficiency Gains, included in 7 & 8	£m	3		na																			-0.563			-0.563	
12	Total PPP Payments (7to 10)	£m	3		na	Sum 7 to 10	3.434	6.481	6.843	2.556	0.711	0.582	0.706											20.681			20.681	
13	Capital repayment	£m	3		na		0.551	0.900	0.997	0.415	0.144	0.118	0.143											3.268			3.268	
14	Maintenance	£m	3		na		0.265	0.481	0.569	0.201	0.000	0.000	0.000											1.516			1.516	
16	Atypical payments capitalised	£m	3		na		0.000	0.000	0.000	0.000	0.000	0.000	0.000											0.000			0.000	
17	Total capitalised (13 to 16)	£m	3		na	Sum 13 to 16	0.816	1.381	1.566	0.616	0.144	0.118	0.143											4.784			4.784	
18	Total PPP Expensed (12-17)	£m	3		na	Lines 12-17	2.618	5.100	5.277	1.940	0.567	0.464	0.563											15.897			15.897	
19	Interest	£m	3		na		0.982	1.603	1.774	0.739	0.257	0.211	0.255											5.821			5.821	
20	Total PPP Opex (18-19)	£m	3		na	Line 18-19	1.636	3.497	3.503	1.201	0.310	0.253	0.308											10.076			10.076	
C	**WATER DISTRIBUTION DATA**																											
21	Distribution input	Mld	2	B2	Table 10 Line 26		28.89	114.29	109.54	15.24														267.96			267.96	
21a	Water Treatment Works Capacity	Mld	0	A1			50	147	180	19														396			396	
22	Length of mains	km	2	A2	Table 11 Line 12						16.42	0.00	0.00											16.42			16.42	
D	**WATER RESOURCE AND TREATMENT DATA**																											
23	Turbidity 95%ile greater or equal to 0.5NTU	1/0	0	A2			0	0	0	0	0													0			0	
24	Turbidity 95%ile less than 0.5NTU	1/0	0	A2			1	1	1	1	1													5			5	
25	Source Type	text		A1	Table 12 Block A		R x 2 + River	River	River	River	0													2 x I.R. 4 x River			2 x I.R. 4 x River	
26	Treatment type	text		A1	Table 12 Block B		W4	W4	W4	W4	0													4 x W4			4 x W4	
27	Average pumping head	m.hd	1	B3	Table 12 Block A		132.3	138.0	173.0	146.4	0													153.0			153.0	
E	**SEWERAGE DATA**																											
28	Total length of sewer	km	2	B2										0.00	0.00	0.00	10.50	10.63	0.00						0.00	21.13		21.13
29	Total length of critical sewer	km	2	B2										0.00	0.00	0.00	10.50	10.63	0.00						0.00	21.13		21.13
F	**SEWAGE TREATMENT AND DISPOSAL DATA**																											
30	Population equivalent of total load received	000	0	B3	Table 17b line 2									96	2	15	119	62	42						96	240		336
31	Load received by STW's	kg BOD/day	0	B3	Table 17d									5743	145	917	7132	3731	2514						5743	14439		20182
32	Suspended solids consent	mg/l	0	A1	Table 17b line 3									45/150	20/50	20/50	35/-	35/90	10/30									
33	BOD5 consent	mg/l	0	A1	Table 17b line 4									25/80	07/30	08/30	25/50	25/50	10/35									
34	COD consent	mg/l	0	A1	Table 17b line 5									125	125	125	125	125	125									
35	Ammonia consent	mg/l	0	A1	Table 17b line 6									0.00	02/10	02/10	7.5/32	0.00	0.00									
36	Phosphates consent	mg/l	0	A1	Table 17b line 7									0.00	0.00	<1 Ann Avg	<1 Ann Avg	0.00	0.00									
37	Classification of Treatment Works	text		A1	Table 17b line 8									SAS	TA1	TA2	TA2	TA2	TA2									
38	Size band of sewage treatment works	nr	0	B3	Table 17c									6	4	5	6	6	6									
G	**SLUDGE TREATMENT AND DISPOSAL DATA**																											
39	Total sludge imported from NI Water	ttds	3	B2										0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.471	29.279	34.750		0.000	34.750		34.750
40	Sludge produced by the PPP facility	ttds	3	B2										0.609	0.070	0.542	2.481	1.709	1.123	0.000	0.002	0.002	5.929		0.609	5.929		6.538
41	Sludge exported to Duncrue Incinerator	ttds	3	B2										0.580	0.070	0.537	2.398	1.661	1.107	0.000	0.000	0.000	5.773		0.580	5.773		6.353
42	Sludge exported to other PPP facilities	ttds	3	A1										0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000		0.000
43	Sludge exported to NI Water	ttds	3	A1										0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000		0.000
44	Sludge disposed of from site to - Farmland Untreated	ttds	3	A1	Table 17G Col 1									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000		0.000
45	Sludge disposed of from site to - Farmland Convestional	ttds	3	A1	Table 17G Col 2									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000		0.000
46	Sludge disposed of from site to - Farmland Advanced	ttds	3	B3	Table 17G Col 3									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.707		0.000	0.707		0.707
47	Sludge disposed of from site to - Incineration	ttds	3	B2	Table 17G Col 4									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.764		0.000	39.764		39.764
48	Sludge disposed of from site to - Landfill	ttds	3	B3	Table 17G Col 6									0.029	0.000	0.005	0.083	0.048	0.016	0.000	0.002	0.002	0.156		0.029	0.156		0.185
49	Sludge disposed of from site to - Composted	ttds	3	A1	Table 17G Col 7									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.129		0.000	0.129		0.129
50	Sludge disposed of from site to - Land Reclamation	ttds	3	B3	Table 17G Col 8									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.503		0.000	0.503		0.503
51	Sludge disposed of from site to - Other (Willow Coppice)	ttds	3	A1	Table 17G Col 9									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000		0.000
52	Sludge disposed of from site - Total	ttds	3	B2										0.609	0.070	0.542	2.481	1.709	1.123	0.000	5.473	29.281	41.259		0.029	41.259		41.288

Table 42 – PPP Reporting

Preface

The Company highlights that on the 19 November 2017 a newly formed holding company subsidiary, NIW Clear Ltd, acquired sole ownership of both the Alpha PPP Contractor (Dalriada Water Ltd) and the Alpha PPP Operating Company (Kelda Water Services Alpha Ltd). These entities were acquired through a competitive bid process conducted by the previous owners, Kelda Water Services Ltd, which commenced in December 2016, following Kelda's announced sale of all their UK PPP/PFI water and energy commitments in September 2016. Post-acquisition, the contractual arrangements between the parties, including the senior lenders, has remained in place. There are no plans to collapse the Alpha PPP contract.

The reporting arrangements in Table 42 below remain unaffected by the acquisition and subsequent continuation of the existing commercial arrangements.

Contracted Adjustments to Payment Mechanisms

Omega: The Company has notified a change in the requirements for Faecal Coliform performance at North Down Ards WWTW in line with its contractual entitlement. This has resulted in the predetermined [redacted] reduction in Unitary Charge on every day outside of the regulatory Bathing Season coming into effect since September 2011.
The Company and the Contractor have agreed the outcome of the mandatory process to correct Ballynacor tariffs and tariff bands in the event that the actual DWF encountered was similar to that determined in the pre contract Flow surveys, and not as low as that upon which the Contractor conditioned his bid tariffs upon. The result of the process is that the tariff for Ballynacor flows is marginally reduced for the remainder of the contract with effect from 1st January 2014.

The Company and the Contractor have engaged regarding the Contracted change [Schedule Defined] to the Sludge Lagoons at Ballynacor; which was valued at [redacted]. This has been effectively complete in Autumn 2015, the remaining [redacted] to finalise [Landscaping] was completed by August 2016.

Alpha: The EIB Step Down clause has become effective in the Alpha contract, with a resultant reduction in European Investment Bank interest charging to Dalriada Water, and the Unitary Charge being reduced by the predetermined contractual amounts for the remainder of the EIB loan period (2027). The amounts are, by agreement, deducted monthly from invoices rather than driving a new Unitary Charge tariff at considerable project expense (and loss of benefit).

Changes to the Contracts

- **Omega: Supplemental Agreement 3**

This was executed on August 2011 to clarify the sludge performance requirements and deal with commercial matters surrounding uncertainty of sludge services performed in AIR11 period.

- **Omega: Supplemental 4**

This was executed on 6th April 2012. It clarified the wastewater treatment flow management requirements to a measurable output, and in so doing dealt with the commercial issues surrounding disputed underperformance and payment entitlements in this area since May 2008. The Agreement also enabled the Company to reduce its monthly unitary charge liability by [redacted] (indexed) for the remainder of

the contract term. A further passing down of rights and obligations in respect of NIE easements was included.

- **Omega: Change in Contractors Proposals – Duncrue St Centrifuge**
  In December 2012 the Company accepted a change in the contractor's asset base at Duncrue St, whereby the Contractor installed a Centrifuge in preference to the four belt presses inherited at Service Commencement. Whilst this improvement was funded by the Contractor and not the Company, the Company established an estimated change in electricity consumption liability and the Contractor agreed to fund the additional consumption at current tariffs (+ indexation), through a new payment Clause in the contract – consistent with the risk allocation at contract award.

- **Omega: Ballynacor Sludge Dewatering Plant Change**
  A pre-determined Change in the sludge disposal tariff arising from the underperformance of the Company's new Ballynacor Sludge Dewatering Facility following its initial commissioning in 2006/ 2007 during contract negotiations.
  The Omega contract was awarded on the understanding the new plant would be capable of producing >22% DS content in the years preceding Service Commencement.

  As was the case, records demonstrated the Company was only capable of achieving 19.6% DS operation during this period.

  The pre-determined (as agreed at Contract Award) cost reimbursement mechanism applies with the result that a schedule of semi-annual additional payments take place, dating back to Service Commencement in March 2010.

  Whilst the Contractor initially disputed the sums due, they finally conceded Company's valuation of such historical and future payments in September 2013.
  The cost of this mandatory change is approximately [redacted] (indexed) every semi-annual period until contract expiry in 2032.

- **Omega: Duncrue St Weighbridge Calibration Change**
  The weighbridge is integral to the determination of tonnes dry solid sludge for disposal and thus payment. The weighbridge is calibrated weekly and has never been outside calibration since first used in March 2010. The parties have agreed a cost reduction measure reducing the calibration to every 3 months. The cost saving to the Contractor is [redacted]/annum and is shared 50:50 with the Company. The arrangements have been in effect since 3 December 2013.

- **Omega: Duncrue St Condenser Change**
  An Authority Change issued in advance of Service Commencement in 2009 to deal with a defective existing asset. Whilst the work was completed in 2009 the costs were only agreed in late 2013, with payment by the Company in 2014/15.

- **Omega Small Works NDA Access Change**
  A[redacted] Change to pay for securing alternative access road at North Down Ards; a legacy from Water Service Deed of purchase of NDA lands in 2005 where the seller had the right to close up existing NDA access and provide alternative access and a Deed of Easement. Work is complete and payment has been made.

- **Richill DWF Change**

The DWF into Richill WWTW is lower than anticipated at commercial close, resulting in an unjust negative payment to the contractor at low flows due to a pre-agreed constant value for 0.8DWF. The parties have agreed an alternative value for the constant in the payment mechanism.

- **Donaghadee PS ICA Change**
  The Contractor offered and the Company accepted an energy saving change in the control of Donaghadee PS. The Company invested [redacted] in the project which has a payback in terms of electricity costs of <2 years. The project was delivered at the start of the AIR18 period.

- **Ballynacor WwTW Increased Capacity for Trade Effluent**
  At contract formation in 2007, the Company purchased a headroom for Trade Effluent of 500,000kg COD at Ballynacor WwTW for the term of the Contract. In 2016 the Company granted a Trade Effluent Discharge Consent to a trader in the Ballynacor Catchment which, in aggregate with all other active consents, has resulted in the purchased headroom being exceeded. This has triggered the Company's contractual liability to extend the treatment capacity. The parties are in discussion as to the most appropriate means of dealing with the fact that NIW now requires increased Trade Effluent capacity for the remaining term of the Contract.

- **Omega Energy Gains Projects 2020**
  The Company has elected to invest [redacted] in a series of energy improving asset amendments identified by the Contractor as part of its annual obligation to review and suggest energy improvements. These included syphon discharging at Bullay's Hill PS, SBR optimisation at North Down WWTW, pump control optimisation at Briggs Rock PS, Actuator controls at Armagh WWTW, and LED lighting at Duncrue ST Sludge Facility**.**

- **Kinnegar Supplemental Agreement 2**
  This commercial agreement resolved historical disputed payments, along with affecting a new odour model for the works, and creating new contractor obligations in terms of regulatory reporting and sampling consistent with current Company obligations not envisaged at the time of procurement.

- **Kinnegar Clause 10 Payment**
  A Variation was required in relation to the provision of the Holywood C Pumping Station by NI Water E&P, requiring part of the Leased Premises being returned to Company occupation, and the reimbursement of the Contractors costs with altering the necessary sewerage infrastructure. These costs amounted to [redacted] This value was paid to the Contractor on 30th January 2015.

- **Kinnegar Financial Model Storage Arrangements**
  The Company and the Contractor have terminated the arrangements to keep a copy of the financial model with a third party.

- **Early Debt Repayment Change**
  The Contractor has repaid the outstanding senior debt 15 months earlier than required.

- **Kinnegar Lease Change 2020**

The parties agreed to amend the Lease to allow for a contractor related affiliate company to be engaged by the Company to provide an electrolyser demonstrator project on the site. This project has no other impact on the PPP services.

- **Alpha Deed of Variation No.3**
  Amended and restated the contract in respect of all previous changes and corrections made to date.

- **Alpha Contractor Notice of Change (June 2012)**
  Reduced the scope of service (i.e. frequency and range of analytical tests) to achieve cost reduction in Unitary charge for the remaining contract period (Deriving [redacted] in Company costs).

- **Alpha Contractor Change: Standby Generator Capacity for NI Power Grid**
  A contract change has been put in place to allow the Contractor to make the site generators at two WTW's available to an Aggregated Generation Unit (AGU) company in return for an 'availability charge'. The annual availability charge is estimated to be worth up to [redacted], with 50% of this revenue being netted off the Unitary Charge payable by NIW for the period of the AGU agreement (currently 5 years).

- **Alpha: Authority Change – Castor Bay to Belfast Pumping Station Upgrade**
  To support the increased output to Magheraliskmisk arising from the Castor Bay to Belfast Strategic link main project.

- **Sale of Kelda's ownership of the Contractor / Operating Company**
  In September 2016, Kelda indicated it was looking to sell all its UK PPP/PFI investments and operations. It invited several parties, including NIW, to bid for the Alpha PPP companies; Dalriada Water (the Alpha PPP Contractor) and KWSA (the Alpha PPP Operating Company).

  On 19 November 2017, NIW clear Ltd (a subsidiary holding company of NIW Ltd) acquired ownership of Dalriada Water and KWSA (now renamed NIW Alpha ltd) from Kelda.

  The Alpha PPP contract remains in place and the Company continues to pay Unitary Charge tariffs for the volume of water provided by the Contractor, Dalriada Water Ltd. The Contractor continues to engage the services of the Operating Company (NIW Alpha Ltd) for service delivery and continues to service the senior debt liabilities with the lenders. The contract commitments between the parties remain unaltered at the point of new ownership.

- **Reduction in Frequency of Water Quality Monitoring**
  In 2019, the Company and the Contractor have reduced the frequency of Water Quality monitoring within the Contract down to regulatory frequency to align with all monitoring costs of non-PPP WTWs.

- **Temporary Reduction in Water Quality Performance Measures**
  In early 2020, the Company agreed to a request to lessen the water quality performance requirements on a temporary basis to establish if the operating company could reduce its external operating costs, thereby reducing the overall Company costs for water treatment provision at the PPP facilities. The pilot change

ran for 12 months and on unsuccessful completion in February 2021, the contracted performance standards reverted.

- **Deed of Variation No.5 – Ballinrees Authority changes**
  The Company issued 2 simultaneous changes relating to Ballinrees WTW access rights, in order to allow itself to (i) carry out pilot studies into pesticide/taste & odour treatment options, and (ii) construct a mobile pumping station for resilience/ drought mitigation purposes**.**

- **Deed of Variation No 6 – Insurances Deductibles Change**
  Due to market changes, the low level of excess on Physical Damage (PD) cover demanded of the PPP contract could not be secured at market rates. Consequently, the Company chose to issue a change to the contract terms that requires the Company to take the additional excess risk rather than the Contractor. This approach avoided its Contractor (also its subsidiary) incurring highly increased premiums for no benefit other than to satisfy Lenders terms. Note The level of PD excess exposure for the Company is now consistent for all non-infrastructure assets across the Company and its subsidiaries portfolio of clean water asset insurance.

Contractual Performance Failures during AIR21 Period

- **Alpha Performance Deductions: 2020/21**
  - Water Quantity failures can be referenced (on a monthly basis) in the Payment Calculation Schedule Tab 5 spreadsheet under the column heading 'CRF' for each Facility. *(The Company can provide a supporting CD with all 12 monthly Payment Calculation Schedules for the AIR year). Total deductions: £80,478.89 [AIR20 period total deductions £127,298.79].*
  - Water Quality Failures can be referenced on Payment Calculation Tab 9 under the column headed 'QRF' for each Facility *(The Company can provide a supporting CD with all 12 monthly Payment Calculation Schedules for the AIR year).*Further details of the exact water quality parameter failed result can be referenced on the monthly Exceedance Reports derived from the Company's LIMS system *(The Company can provide a supporting CD will all 12 LIM's Exceedance Reports for the Alpha Facilities. Total deductions: £90,977.07 [AIR20 period total deductions £263,134.04].* This sharp decrease in the normally static trend of level of water quality deductions correlates to the temporary relaxation of contracted Water Quality standards (see Contract Changes above) rather than any specific improvement in assets or operation.

- **Kinnegar Performance Deductions 2020/21**

  The Company had determined that there had been a Kin(A) – T1 TSS failure event which occurred during February 2021; this resulted in a one off Treatment deduction of [redacted]*, the first deduction for several years. [AIR 20 period* [redacted] *total deductions].*

- **Omega Performance Deductions 2020/21**
  - The Company has determined and the Contractor has accepted the following failures on the Wastewater services during the period:
    - None

  - The Company has determined but the Contractor has not accepted the following failures on Wastewater Services during the period:
    - OR4 Deductions applied at Donaghadee P.Stn [Apr 2020]: £56,658.46.

- OR4 Deductions applied at Donaghadee P.Stn [May 2020]: [redacted].
- OR4 Deductions applied at Ballynacor WwTW [May 2020]: [redacted].
- OR4 Deductions applied at Donaghadee P.Stn [Jun 2020]: [redacted]
- OR4 Deduction applied at Ballynacor WwTW [Jun 2020]: [redacted].
- OR4 Deductions applied at Ballynacor WwTW [Jul 2020]: [redacted].
- OR1 Deduction applied at Bullay's Hill WwTW [Jul 2020]: [redacted].
- OR4 Deductions applied at Ballynacor WwTW [Aug 2020]: [redacted]
- OR1 Deduction applied at Bullay's Hill WwTW [Aug 2020]: [redacted]
- OR4 Deduction at Donaghadee P.Stn [Aug 2020]: [redacted]
- OR4 Deduction at Donaghadee P.Stn [Sep 2020]: [redacted].
- OR4 Deductions at Donaghadee P.Stn [Jan 2021]: [redacted]
- FM5 Deduction at Millisle P.Stn [Jan 2021]: [redacted]
- FM5 Deduction at Millisle P.Stn [Feb 2021]: [redacted]
- OR1 Deduction at Bullay's Hill WwTW. [Feb 2021]: [redacted]

These various deductions relate to known issues around issues being resolved for odour management at Donaghadee & Ballynacor, flow management at Millisle and long term screening issues at Bullay's Hill.

The Contractor disputes the application of these Wastewater deductions and the Company has accrued the sums until the disputes are settled.

- **Contractual Deductions made**
  - Project Alpha as per Line 9 reporting for each Facility, based on the outputs of the monthly Payment Calculation Schedules.
  - Project Omega; The disputed deductions listed above totalling [redacted] as applied [redacted]: AIR20 this was modified by the granting of waivers to the value of [redacted] has not been included in this line, as credit notes have not been received. The remaining disputed sums; and those of previous AIR periods, totalling [redacted] have not been credited and are not therefore reflected in Line 9.
  - Project Kinnegar; The Performance Deductions during the AIR21 period equates to [redacted] AIR20].

- **Equipment breakdowns**
  - The Company does not hold this level of operational detail as the risk has been transferred to the Contractors and passed down to the Operating sub-contractor.

- **Changes to the Descriptive Reports on the PPP Contracts**
  - There have been no further changes to the Alpha, Omega and Kinnegar Descriptive Reports, however, when record drawings are available for the replacement Holywood 'A' to Kinnegar WwTW pumping main the layout drawing shall be modified.

Line 4 & Line 5

No change since AIR17 data.

Line 7 - Unitary charge capacity (No change to methodology)

The Unitary Charge Capacity Charge applies to Alpha only. The data used is derived from the invoices received from the Contractor, which separates the Unitary Charge Capacity Charge from the Unitary Variable Charge and the relevant Unitary Charge Performance Deductions, all in accordance with the Payment Mechanism Schedule of the Contract. Costs on this line have increased by an inflationary amount from the previous year.

Line 8 - Unitary charge variable (No change to methodology)

The Unitary Charge Variable Charge applies to all three PPP Contracts. The data used is derived from the invoices received from the Contractor which set out the Unitary Charge Variable Charge claimed. There are no payments in respect of the Ballynacor Sludge Facility and the Duncrue St Sludge Facility, rather a payment in respect of the Sludge Disposal Services.

In total, costs on this line have increased by 8.1% from the previous year, driven by a combination of inflation and flow variations in the year. In terms of flow variations, the movements are as follows:

Alpha – variable costs have increased by 6.3% (vs in AIR20), DI increased by 2.7% (265.7 ML/D vs 258.6ML/D in AIR20).

Omega – variable costs have increased by 1.2% (vs in AIR20). This is made up of costs in relation to waste water and Sludge Disposal Services (SDS) as follows:

- Waste water - flows were fairly consistent with 2019/20, reducing by 0.8% (35.3 Mm3 vs 35.6 Mm3 in AIR20). There was a 4.9% rise in variable costs (vs in AIR20) partly relating to indexation of charges.

- SDS – sludge volumes were also fairly consistent with the previous year, reducing by 0.7% (41.1k TDS vs 41.4k TDS in AIR20). There was a 3.5% fall in variable costs (vs in AIR20)

Line 9 - Unitary charge deductions

By contract definition, where the PPP Contractors invoice to an amount higher than the amount payable in accordance with the relevant Payment Mechanisms, the variance becomes a disputed amount. The Company recognises the disputed amount as an outstanding liability until such time as the Parties choose to have the dispute determined, or agree an amount for payment with credit note issued for closure as appropriate.

Alpha

The Alpha Contractor, through engagement, invoices to the agreed amount which includes the relevant Performance Deductions. These Deductions are in accordance with the Payment Mechanism for failure events identified and can be separated by Facility (Scheme) as per the Payment Mechanism. Performance deductions in the reporting year were , a decrease of on the prior year amount of .

Omega

No credits for performance deductions have been received in the reporting year.

Kinnegar

No credits for performance deductions at Kinnegar have been received in the reporting year.

Line 10 - Atypical expenditure

Alpha (£0.632m)

	£m
Quality Monitoring Change credit	-0.497
EIB Step-down	-0.090
Refund in respect of reorganisation costs	-0.066
Operational costs repayable	0.041
Performance deductions	-0.020
Total	**-0.632**

- As a result of the Quality Monitoring Change to the Contract an amount is deducted from the Alpha monthly invoice to reflect the reduced costs from lab services being carried out in house by NIW. The deduction amounted to £0.497m in the reporting year.
- In 2019/20 a reduction of £0.090m was realised in the unitary charge tariffs resulting from the EIB step-down. This was a pre-set change in the 45% finance provided by EIB, conditional upon achieving operational performance and Special Purpose Company (SPC) debt cover ratio targets.
- An agreement is in place to provide for a change in unitary charge arising from the lower number of TUPE transferees than that anticipated at financial close. The parties have agreed to reflect the variance in semi-annual Project Costs as per the Financial Model by making adjustments in the monthly invoice at the end of each Semi Annual Period. To this extent the repayments made in the reporting year were £0.066m.
- NIW Alpha Ltd incurred additional operating costs in relation to the Authority Change for MCPA Feasibility Study. These costs were repaid to DWL. This costs relate to additional PAC expenditure by NIW Alpha Ltd in the 2018-19 and 2019-20 years.
- Credit notes were received in the 2020/21 year from DWL in respect of the 2019/20 year. These have been treated as atypical as they do not relate to the current year.

Kinnegar ([redacted])

	£m
CSP settlement	[redacted]
Early Debt Repayment	[redacted]
Total	[redacted]

- CSP settlement relates to a payment dispute relating to historic invoices.
- Early debt repayment relates to additional costs incurred by NI Water as a result of the contractor's early settlement of their senior debt. These amounts have been withheld by NI Water and remain in dispute.

Omega ([redacted])

	£m
North Down & Ards Disinfection Change	[redacted]
Supplemental 4 agreement	[redacted]
Change in calibration frequency	[redacted]
Out of spec sludge (OOSS)	[redacted]
Performance deductions	[redacted]
Total	[redacted]

- The North Down Disinfection Change implemented in Sept 2011 resulted in a [redacted] efficiency saving in the reporting year. This was a Service Level Adjustment change in treated effluent performance requirements to reflect the lower standards of the Water Order Consent.
- As a result of Omega Supplemental Agreement 4, executed in 2011/12, an amount is deducted from the monthly invoice to reflect the change in wastewater flow management performance requirements. The deduction amounted to [redacted] in the reporting year.
- During 2013/14 a service level change was implemented relating to the frequency of calibration of the Sludge Cake Weighbridge at Duncrue St. This resulted in a [redacted] saving in the reporting year.
- [redacted] was accrued in relation to the cost of OOSS. This included [redacted] in relation to the reporting year and a release of [redacted] in relation to previous years.
- [redacted] of performance deductions were released in the current reporting year. These were in relation to disputed amounts held and related to periods between Oct-19 and Jul-18.

Line 11 - Efficiency Gains

The Company has transferred the cost risk of service provision (other than where relating to a Change in Law) to the Concessionaires, excluding the cost of electricity in Alpha and Omega. In so doing, the Concessionaires carry the downside risk of costs materializing and the benefits where they do not. The Company does not have the right to cost savings for **the same level of service** where the contractor has internally identified means of securing such savings.

Post procurement any reduction in the Company PPP Unitary charge costs (whether identified by the Company or the Concessionaires) emanate only from a Change in the level of service.

The following Changes for cost reduction have resulted in efficiency gains in the reporting year against the baseline contract at award:

Alpha (£0.563m)

The reorganisation costs credit (£0.066m), quality monitoring change (£0.497m) all detailed above are efficiency gains arising in the reporting year.

Omega ([redacted])

The North Down Disinfection Change implemented in Sept 2011 resulted in a [redacted] efficiency saving in the reporting year.

Supplemental Agreement 4 executed in 2011/12 reflecting a change in wastewater flow management performance requirements resulted in a [redacted] deduction in the reporting year.

The change in weighbridge calibration frequency implemented in 2013/14 resulted in £0.020m of savings.

Kinnegar

No Contract Changes for cost reduction have been implemented during the Reporting Period.

Line 13 - Capital repayments

This line reflects the element of unitary charge payments allocated as capital repayments of the finance lease creditor. The data is consistent with the Company's financial accounts. The site split of the capital repayment is calculated as follows:

Alpha:

Capital Repayment and Interest	Capacity Charge by Site	Capital Maint	Capacity Charge less Cap Maint	Pro Rata Interest	Pro Rata Capital
Dunore Point	5,468	568	4,900	1,773	996
Castor Bay	4,911	481	4,430	1,603	900
Moyola	2,244	201	2,043	739	415
Ballinrees	2,977	265	2,712	982	551
Ballymoney LM	582		582	211	118
Limavady LM	706		706	255	143
CB to FB LM	711		711	257	144
	17,598	1,516	16,082	5,821	3,268

Figures may not add up due to rounding differences.

Omega:

Allocation of capital repayment & interest	Initial Capital	Capital Repayment	Interest
Richill	[redacted]	[redacted]	[redacted]
Armagh			
Ballynacor			
NDA			
Ballyrickard			
SDS			

Figures may not add up due to rounding differences.

The above tables are extracted from an excel spreadsheet with totals based on rounded values.

Line 14 - Capital maintenance

Capital maintenance is allocated straight line across the life of the contracts following a change implemented in 2013/14. This correctly reflects that the unitary charge does not fluctuate with changes in the capital maintenance spend in any year. This straight line amount has been allocated to the sites on the basis of the total amounts included in the original financial models as follows:

Alpha:

Capital Maintenance	To End per Fin Model	After Indexation	2020/21
Dunore Point	6,407	10,510	568
Castor Bay	5,429	8,904	481
Moyola	2,272	3,727	201
Ballinrees	2,985	4,897	265
	17,094	28,037	1,516

Figures may not add up due to rounding differences.

Omega:

Allocation of Capital Maintenance	Capital Maint	Capital Maintenance
Richill	[redacted]	[redacted]
Armagh		
Ballynacor		
NDA		
Ballyrickard		
SDS		

Figures may not add up due to rounding differences.

The above tables are extracted from an excel spreadsheet with totals based on rounded values.

Line 16 - Atypical payments capitalised

Nil

Line 19 - Interest

On adoption of IFRS in regulatory reporting in 2018/19, all contracts are now on-balance sheet and for each, the Company has recognised a finance lease creditor on its balance sheet. Entries to this line represent the notional interest on the finance lease. The data is consistent with the Company's financial accounts. See line 13 above for site allocation workings.

Additional Information

A breakdown of the accruals / intercompany balances included in the year end accounts in relation to each of the PPP contracts is as follows:

	Alpha	Omega	Kinnegar	Total
	£m	£m	£m	£m
Unitary Charge	1.651	[redacted]	[redacted]	[redacted]
Disputed Amts	0.000			
Claims	0.000			
Other	0.000			

Of the [redacted] included for Omega, [redacted] relates to the outstanding monthly unitary charge invoice for March unpaid at 31 March 2021. Also included in this amount is [redacted] of additional unitary charge arising from the Ballynacor TDS mandatory contract change which became effective from 1 April 2010 and was agreed during 2013/14.

In relation to Omega disputed amounts, [redacted] was repaid to the contractor during the reporting year and an additional [redacted] of payments withheld. The [redacted] for Kinnegar relates additional costs arising due to the contractors' early debt redemption.

Line 21 - Distribution input

Data has been updated to reflect the methodology in Table 10 Line 26, where the variance in demand from the PPP sites placed by the Company, along with the variation in total water into distribution delivered by the Company contrive to give a new calculated figure for the individual sites and the Alpha contract as a whole. As a reassurance, the Ballinree's WTW Distribution Input for AIR20 was 10,252 Ml while the Distribution Input for AIR21 was 10,544 Ml which resulted in 28.01 Mld average to supply during AIR20 and 28.89 Mld average to supply in AIR21. Please refer to Line 27 for further commentary on Ballinrees APH.

Line 21a – Water treatment works capacity

There has been no change to the minimum required capacity of the Alpha WTW under the contract.

Line 22- Length of mains

This data has not changed since AIR20.

Lines 23 – 24 - Turbidity

COVID-19

Please be aware that during 2020 due to the ongoing COVID-19 pandemic, with the agreement of the Drinking Water Inspectorate (DWI), NI Water reduced potable water sampling as part of the plan to protect staff and customers, whilst maintaining assurance that there was no risk to public health from public water supplies.

This included the cessation of all sampling at customer taps with effect from 16th March 2020, with a reduced number of parameters sampled upstream at Service Reservoirs.
From 18th May 2020 sampling returned to the regulatory frequencies, with the exception of a small number of parameters which are customer tap specific.

Customer tap sampling remains at designated Service Reservoirs or other identified fixed point locations.

This has created a shortfall in regulatory sampling at customer tap for the calendar year 2020.

During the period however, NI Water maintained full sampling and analysis at its Water Treatment Works and downstream Service Reservoirs as per regulatory requirements.
This along with customer tap samples taken at designated fixed points in the distribution system, ensured that the quality of water supplied to our customers was effectively monitored and maintained throughout the period.

Background – Year on Year

During the period 2005 to date, a number of non-compliant water treatment works (WTWs) and small sources have either been completely replaced with new works, or else taken out of service as and when a replacement supply is available. During 2008, 5 existing major WTWs were replaced/upgraded as part of the Alpha PPP project. This contributed to the closure during 2009 of 6 non-compliant small water treatment works/sources.

During 2010 a further 2 non-compliant small water treatment works/sources were also closed. However, these were temporarily reinstated during the 2010-11 freeze/thaw incident to supplement strained water supplies.

During 2011 a further 3 non-compliant small water treatment works/sources were also closed.

During 2016 one further non-compliant small water treatment works was also closed.

At the end of 2016, the WTWs in service were stabilised with 19 NIW sites and 5 PPP, however as W3315P Forked Bridge is solely classified as a WTW due to pH modification, this site may be downgraded in the future to a service reservoir if this equipment is decommissioned.

The guidance now requires that the PPP sites are solely assessed in this table.

The calculations were carried using the following data criteria:

- Only scheduled audit final water samples lifted to meet Water Supply regulatory requirements during the calendar year were used, and using accredited laboratory analyses rather than onsite analyses.
- Only those WTWs which had more than 11 months' worth of data, or had temporary out of service gaps were included. This led to no PPP sites being excluded.

2020 PPP WTW Included in calculations

WTW Code	WTW Name	Turbidity 95 %ile	95 %ile >= 0.5	No of Samples >= 0.5 NTU
W1301P	Moyola PPP	0.238	0	0
W1701P	Ballinrees PPP	0.308	0	3
W2308P	Castor Bay PPP	0.270	0	1
W3301P	Dunore Point PPP	0.200	0	0
W3315P	Forked Bridge PPP	0.250	0	2

Line 25 – Source type

This data had changed in AIR13 to reflect the NI Water opinion that Ballinrees WTW should define three sources i.e. Ballinrees IR, Altikeeragh IR and an intake from the River Bann. All other WTW defined Sources remain unchanged from AIR 15. The changes have been reflected in Table 12.

Line 26 – Treatment type

No change to the data since AIR19.

Line 27 – Average pumping head

The APH for 'Alpha Total' and 'Water Services Total' has complied with the requirements of Table 42 Line 27 guidance notes, wherein the Company use the PPP Distribution Input

utilised in AIR21. The static heads at the receiving reservoirs remain unchanged each year, therefore the only changeable head input is the dynamic head as a result of the volumes pumped. The dynamic head is confirmed each year during pump efficiency tests across a range of flows to determine the figure to be used for AIR reporting purposes. While the DI for Ballinrees WTW has increased from the AIR20 level [DI for AIR20 was 10,252 Ml; DI for AIR21 was 10,544 Ml which equates to 28.01 Mld average to supply during AIR20 and 28.89 Mld in AIR21. The AIR21 period was wetter than AIR20 which would have favoured upland sources usage in favour of pumped abstractions, this would benefit NI Water's energy efficiency. The Ballinrees Output B2 average flow has reduced from 5.68 Ml/d to 5.57 Ml/d [pumped flow to Break Pressure Tank at Moys Service Reservoir – 117m head lift] The reduction in B2 flow contributes less to the overall head at site and was of a similar magnitude to the overall reduction from the WTW.

Lines 28 – 29 – Sewerage data

No Change from AIR20 data.

Line 30 – population equivalent of total load received

Variation in calculated PE stems from variation in the measured sewage loads delivered to the sites by the Company, being the only variable part of the PE calculation.

Line 31 - Load received by STW's

Variation in calculated load stems from variation in the measured sewage loads delivered to the sites through the Company's sewer network.

Lines 32 – 36 - Consents

There have been no material changes to the Water Order Consents.

Line 37 - Classification of treatment works

No change to the treatment Facility classifications since AIR17.

Line 38 - Size band of sewage treatment works

Richhill WwTW remains classified as a size band 4 works in accordance with the criteria.

Line 39 - Total sludge imported from NI Water

From the 31 March 2010 the Omega Contractor has assumed responsibility for disposal of all NI Water sludges. The total Sludge imported from NI Water operated WWTW is recorded as 34.689 TTDS for the AIR21 period (last year the figure was 35.387 TTDS). The Kinnegar WwTW input is not included in this figure.

Lines 40 - Sludge produced by the PPP facility

Whilst the total sludge production recorded against each PPP contract and PPP as a whole is consistent with last year's records, the records for each of the individual Omega sites are different from those recorded in AIR20. The reporter also requested that an estimate of the re-cycled solids from the Incinerator be produced, this has equated to 3.884 ttds [very little accuracy involved with this assumption] and was returned via Duncrue WwTW for further processing [See Table 15 Line 17 Commentary].

The variations are tabulated below;

PPP Production	AIR21	AIR20	AIR19	AIR18	AIR17	AIR16	AIR15	AIR14	AIR13	AIR12	AIR11
Armagh WWTW	0.537	0.506	0.486	0.534	0.605	0.535	0.579	0.547	0.535	0.570	0.759
Richhill WWTW	0.070	0.066	0.067	0.068	0.071	0.071	0.063	0.071	0.065	0.066	0.213
Ballynacor WWTW	2.398	2.607	2.307	1.882	1.739	1.564	2.269	2.007	2.069	3.330	2.468
Ballyrickard WWTW	1.107	1.140	1.150	1.246	1.293	1.064	1.337	1.126	1.158	1.225	1.627
NDA WWTW	1.661	1.687	1.514	1.629	1.656	1.818	1.633	1.920	1.628	1.559	1.753
Kinnegar WWTW	0.580	0.699	0.805	0.331	0.302	0.501	0.668	0.643	0.726	0.823	0.792
Omega Screenings/Grit	0.156	0.141	0.220	0.233	0.206	0.083	0.083	0.088	0.106		
Kinnegar Screenings/Grit	0.029	0.030	0.033	0.035	0.058	0.049	0.057	0.047	0.022		
Totals	**6.538**	**6.876**	**6.582**	**5.958**	**5.930**	**5.685**	**6.689**	**6.449**	**6.309**	**7.573**	**7.612**

The changes in sludge production [shown below in graphical form below] records data for Omega reflect a probable combination of:

(i) Cumulative tolerances in the representative nature of dry solids sampling and flowmeter accuracy (particularly on smaller sites)

(ii) a mix of improved methodologies and record keeping systems for liquid and cake movements (as demanded by the Omega contract payment processes) implemented by end of AIR11, and

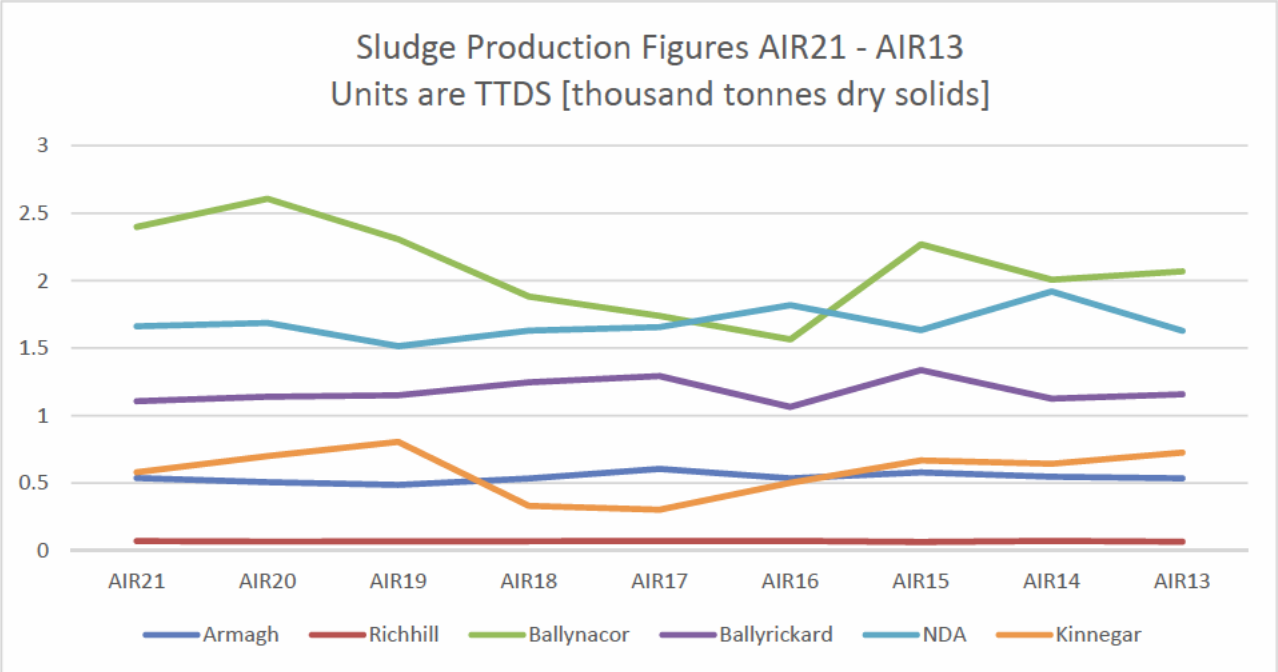
(iii) the loads delivered to the PPP contractor from the NI Water sewer network, outside the PPP contractor's control, and

(iv) The timing of data capture, where prolonged dry periods can have a fluctuating effect from year to year on absolute values.

One notable exception to the trend is Ballynacor WwTW, which presents a clear downward trend displaying a decrease from the previous year, but more in common with previous years. Given the treatment processes have not changed in the same overall period and effluent compliance has been maintained, it can be deduced the overall loading on the WwTW decreased from within the catchment and/or from tankered imports, and had recently shown signs of recovery. This is supported by the data behind Line 2 (Load Receiving Secondary Treatment). The effects of the Covid-19 pandemic on trade in this catchment are possibly included here.

The other notable exception is Kinnegar WwTW where there is a further downward trend due to no sludge cake being produced during January 2021 to start of March 2021 caused by Sludge Transfer Pump failure. Severe difficulties were experienced in replacement pumps being sourced being due to the Brexit influence. The installed Centrifuge is now processing the Sludge produced by the site and additionally eradicating the retained volume of Sludge due initially to the protracted Centrifuge provision and now this issue with Sludge Transfer Pumps.

Refer to Table 15 Commentary for a fuller explanation.



Line 41 - Sludge exported to Duncrue Incinerator

Variances are accounted for in Line 40 commentary above.

Line 42 - Sludge exported to other PPP facilities

No change from AIR20.

Line 43 - Sludge exported to NI Water

No change from AIR20.

Lines 44 - Sludge disposed of from site to - Farmland Untreated

Nil disposal arising from the Contractor's choice of alternative compliant disposal routes.

Lines 45 - Sludge disposed of from site to - Farmland Conventional

Nil disposal, arising from the Contractor's choice of alternative compliant disposal routes.

Lines 46 - Sludge disposed of from site to - Farmland Advanced

A full year service resulted in 0.707 TTDS arising from the Contractor's choice of alternative compliant disposal routes. This is at variance from the 1.547 TTDS report in AIR20.

Lines 47 - Sludge disposed of from site to - Incineration

A full year service resulted in 39.764 TTDS being incinerated as the contractor's preferred method of disposal, this being a slightly larger amount than reported in AIR20 [39.388 TTDS].

Lines 48 - Sludge disposed of from site to - Landfill

A full year service resulted in 0.185 TTDS [0.156 TTDS Omega and 0.029 TTDS Kinnegar] arising from the Contractor's choice of alternative compliant disposal routes. The value represents only both PPP Contractors sludges arising from grit and/or screenings removed directly from the sites to landfill; which is larger than that 0.171 TTDS reported in AIR20.

Lines 49 - Sludge disposed of from site to - Composted

A full year service resulted in 0.129 TTDS arising from the Contractor's choice of alternative compliant disposal. AIR20 reported a disposal of 0.000 TTDS.

Lines 50 - Sludge disposed of from site to - Land Reclamation

A full year service resulted in 0.503 TTDS arising from the Contractor's choice of alternative compliant disposal routes. AIR20 reported a disposal of 0.460 TTDS.

Lines 51 - Sludge disposed of from site to - Other (Willow Coppice)

A full year service resulted in 0.000 TTDS arising from the Contractor's choice of alternative compliant disposal routes. AIR20 reported a disposal of 0.000 TTDS.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN- TABLE 43 PPP REPORTING
PPP REPORTING - OPERATIONAL COSTS

	DESCRIPTION	UNITS	DP	Corresponding Report	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	SCHEME	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
A	PROJECT DESCRIPTION				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	PPP Concession			na	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Alpha	Kinnegar	Omega	Omega	Omega	Omega	Omega	Omega	Omega	Omega	Alpha	Kinnegar	Omega	Water Service	Sewerage Service
2	Service Area			na	WT	WT	WT	WT	WD	WD	WD	WWT	WWT	WWT	WWT	WWT	WWT	WWS	WWS	WWS	All	All	All		
3	Name of works			na	Balinrees	Castor Bay	Dunore Point	Moyola	DBFO LM	Ballymoney LM	Limavady LM	Kinnegar	Richhill	Armagh	Ballynacor Craigavon	North Down	Ballyrickard	Ballinacor Lagoons	Ballynacor	Duncrue	Total	Total	Total	Total	Total
B	PPP INFORMATION																								
4	Payment to Concessionaire	£m	3	Table 42 Line 12	3.434	6.481	6.843	2.556	0.711	0.582	0.706	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	20.681	[redacted]	[redacted]	20.681	[redacted]
5	Payment by Concessionaire to Operating Company	£m	3		1.559	2.714	2.802	0.948	0.000	0.000	0.000	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	8.023	[redacted]	[redacted]	8.023	[redacted]
C	DIRECT COSTS TO NI WATER																								
6	Power	£m	3		0.734	2.372	2.062	0.432	0.000	0.000	0.000	0.000	0.043	0.126	0.760	1.108	0.243	0.000	0.108	1.315	5.600	0.000	3.703	5.600	3.703
7	Other direct costs	£m	3		0.060	0.010	0.010	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.089	0.000	0.000	0.089	0.000
8	Total direct costs	£m	3	sum 6 + 7	0.794	2.382	2.072	0.441	0.000	0.000	0.000	0.000	0.043	0.126	0.760	1.108	0.243	0.000	0.108	1.315	5.689	0.000	3.703	5.689	3.703
9	General and support expenditure	£m	3		0.010	0.010	0.010	0.010	0.010	0.009	0.009	0.032	0.024	0.024	0.025	0.025	0.025	0.000	0.025	0.025	0.068	0.032	0.173	0.068	0.205
10	Total functional expenditure	£m	3	sum 8 + 9	0.804	2.392	2.082	0.451	0.010	0.009	0.009	0.032	0.067	0.150	0.785	1.133	0.268	0.000	0.133	1.340	5.757	0.032	3.876	5.757	3.908
D	OPERATING EXPENDITURE - NI WATER																								
11	Scientific services	£m	3		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.002	0.003	0.007	0.002	0.004	0.000	0.000	0.073	0.000	0.014	0.091	0.000	0.105
12	Rates	£m	3		0.810	3.209	3.073	0.428	0.000	0.000	0.000	0.217	0.024	0.141	0.460	0.153	0.121	0.000	0.120	0.171	7.520	0.217	1.190	7.520	1.407
13	Estimated terminal pumping costs	£m	3									0.000	0.000	0.000	0.164	0.305	0.000	0.000	0.000	0.000		0.000	0.469		0.469
14	Estimated sludge costs	£m	3									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.253	8.508		0.000	8.761		8.761
E	TOTAL PPP OPERATING EXPENDITURE																								
15	Total PPP operating expenditure	£m	3	Sum 5, 10, 11 and 12	3.173	8.315	7.957	1.827	0.010	0.009	0.009	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	21.300	[redacted]

Table 43 - PPP Reporting – Operational Costs

Preface

The Company highlights that on the 19 November 2017 a newly formed hold company subsidiary, NIW Clear Ltd, acquired sole ownership of both the Alpha PPP Contractor (Dalriada Water Ltd) and the Alpha PPP Operating Company (Kelda Water Services Alpha Ltd). These entities were acquired through a competitive bid process conducted by the previous owners, Kelda Water Services Ltd, which commenced in December 2016, following Kelda's announced sale of all their UK PPP/PFI water and energy commitments in September 2016. Post-acquisition, the contractual arrangements between the parties, including the senior lenders, has remained in place. There are no plans to collapse the Alpha PPP contract.

The reporting arrangements in Table 43 below remain unaffected by the acquisition and subsequent continuation of the existing commercial arrangements."

Note: As the atypical expenditure, efficiencies and performance deductions (Omega) were not divisible by site the cross tot on line 4 for Alpha and Omega will not agree – the total included in the total column is correct for the Payments to the Concessionaire.

Line 4 – Payment to concessionaire

The figures on this line are taken directly from Line 12 of Table 42 and any significant changes from the previous year have been commented on in the Table 42 commentary.

Alpha

The data is derived from the Contractors monthly invoice and can be split on a site-by-site basis and in each case represents the sum of the Unitary Charge payments (Capacity + Variable – Deductions) agreed with the Contractor. It also includes atypical amounts as follows:

	£m
Quality Monitoring Change credit	-0.497
EIB Step-down	-0.090
Refund in respect of reorganisation costs	-0.066
Operational costs reimbursed	0.041
2019/20 credit notes	-0.020
Total	**-0.632**

Kinnegar

The data is provided as an aggregate of the monthly invoiced amounts by the Contractor to the Company. It includes atypical amounts as follows:

	£m
CSP settlement	[redacted]
Early Debt Repayment	[redacted]
Total	[redacted]

Omega

The data is provided as an aggregate of the monthly invoiced amounts by the Contractor to the Company in respect of the Services. It includes the disputed amounts where the Contractor has not recognised the Performance Deductions made by the Authority and has not provided a credit note to the original invoice. During the reporting year no performance deductions were recognised by the contractor. In addition this line includes atypical amounts as follows:

	£m
North Down & Ards Disinfection Change	[redacted]
Supplemental 4 agreement	
Change in calibration frequency	
Out of spec sludge (OOSS)	
Performance deductions	
Total	

Line 5 - Payment by concessionaire to operating company

Alpha

This figure is equal to the figure quoted in Line 22a of Table 21. This figure will vary from year to year depending upon volumes of water dispatched, changes in the volumetric charge, deductions incurred and indexation, all of which flow from Authority through the Contractor to Operating Company.

Omega

This figure is equal to the figure quoted within Line 21a of Table 22. This figure will vary from year to year depending upon volumes of wastewater delivered, change in sludge volumes delivered for disposal, deductions incurred and indexation. The charge for Sludge Treatment has increased slightly during AIR21 [redacted] compared with AIR20 [redacted] and this may partly relate to the increase in Sludge processed, albeit it has remained largely the same [AIR21 – 41.3 TTDS; AIR20 – 41.5 TTDS]. However, the payments from Concessionaire to Operating Company are commercial sub-contracting arrangements upon which the Company can only speculate.

Kinnegar

This figure is equal to the figure quoted within Line 21a of Table 22. This figure will vary from year to year depending upon volumes of wastewater delivered, change in load delivered, deductions incurred and indexation, all of which flow from Authority through the Contractor to Operating Company.

Line 6 - Power

Power costs reported on this line reflect a facility breakdown of the power costs included in Tables 21 and 22. This is taken directly from MPRN references and location codes in the Oracle system. In respect of the Kinnegar Concession, the power costs are paid by the operating company from the monthly payment from the Concessionaire.

Line 7 - Other direct costs

This line includes the cost of abstraction licences at each of the PPP Alpha sites. There are no other direct costs for Kinnegar or Omega.

Line 9 - General and support expenditure

General and support costs have been calculated using costs attributable to the P101 cost centre. These costs have been allocated by project on the basis of percentage time spent by each staff member working on each project and in the case of consultancy based on actual invoices received. Costs were then allocated straight line across the number of sites included within each concession. No work giving rise to a general and support expenditure allocation was carried out on the Ballynacor Lagoons site during the year hence no costs have been attributed to this site.

Line 11 - Scientific services

Scientific services costs have been allocated to PPP sites on the basis of the percentage of samples attributable to each PPP site, an allocation of staff costs based on actual hours and operational contractor costs on the basis of estimated cost per site visit.

Line 12 - Rates

Alpha

Rates at water supply sites are based on water volumes. In order to allocate a proportion of the rates bill to the Alpha sites the volume of water supplied at each PPP site was taken as a percentage of the total NIW water supplied and this figure was multiplied by the total NIW rates cost.

Kinnegar

Kinnegar rates charge was taken directly from the rates bill.

Omega

The rates figure for each of the Omega sites was taken directly from rates bills. The bill for the Duncrue site was allocated between PPP and NIW in line with the total area of the site occupied by PPP, which has estimated as 15% of the Duncrue site. The Ballynacor site rates have been split on a 65:35 wastewater to sludge split.

Line 13 - Estimated terminal pumping costs

This line reflects the power costs associated with Seagoe, Bullay's Hill (Ballynacor facility) and Briggs Rock, Millisle and Donaghadee (North Down Facility). These were derived from the Oracle system using the location code for each site.

Line 14 - Sludge costs

This line reflects the costs associated with the PPP sludge facilities at Duncrue Street and Ballynacor. It totals the costs included at line 5, 10, 11 and 12.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 44 OPA INPUT DATA
OVERALL PERFORMANCE ASSESSMENT

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**WATER SUPPLY**																				
	DG2 PROPERTIES RECEIVING PRESSURE/FLOW BELOW REFERENCE LEVEL																				
1	Total connected properties at year end	nr	0	817,960	A2	824,974	B2	828,060	A2	839,710	A2	852,399	A2	862,988	A2	874,307	A2	883,423	A2	892,910	A2
2	Properties below reference level at end of year	nr	0	1,420	B3	1,257	B3	1,082	B3	900	B3	862	B3	711	B3	719	B3	626	B3	578	B3
3	% of total properties at risk of low pressure (OPA Low pressure value)	%	2	0.17	B3	0.15	B3	0.13	B3	0.11	B3	0.10	B3	0.08	B3	0.08	B3	0.07	B3	0.06	B3
	DG3 PROPERTIES AFFECTED BY UNPLANNED INTERRUPTIONS																				
4	More than 6 hours	nr	0	10,487	B3	6,742	B3	43,767	B3	8,699	A3	5,128	A3	6,097	A3	3,509	A3	6,157	A3	1,834	A3
5	More than 12 hours	nr	0	2,607	B3	1,195	B3	25,693	B3	841	A3	494	A3	861	A3	308	A3	751	A3	0	A3
6	More than 24 hours	nr	0	1,554	B3	12	B3	13,788	B3	32	A3	0	A3		A3	0	A3	23	A3	0	A3
7	Total connected properties at year end	nr	0	817,960	A2	824,974	B2	828,060	A2	839,710	A2	852,399	A2	862,988	A2	874,307	A2	883,423	A2	892,910	A2
8	OPA supply interruption value	nr	2	1.98	B3	0.97	B3	11.72	B3	1.14	A3	0.66	A3	0.81	A3	0.44	A3	0.79	A3	0.21	A3
	DRINKING WATER QUALITY																				
9	% iron compliance at consumers tap	%	2	97.36	A1	98.28	A2	98.90	A2	98.40	A2	98.66	A2	98.85	A2	98.94	A2	98.89	A2	99.56	A2
10	% manganese compliance at consumers tap	%	2	99.83	A1	99.79	A2	99.82	A2	99.89	A2	99.84	A2	99.90	A2	99.95	A2	99.90	A2	100.00	A2
11	% aluminium compliance at consumers tap	%	2	99.59	A1	99.60	A2	99.80	A2	99.25	A2	99.36	A2	99.79	A2	99.74	A2	99.40	A2	99.29	A2
12	% turbidity compliance at consumers tap	%	2	99.70	A1	99.84	A2	99.85	A2	99.73	A2	99.95	A2	100.00	A2	100.00	A2	99.95	A2	100.00	A2
13	% faecal coliforms compliance at consumers tap	%	2	99.89	A1	99.86	A2	99.99	A2	99.98	A2	100.00	A2	99.94	A2	100.00	A2	99.98	A2	100.00	A2
14	% trihalomethanes compliance at consumers tap	%	2	97.50	A1	98.50	A2	99.00	A2	99.74	A2	96.94	A2	98.48	A2	99.48	A2	99.00	A2	100.00	A2
15	Average overall compliance figure (Drinking Water Quality OPA value)	nr	2	98.98	A1	99.31	A2	99.56	A2	99.50	A2	99.13	A2	99.49	A2	99.69	A2	99.52	A2	99.81	A2
B	**SEWERAGE SERVICE**																				
	DG5 SEWER FLOODING - OVERLOADED																				
16	Flooding incidents in the year (overloaded sewers)	nr	0	189	B2	6	B2	29	B2	4	B2	3	B2	0	B2	0	B2	0	B2	0	B2
17	Flooding incidents (overloaded sewers attributed to severe weather)	nr	0	181	B2	5	B2	3	B2	1	B2	2	B2	0	B2	7	B2	0	B2	3	B2
18	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.0	A2	638.1	A2	648.6	A2	657.9	A2	668.3	A2	677.1	A2	685.0	A2
19	% of domestic properties flooded by overloaded sewers (Overloaded sewers OPA value)	%	4	0.0013	B2	0.0002	B2	0.0041	B3	0.0005	B3	0.0002	B2	0.0000	B2	-0.0010	B2	0.0000	B2	-0.0004	B2
	DG5 SEWER FLOODING - OTHER CAUSES																				
20	Flooding incidents (other causes - equipment failures)	nr	0	15	B2	14	B2	2	B2	1	B2	1	B2	0	B2	2	B2	4	B2	0	B2
21	Flooding incidents (other causes - blockages)	nr	0	22	B2	36	B2	38	B2	34	B2	38	B2	26	B2	17	B2	6	B2	11	B2
22	Flooding incidents (other causes - collapses)	nr	0	4	B2	5	B2	12	B2	3	B2	8	B2	7	B2	4	B2	14	B2	5	B2
23	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.0	A2	638.1	A2	648.6	A2	657.9	A2	668.3	A2	677.1	A2	685.0	A2
24	% of domestic properties flooded by other causes (Other causes OPA value)	%	4	0.0066	B2	0.0088	B2	0.0083	B3	0.0060	B3	0.0072	B2	0.0050	B2	0.0034	B2	0.0035	B2	0.0023	B2
	DG5 PROPERTIES ON THE FLOODING REGISTER																				
25	2 in 10 register at end of year	nr	0	39	B2	62	B2	60	A2	59	B2	61	B2	57	B2	57	B2	55	B2	50	B2
26	Problems solved due to ESI, funding	nr	0	20	A1	3	B2	5	A2	3	B2	3	B2	6	B2	4	B2	1	B2	10	B2
27	1 in 10 register at end of year	nr	0	10	B2	8	B2	8	A2	7	B2	6	B2	4	B2	2	B2	2	B2	0	B2
28	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.0	A2	638.1	A2	648.6	A2	657.9	A2	668.3	A2	677.1	A2	685.0	A2
29	% of domestic properties considered to be at risk of flooding by sewage (At risk OPA value)	%	4	0.0088	B2	0.0110	B2	0.0110	A2	0.0103	B2	0.0103	B2	0.0099	B2	0.0093	C2	0.0084	B2	0.0088	B2
C	**SECURITY OF SUPPLY**																				
	DG4 HOSEPIPE RESTRICTIONS																				
30	Hosepipe retrictions (OPA value)	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	264	B2	0	A1	0	A1
	LEAKAGE																				
31	Leakage (Target)	nr	2	168.00		169.00		165.00		163.00		161.00		159.00		157.00		155.00		153.00	
32	Leakage (Actual)	nr	2	161.75	B4	167.21	B3	165.99	B3	161.99	B3	163.43	B3	162.43	B3	160.14	B3	160.53	B3	157.71	B3
33	% of leakage target not met (Leakage OPA value)	nr	2	0.00	B4	0.00	A1	0.00	B3	0.00	B3	0.49	B3	0.99	B3	1.85	B3	2.50	B3	2.80	B3
	SECURITY OF SUPPLY - ABSOLUTE PERFORMANCE																				
34	Security of supply index – company's actual based on planned level of service (Absolute performance OPA value)	nr	0	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	99	A2
	SECURITY OF SUPPLY - PERFORMANCE AGAINST TARGET																				
35	Security of supply index - planned (target) levels of service	nr	0	97	A2	97	A2	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2
36	Security of supply index - company's actual based on planned level of service	nr	0	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	100	A2	99	A2
37	% of target not met (Performance against target OPA value)	%	2	0.00	A2	0.00	A2	0.00	A2	0.00	A2	0.00	A2	0.00	A2	0.00	A2	0.00	A2	1.00	A2
D	**CUSTOMER SERVICE**																				
	DG6 - RESPONSE TO BILLING CONTACTS																				
38	Number dealt with within 5 working days	nr	0	77,118	B2	78,398	B2	75,520	B2	75,462	B2	77,679	B2	71,386	B2	77,010	B2	53,928	B2	42,968	B2
39	Total billing contacts	nr	0	77,051	B2	78,463	B2	75,545	B2	75,490	B2	77,698	B2	71,409	B2	77,016	B2	53,942	B2	42,975	B2
40	% of billing contacts answered within 5 working days (DG6 OPA value)	%	2	100.09	B2	99.92	B2	99.97	B2	99.96	B2	99.98	B2	99.97	B2	99.99	B2	99.97	B2	99.98	B2
	DG7 - RESPONSE TO WRITTEN COMPLAINTS																				
41	Total written complaints	nr	0	3,173	B2	2,505	B2	2,364	B2	2,269	B2	2,375	B2	2,274	B2	2,133	B2	1,958	B2	1,885	B2
42	Number dealt with within 10 working days	nr	0	3,166	B2	2,498	B2	2,363	B2	2,266	B2	2,375	B2	2,271	B2	2,133	B2	1,957	B2	1,883	B2
43	% of written complaints answered within 10 working days (DG7 OPA value)	%	2	99.78	A1	99.72	A1	99.96	A1	99.87	A1	100.00	A1	99.87	B2	100.00	B2	99.95	B2	99.89	B2
	DG8 - BILLING METERED CUSTOMERS																				
44	Company or customer readings (or both)	nr	0	66,622	A1	66,840	A1	66,916	A1	67,366	A1	68,051	A1	68,420	A1	68,621	A1	68,958	A1	69,206	A1
45	Total metered accounts	nr	0	110,164	A1	115,227	A1	118,732	A1	123,763	A1	127,807	A1	128,705	A1	129,387	A1	130,375	A1	130,887	A1
46	Metered accounts excluded from indicator	nr	0	42,688	A1	47,784	A1	51,214	A1	55,875	A1	59,428	A1	60,060	A1	60,542	A1	61,091	A1	61,137	A1
47	% of metered accounts which have meter based bills (DG8 OPA value)	%	2	98.73	A1	99.11	A1	99.11	A1	99.23	A1	99.52	A1	99.67	A1	99.67	A1	99.53	A1	99.22	A1
	DG9 TELEPHONE CONTACT																				
48	Total of calls not abandoned	nr	0	216,006	A2	223,256	A2	226,204	A2	209,284	A2	216,015	A2	211,061	A2	213,835	A2	196,289	A2	184,198	A2
49	Total calls received on customer contact lines	nr	0	219,399	A2	226,881	A2	230,847	A2	210,467	A2	217,023	A2	212,095	A2	215,011	A2	197,184	A2	188,658	A2
50	% calls not abandoned (0.25 of DG9 OPA value)	%	2	98.45	A2	98.40	A2	97.99	A2	99.43	A2	99.54	A2	99.51	A2	99.45	A2	99.50	A2	97.64	A2
51	All lines busy	nr	0	0	A2	0	A2	32	A2	159	A2	63	A2	18	A2	29	A2	44	A2	76	A2
52	% calls not engaged (0.25 of DG9 OPA value)	%	2	100.00	A2	100.00	A2	99.99	A2	99.92	A2	99.97	A2	99.99	A2	99.99	A2	99.98	A2	99.96	A2
53	Call Handling Satisfaction - not used	nr	2	4.54	A1	4.63	A1	4.65	A1	4.59	A1										
E	**ENVIRONMENTAL PERFORMANCE**																				
	POLLUTION INCIDENTS																				
54	Number of High & Medium category pollution incidents (Sewage)	nr	0	18	A1	26	A1	25	A1	21	A1	22	A1	20	A1	15	A1	13	A1	7	A1
55	Equivalent population served (resident)	000	2	2,107.96	C5	2,131.81	C5	2,110.77	C5	2,119.20	C3	2,098.83	C3	2,101.35	C3	2,265.55	C3	2,266.46	C3	2,335.81	C3
56	Number of High and Medium sewage incidents per million resident population equivalent (pe) served (H&M sewage incidents OPA value)	nr	2	8.54	C5	12.20	C5	11.84	C5	9.91	C5	10.48	C5	9.52	C3	6.62	C3	5.74	C3	3.00	C3
57	Number of Low category pollution incidents (Sewage)	nr	0	163	A1	188	A1	136	A1	117	A1	114	A1	109	A1	111	A1	85	A1	112	A1
58	Number of Low sewage incidents per million resident population equivalent (pe) served (Low sewage incidents OPA value)	nr	2	77.33	C5	88.19	C5	64.43	C5	55.21	C5	54.32	C5	51.87	C3	48.99	C3	37.50	C3	47.95	C3
59	Number of High & Medium category pollution incidents (Water)	nr	0	0	A1	0	A1	0	A1	0	A1	0	A1	0	A1	1	A1	0	A1	2	A1
60	Winter population	000	2	1,842.61	C2	1,850.54	C2	1,862.72	C2	1,874.73	C2	1,887.10	C2	1,896.46	C2	1,902.33	C2	1,914.49	C2	1,905.05	C2
61	Number of High and Medium water incidents per million resident population served (H&M water incidents OPA value)	nr	2	0.00	C5	0.00	C5	0.00	C5	0.00	C5	0.00	C5	0.00	C3	0.53	C3	0.00	C3	1.05	C3
	SEWAGE - SLUDGE DISPOSAL																				
62	Percentage unsatisfactory sludge disposal (Sludge disposal OPA value)	%	2	0.00	A2	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1	0.00	A1
	SEWERAGE SERVICE - BREACH OF CONSENT																				
63	WWTW Discharge consent % compliance (WWTW compliance OPA value)	%	2	1.10	C5	1.89	C5	1.54	C5	1.38	C5	1.08	C5	1.33	C5	0.60	C5	0.50	C5	0.50	C5

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 45 KEY OUTPUTS

ENERGY CONSUMPTION AND GREENHOUSE GAS ACCOUNTING

	DESCRIPTION	UNITS	DP	1 NIW	CG	2 PPP	CG	3 NIW Total	CG
A	**ELECTRICITY CONSUMPTION**								
1	Grid electricity purchased (excluding renewable energy	MW.hr	0	103,073	A2	71,915	A2	174,988	A2
2	Grid electricity purchased - renewable energy	MW.hr	0	105,584	A2	16,695	A2	122,279	A2
3	Non-renewable electricity generated and used	MW.hr	0	0	A2	0	A2	0	A2
4	Renewable electricity generated and used	MW.hr	0	1,215	A2	9,211	A2	10,426	A2
5	Total electricity consumption	MW.hr	0	209,873	A2	97,821	A2	307,694	A2
6	Non-renewable electricity generated and exported to the gric	MW.hr	0	0	A2	0	A2	0	A2
7	Renewable electricity generated and exported to the gric	MW.hr	0	2,798	A2	0	A2	2,798	A2
8	Total renewable enegry generated	MW.hr	0	4,014	A2	9,211	A2	13,225	A2
B	**GROSS ANNUAL OPERATIONAL GHG EMISSIONS**								
B.1	**Scope 1 Emissions**								
9	Direct emissions from burning fossil fuels (including natural gas CHP generation on site)	$t.CO_2 e$	0	1,060	C4	3,460	A2	4,520	B3
10	Process and fugitive emissions	$t.CO_2 e$	0	6,660	A3	6,440	A2	13,100	A3
11	Transport: company owned or leased vehicles	$t.CO_2 e$	0	2,480	A2	89	A2	2,569	A3
B.2	**Scope 2 Emissions**								
12	Total grid energy used (including CHP electricity purchased).	$t.CO_2 e$	0	45,400	A2	23,900	A2	69,300	A2
B.3	**Scope 3 Emissions**								
13	Business travel on public transport and private vehicles used for company business	$t.CO_2 e$	0	60	A3	8	A3	68	A3
14	Outsourced activities (if not included in Scope 1 or 2) Energy and other	$t.CO_2 e$	0	0	A2	12,400	A2	12,400	A2
15	Not used								
16	Not used								
17	Gross operational emissions	$t.CO_2 e$	0	55,660	A2	46,297	A2	101,957	A3
C	**Net annual operational emissions**								
18	Exported renewables (generated on-site and exported)	$t.CO_2 e$	0	-427	A2	-178	A2	-605	A2
19	Green tariff electricity purchased	$t.CO_2 e$	0	-24,600	A2	-3,890	A2	-28,490	A2
20	Net operational emissions	$t.CO_2 e$	0	30,633	A2	42,229	A2	72,862	A3
D	**ANNUAL OPERATIONAL GHG INTENSITY RATIO VALUES**								
21	Operational GHG per Ml of treated water	$t.CO_2 e/Ml$	3	0.162	A2	0.191	A2	0.175	A2
22	Operational GHG per Ml of sewage treated (flow to full treatment)	$t.CO_2 e/Ml$	3	0.439	A2	0.602	A2	0.501	A2
23	Operational GHG per Ml of sewage treated (based on water distribution input)	$t.CO_2 e/Ml$	3	0.297	A2	0.407	A2	0.339	A2
E	**RENEWABLE INCENTIVES**								
24	Revenue from renewable energy sales and incentives	£000	3	293.000	A2	400.000	A2	693.000	A2

Table 45 - Energy Consumption and Greenhouse Gas Accounting

Table 45 contains data relevant to the Company's energy consumption and greenhouse gas accounting as requested for the AIR21 return.

Table 45 has been populated in line with guidance provided by NIAUR and contains data sets both internal and external as required and as set out within the sections detailed below.

Table 45 reports emissions generated by the Company and outsourced PPP concessions working for the appointed business in carrying out any part of its regulated activities.

Table 45 reports emissions generated by the Company and by outsourced PPP concessions in separate columns and also calculates a Company total.

Reporting Outputs

Table 45 has been populated in line with the reporting requirements outlined in the methodology statement for this table and this is detailed further below.

Data has been provided in Table 45 for energy consumption, gross and net tonnes CO_2e of operational emissions, GHG intensity ratios and revenue from the sale of renewable electricity and other incentives.

Lines 1 - 8 Electricity Consumption

This section provides data relevant to the total electricity consumption within NI Water and PPP concessions, a breakdown by renewable and non-renewable energy sources and data related to company generated renewable electricity.

The Company has purchased and self-generated circa 43.10% of its total electricity consumption from renewable sources within the reporting period.

Self-generated renewable electricity has been via Hydro, Solar schemes across several sites and a steam turbine at the Incinerator. The outputs are detailed in Table 1

Table 1

Site	kWhrs
Hydro – Silent Valley (REGO)	1,833,107
Hydro – Oaklands (Non-REGO)	202,415
Hydro – Fofanny (Non-REGO)	173,063
Steam (Non-REGO)	3,825,685
Dunore Solar Farm (REGO)	6,147,858
59 Solar PV Installations (Non-REGO)	1,042,301

Further investigatory work is ongoing to enable installation of hydro and wind turbine systems at other sites. These will likely occur within the next Regulatory period.

The level of self-generation is further complemented by procurement of renewable electricity from the SEM. NI Water has built into the electricity contract that approximately 40% of consumption would be electricity from a renewable source and covered by Renewable Energy Guarantees of Origin (REGO). This is achieved by placing a specific schedule of c280 sites on a green supply.

Lines 9 – 17 Gross Annual Operational GHG Emissions (Lines 15 and 16 not used)

This section provides gross annual operating GHG emissions in tonnes CO_2e within NI Water and PPP concessions, broken down as follows:

- direct emissions from burning fossil fuels;
- process and fugitive emissions and
- transport emissions

Emissions have been reported under Scope 1, 2 and 3 headings and these are detailed further below.

Scope 1 (lines 9-11) report on all emissions emitted directly from the company's appointed activities. This includes direct emissions from burning of fossil fuels, direct process emissions and transport owned or leased by the company.

Scope 2 (line 12) reports on all emissions indirectly emitted as a result of electricity usage.

Scope 3 (lines 13 - 14) reports on all other indirect emissions not included in scope 2. Scope 3 emissions will be those from business travel on public transport and private vehicle usage for company business (line 13)

Lines 18 – 20 Net annual operation Emissions

This section reports on net annual operational emissions derived from renewable energy generated onsite and then exported (line 18) and green energy purchased (line 19). These reductions have been subtracted from the gross emissions value (line 17) to provide a net operational emissions figure in (line 20).

Lines 21 – 23 Annual operating GHG Intensity Ratio Values

This section provides annual operating GHG intensity ratios in tonnes CO_2e per mega litre for the provision of water and sewerage service using water and waste flows as a denominator. Two intensity ratios have been provided for sewerage service, one using table 14 data as a denominator and one using additional road drainage in-flow. Confidence grading around the latter figure is at B3 as the accuracy is not verifiable. Details of intensity ratios are included in Table 2

Table 2

Description	Unit	NIW	PPP	TOTAL	CG
Annual operational emissions intensity ratio per Ml of treated water	tonnes CO_2e/ ML	0.162	0.191	0.175	A2
Annual operational emissions intensity ratio per Ml of treated sewage (FFT)	tonnes CO_2e/ ML	0.439	0.602	0.501	A2
Annual operational emissions intensity ratio per Ml of treated sewage (DI Input)	tonnes CO_2e/ ML	0.297	0.407	0.339	A2

Calculations for the tonnes CO_2e/ML intensity ration have been generated from the UK Water Industry Carbon Accounting Workbook 15.0 (March 2021) outputs using data from AIR21 Table 10 and Table 14. The confidence grading for the FFT is at B3 due to uncertainty over the accuracy of the data provided.

Line 24 Renewable Incentives

This section provides data relevant to Company income from renewable electricity sales and associated incentives such as ROC revenue.

Confidence Grades

Confidence grades have been assigned for each line of data and these are based on the criteria set out in the Introduction to the Annual Information Return Reporting Requirements and guidance within the UK Water Industry Carbon Accounting Workbook 15.0

Processing rules and Emissions Conversion Factors:

The Company has provided output data within Table 45 as calculated using the Water UK Carbon Accounting Workbook Version 15.0 (March 2021) for greenhouse gas emissions associated with the provision of water, wastewater, sludge disposal, administrative function and transport in its AIR21 return.

Data sources for the AIR21 return have been generated from supplier's monthly consumption figures associated with the use of electricity, gas and other fuels where data is attainable. Estimations have only been used where there is deemed material impact and enough historical information is available with which to estimate quantities.

All energy conversions have been derived from the Carbon Accounting Workbook 15.0 and are aligned to the DECC/Defra guidelines using the relevant emissions factor for kg of CO_2 per measured unit of energy. The calculations are carried out within locked cells in the Carbon Accounting Workbook 15.0

Gross operational emissions reported in Table 45 are the company's total carbon emissions resulting from operational activities.

Nett operational emissions reported in Table 45 are a calculation of gross operational emissions taking into account emissions reductions for on-site renewable energy that is exported and renewable energy that has been purchased.

The t.CO_2e/ML GHG intensity output figure for treated water emissions includes all carbon emissions from the abstraction, treatment and distribution of water, associated administrative and transport emissions divided by the volume of treated water.

The t.CO_2e/ML GHG intensity output figure for treated waste water includes all carbon emissions from waste water pumping, waste water treatment, sludge treatment and disposal, and associated administrative and transport emissions divided by the volume of waste water treated.

The GHG intensity figures for treated water and waste water for the calculations above have been derived from the volumes of water and waste water as reported in tables 10 and 14 of the Company's AIR21 data.

Assumptions

The Company has assumed that the boundary for data collection is any activity associated with the operation of the appointed business. This will include all areas where the company has direct management responsibility such as the PPP concessions.

Additional Commentary

The Company can provide details of planned future work in carbon accounting, carbon management, mitigation and adaptation. This development is linked to the Company's developing climate change strategy and in particular it is aligned to Company reporting under the new UK Government Legislation, the Carbon Reduction Commitment Energy Efficiency Scheme.

Assistance to the Auditor and Reporter

The Company has assisted the Auditor to enable informed judgments about the validity of energy usage and carbon emissions return data.

The Company has assisted the Auditor to confirm that the reporting methodology has been applied correctly and has assisted in the audit process as required to confirm that:

- the Company has adhered to the correct carbon accounting boundaries;
- the Company has used appropriate greenhouse gas conversion factors;
- the Company has appropriate and documented systems, management responsibly and sign off, for its carbon accounting submissions;
- the Company can validate the assumptions made and the reasons behind any omissions; and

The Company will assist the Reporter to enable informed judgments about the validity and necessity of returned data.

Omissions

The following areas have been omitted from the AIR21 submission due to inability to source or lack of access to data.

- Supply chain, embedded and 'short cycle' emissions or those from non-appointed business activities have not been included in the return.
- Outsourced activities from call centres and maintenance contractors.
- Emissions from leakage/maintenance of refrigerant gases from refrigeration and air conditioning equipment.

The GHG emissions associated with the omissions above are believed to be a very small part of the overall GHG emissions reported and as such have no material impact on the data provided.

The GHG omissions above will be addressed in year to enable a fuller return for AIR21 reporting only if deemed in further discussion to have a material impact on the emissions level.

Green Purchased Electricity Adjustment

Green Tariffs are electricity tariffs marketed as having environmental credentials. Defra/BEIS (formally DECC) recognise as green those tariffs which comply with the 'Good Quality' Criteria specified on pages 51 and 52 of the 'Defra/DECC's Guidance on How to Measure and Report your GHG Emissions' published in Sept 2009.

The company has evidence verified by Capture Carbon to support the 122,279,375 kWhrs recorded in CAW 15.0 sourced from 100% renewable electricity generation for the period 01.04.20 to 31.03.21. The renewable electricity generation is verified by Renewable Energy Guarantees of Origin (REGOs) issued by the UK Office of Gas and Electricity Markets (Ofgem).

The company for AIR13 to AIR16 purchased green energy by the same principal though did not have the appropriate evidence to support the green energy as being verified by REGOs. As the inclusion of green energy in CAW 11.0 (AIR17) drastically reduces the Net Operational Emissions the company has included Table 3 detailing the change in emissions and other applicable data from AIR16 to AIR21 inclusive had the green purchased energy been supported by REGOs and included in all CAWs since 2015.

Table 4 demonstrates the change in Annual operational GHG intensity ratio values as supported by REGO accredited green purchased electricity.

Table 3

Description	Unit	AIR16	AIR17	AIR18	AIR19	AIR20	AIR21
Gross Operational Emissions	tonnes CO_2e	175,585	160,447	143,491	120,442	112,130	101,957
Green Tariff electricity purchased reduction	tonnes CO_2e	-54,112	-41,296	-36,396	-29,651	-31,875	-28,490
Net Operational Emissions	tonnes CO_2e	120,327	118,778	106,816	90,364	79,328	72,862

Table 4

Description	Unit	AIR16	AIR17	AIR18	AIR19	AIR20	AIR21
Annual operational emissions intensity ratio per Ml of treated water	tonnes CO_2e/ ML	0.141	0.143	0.176	0.139	0.118	0.175
Annual operational emissions intensity ratio per Ml of treated sewage (FFT)	tonnes CO_2e/ ML	0.467	0.574	0.611	0.433	0.386	0.501
Annual operational emissions intensity ratio per Ml of treated sewage (DI Input)	tonnes CO_2e/ ML	0.490	0.376	0.379	0.287	0.251	0.339

Data Quality Assurance Check – Table 45

On completion of the CAW, the applicable values from the homepage are populated in a data checklist. The values in the checklist are populated in the related cells of Table 45. A comparison on the two files is taken to ensure consistency.

The values populated in Table 45 being presented to the regulator are given a final data quality sign off by line management.

Green House Gas (GHG) Reduction

NIW has made strides to reduce GHG emissions from AIR16 reporting year to AIR21 reporting year by increasing its self-supply installations particularly in Solar PV. Also with the inclusion of a company driven process optimisation project with the main objective to reduce consumption within Wastewater Treatment sites. Also, the development of Integrated Constructed Wetlands (ICW) to replace inefficient Wastewater Treatment works. The company has also been able to provide evidence from the 2017/18 reporting year that the green purchased energy is certified REGO accredited electricity.

Taking all these factors in consideration alongside a reduction in the emission factors for 2020/21 against the emission factors for 2019/20 has seen an overall reduction in gross and net GHG emissions.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 46 SERVICEABILITY

SERVICEABILITY RETURN

	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2004-05	2 REPORTING YEAR 2005-06	3 REPORTING YEAR 2006-07	4 REPORTING YEAR 2007-08	5 REPORTING YEAR 2008-09	6 REPORTING YEAR 2009-10	7 REPORTING YEAR 2010-11	8 REPORTING YEAR 2011-12	9 REPORTING YEAR 2012-13	10 REPORTING YEAR 2013-14	11 REPORTING YEAR 2014-15	12 REPORTING YEAR 2015-16	13 REPORTING YEAR 2016-17	14 REPORTING YEAR 2017-18	15 REPORTING YEAR 2018-19	16 REPORTING YEAR 2019-20	17 REPORTING YEAR 2020-21
A	**WATER INFRASTRUCTURE**																			
1	Water population	000	2	1,710.06	1,735.00	1,732.85	1,748.53	1,775.11	1,790.16	1,798.48	1,808.82	1,819.47	1,827.79	1,840.54	1,850.27	1,861.58	1,869.17	1,873.14	1,886.30	1,895.87
2	Total connected properties at year end	000	1		786.1	794.7	800.0	804.4	798.7	806.4	810.4	818.0	825.0	828.1	839.7	852.4	863.0	874.3	883.4	892.9
3	Total length of mains	km	2		27,114.59	25,972.00	26,067.07	26,349.22	26,435.45	26,441.81	26,499.03	26,700.79	26,710.55	26,712.44	26,728.83	26,778.15	26,837.45	26,958.40	27,002.82	27,014.82
4	Number of mains bursts (incl Active leakage)	nr	0			5,054	3,611	3,764	3,910	3,634	2,665	2,474	2,299	2,266	1,972	2,135	2,444	2,467	2,211	2,371
5	Mains bursts per 1000km	nr	1		-	194.6	138.5	142.9	147.9	137.4	100.6	92.7	86.1	84.8	73.8	79.7	91.1	91.5	81.9	87.8
6	Interruptions to supply greater than 3 hours resulting from equipment failure	nr	0	35,700	24,995	30,360	39,883	36,882	34,268	39,647	44,960	40,697	44,499	70,272	98,979	85,239	94,549	55,414	45,759	24,661
7	DG3 Properties affected by interruptions >12 hrs (unplanned & unwarned)	nr	0	1,676	1,670	767	1,839	2,010	1,588	4,180	765	1,019	1,195	929	841	494	190	308	751	0
8	DG3 Percentage properties affected by interruptions >12 hrs (unplanned & unwarned)	%	2	0.22	0.21	0.10	0.23	0.25	0.20	0.52	0.09	0.12	0.14	0.11	0.10	0.06	0.02	0.04	0.09	0
9	Number of regulatory samples taken for Iron at customer taps	nr	0	1,962	1,971	1,928	2,012	2,124	2,036	1,736	1,732	1,710	1,876	1,896	1,876	1,868	1,916	1,892	1,984	1,835
10	Number of regulatory Iron samples exceeding the drinking water standard PCV	nr	0	46	41	45	34	41	43	35	30	47	36	20	30	25	22	20	22	8
11	Number of regulatory Iron samples exceeding 75% of the drinking water standard PCV	nr	0	108	72	71	64	66	76	55	50	74	62	43	54	45	48	28	39	14
12	Percentage of regulatory Iron samples exceeding 75% of the drinking water standard PCV	%	2	5.50	3.65	3.68	3.18	3.11	3.73	3.17	2.89	4.33	3.30	2.27	2.88	2.41	2.51	1.48	1.97	0.76
13	Customer contacts (Discoloured water)	nr	0					4,085	3,840	3,010	2,344	2,464	3,465	2,744	3,179	3,029	2,632	3,447	2,257	2,807
14	Customer contacts per 1000 population (Discoloured water)	nr	2				-	2.30	2.15	1.67	1.30	1.35	1.90	1.49	1.72	1.63	1.41	1.84	1.20	1.48
15	Distribution losses	Ml/d	2	141.90	127.76	118.74	111.38	131.49	140.55	130.66	122.02	115.44	127.31	126.08	122.08	123.52	125.44	120.23	120.62	117.80
16	Company's overall serviceability assessment for water infrastructure	Text	N/A								Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
B	**WATER NON-INFRASTRUCTURE**																			
17	Number of regulatory samples taken for Turbidity at operational WTWs (excluding PPP)	nr	0					5,275	5,252	5,139	4,948	4,810	4,795	4,642	4,523	4,561	4,421	4,584	4,427	4,584
18	Number of regulatory samples taken for Turbidity at operational WTWs which exceed 1.0 NTU (excluding PPP)	nr	0					10	14	16	17	11	14	10	3	6	10	4	6	4
19	Number of regulatory samples taken for Turbidity at operational WTWs which exceed 0.8 NTU (excluding PPP)	nr	0	135	158	79	30	15	27	23	23	16	29	21	19	12	18	12	12	8
20	Percentage of regulatory samples taken for Turbidity at operational WTWs which exceed 0.8 NTU (excluding PPP)	%	2					0.28	0.51	0.45	0.46	0.33	0.60	0.45	0.42	0.26	0.41	0.26	0.27	0.17
21	Number of regulatory samples taken for THMs at customer taps	nr	0	1,057	952	704	752	765	784	432	408	392	396	391	388	392	396	388	400	400
22	Number of regulatory THM samples exceeding the drinking water standard PCV	nr	0	358	239	150	243	141	30	8	3	10	6	4	1	12	6	2	4	1
23	Number of regulatory THM samples exceeding 75% of the drinking water standard PCV	nr	0	578	439	280	441	289	57	32	21	52	31	34	44	53	44	28	27	18
24	Percentage of regulatory THM samples exceeding 75% of the drinking water standard PCV	%	2	54.68	46.11	39.77	58.64	37.78	7.27	7.41	5.15	13.27	7.83	8.70	11.34	13.52	11.11	7.47	6.75	4.50
25	Events at WTW resulting from treatment difficulties or ineffective treatment categorised as 'significant' or higher	nr	0				14	27	28	12	28	26	15	23	24	15	12	18	17	16
26	Number of regulatory samples taken at Service Reservoirs for coliform bacteria	nr	0	18,258	18,232	17,914	17,581	17,408	17,429	16,966	16,862	16,690	16,118	15,640	15,433	15,213	14,897	14,921	14,923	15,025
27	Number of regulatory samples taken for coliform bactena at Service Reservoirs exceeding the drinking water standard PCV	nr	0	59	86	68	43	22	24	8	22	27	26	17	20	15	14	8	13	13
28	Percentage of regulatory samples taken for coliform bactena at Service Reservoirs exceedin the drinking water standard PCV	%	2	0.32	0.47	0.38	0.24	0.13	0.14	0.05	0.13	0.16	0.16	0.11	0.13	0.10	0.09	0.09	0.09	0.09
29	Unplanned (reactive) maintenance	%	1										3.6	2.6	1.7	1.0	1.5	1.2	1.1	1.0
30	Company's overall serviceability assessment for water non-infrastructure	Text	N/A								Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
C	**SEWERAGE INFRASTRUCTURE**																			
31	Total length of sewers	km	2		13,911.23	14,263.62	14,319.50	14,465.23	14,745.61	14,904.68	15,090.35	15,254.37	15,410.44	15,581.51	15,625.13	15,777.29	15,890.63	16,009.10	16,163.23	16,301.61
32	Total number of rising main failures	nr	0					25	25	37	26	41	16	11	9	5	12	20	5	5
33	Total number of gravity sewer collapses	nr	0					1,368	988	1,229	1,191	1,081	1,104	1,325	1,218	1,243	1,192	1,221	1,245	1,305
34	Total number of sewer collapses	nr	0				677	1,393	1,013	1,266	1,217	1,122	1,120	1,336	1,227	1,248	1,204	1,241	1,250	1,310
35	Sewer collapses per 1,000km	nr	1			-	47.3	96.3	68.7	84.9	80.6	73.6	72.7	85.7	78.5	79.1	75.8	77.5	77.3	80.4
36	Total number of sewer blockages	nr	0				16,912	28,010	26,409	26,230	24,444	20,801	18,062	16,729	15,991	15,755	14,393	15,815	17,593	14,417
37	Sewer blockages per 1,000km	nr	1			-	1,181.0	1,936.4	1,791.0	1,759.8	1,619.8	1,363.6	1,172.1	1,073.6	1,023.4	998.6	905.8	987.9	1,088.5	884.4
38	Number of H, M pollution incidents from sewer network (CSOs, rising mains and foul sewers	nr	0						38	34	30	14	14	17	11	15	13	12	7	4
39	Number of H, M and L pollution incidents from sewer network (CSOs, rising mains and foul sewers)	nr	0						244	221	199	137	149	126	86	102	96	97	72	83
40	Properties flooded in the year (other causes	nr	0				366	23	5	28	23	41	55	52	38	47	33	23	24	16
41	Areas flooded externally in the year (other causes	nr	0				4,283	7,968	6,872	1,314	Not reported	3,212	3,348	4,379	3,889	3,819	3,466	4,273	4,515	3,479
42	Total number of equipment failures repaired	nr	0				11,715	10,965	10,882	11,492	11,476	10,333	10,899	11,245	9,986	9,883	9,262	7,238	6,879	6,690
43	Number of pumping station emergency overflows triggered by equipment failure	nr	0									21	18	22	15	8	9	5	6	5
44	Number of sewer repairs	nr	0						1,013	1,266	1,217	1,122	1,120	1,336	1,227	1,248	1,204	1,241	1,250	1,310
45	Company's overall serviceability assessment for sewerage infrastructure	Text	N/A								Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
D	**SEWERAGE NON-INFRASTRUCTURE**																			
46	% WwTW discharges not compliant with numeric consents	%	1	20.0	18.0	16.0	16.0	12.0	12.0	11.7	6.9	6.9	8.2	7.8	7.4	6.6	6.6	5.3	5.3	4.8
47	% of total p.e. served by WwTWs not compliant with numeric consents excluding upper tier failures	%	2	37.00	33.20	23.10	15.50	9.80	8.60	5.08	4.80	1.68	2.40	1.85	1.71	1.31	1.60	0.71	0.59	0.59
48	Number of BOD, SS and Ammonia sample results recorded for compliance reporting at WwTWs with numeric consents	nr	0	11,234	11,251	11,461	11,524	9,088	8,747	8,585	8,863	9,161	8,938	8,528	8,738	7,027	7,369	7,011	6,970	6,320
49	Number of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value	nr	0	652	817	444	297	363	333	361	279	302	370	299	276	283	290	157	164	109
50	Percentage of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value	%	2	5.80	7.26	3.87	2.58	3.99	3.81	4.21	3.15	3.30	4.14	3.51	3.16	4.03	3.94	2.24	2.35	1.72
51	Number of WwTWs with one or more compliance sample result (BOD, SS or Ammonia) exceeding the numeric consent value	nr	0	104	132	115	99	103	98	102	91	76	87	60	55	44	51	42	39	36
52	Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.	%	2										72.64	76.87	80.72	83.99	87.21	86.64	89.29	90.91
53	Unplanned (reactive) maintenance	%	1										5.5	3.6	2.2	2.4	1.8	1.5	2.1	2.2
54	Company's overall serviceability assessment for sewerage non-infrastructure	Text	N/A								Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable

Table 46 – Serviceability

Line 16 - Company's overall serviceability assessment for water infrastructure

Overview

The number of Burst Mains per 1000 km for AIR21 is 87.80

The output figure for this serviceability indicator for AIR21 Line 5, shows that the recent trend has levelled out between the median line and the lowest UR Lowest Limit for the last four years. The trend has been at this similar level since AIR13

*The output for this serviceability measure is **"Stable"***

Due to the transition to the IMS methodology in AIR14 for the output for Line 6 – Interruptions to Supply > 3hrs resulting from Equipment failure**,** an adjustment to the reference level was implemented to improve accuracy.

Since this new methodology has been embedded, the trend rate is looking stable.

The output assessment is supported by the relevant "Customer Contacts "annual trend shown below which is consistently between the upper and median reference targets on the graph below

This stable trend above is also supported by the stable trend in the > 12 hour metric.
These indicators suggest Clean Water Network Stability. NI Water will however continue to monitor trends and review as necessary.

All metrics suggest that the ongoing trends demonstrated above are within their respective upper and lower tolerances or in some cases just below the UR lower limit.

The burst rate, (the Primary Indicator), shows evidence of an average stable burst trend over PC15 following the significant improvements trend in reduction of bursts between AIR 10 and AIR16.
A slightly increasing rate trend AIR 16 to AIR 18 (although still between the median and lowest targets) has stabilised between the median line and the UR Lower Limit Target in the last 5 years.

NIW will continue to monitor the trend for this important primary indicator.

The overall Serviceability assessment of the Water Infrastructure Network is "Stable"

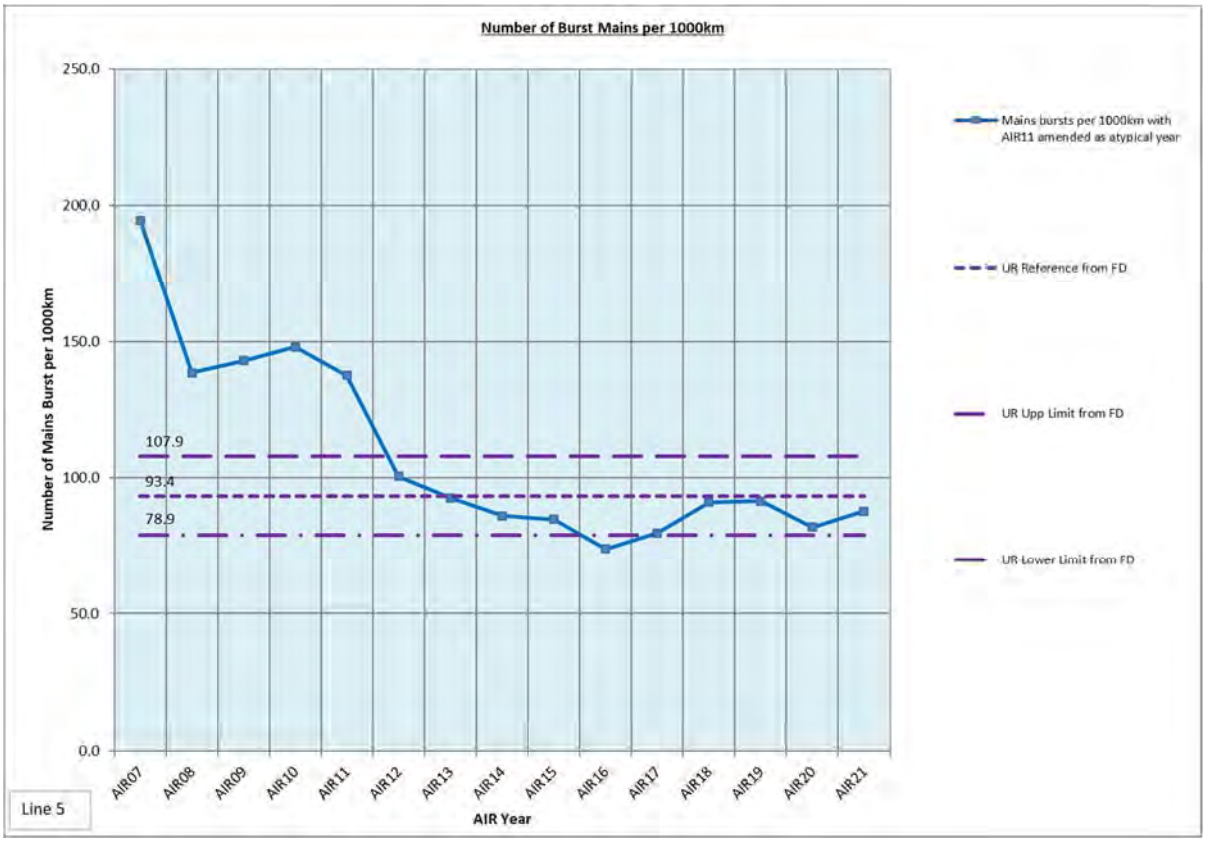
Summary Table

Serviceability Indicator	Line	Current Trend in Relation to Control Parameters	Output
No. of Bursts per 1000km	Line 5	The overall trend in PC15 onwards shows a stable trend in burst rates remaining between the UR final determination, median and lower limits, on the graph.(See graph) This assessment suggests that burst rates have dropped significantly since AIR10 with six consecutive previous year-on-year improvements between AIR10 and AIR16 and then levelled out in subsequent years. During PC15 the number of burst mains per 1000km have consistently kept between the lowest and the median UR limits, as seen on the graph below. **This Serviceability Indicator is considered as Stable**	**Stable**
Interruptions to Supply > 3hrs	Line 6	Only the 2017/18 outturn did not conform to an improving trend ,based on six years of data since the better automated data capture systems were introduced The conclusion is that NI Water's performance against this measure remains '**Stable**' as the AIR 20 and 21 figures have reached a point below the upper UR Reference on the graph. **This Serviceability Indicator is considered as Stable**	**Stable**

Serviceability Indicator	Line	Current Trend in Relation to Control Parameters	Output
DG3 % of Properties Interrupted supply > 12 hrs	Line 8	This trend continues to indicate outputs, near or below the lower limit for the last six years and has been between the middle and lower limit since AIR 12.This year's figure is zero for recorded outages exceeding the 12 hour limit. The perceived improvements may be more likely to be attributed to changes in a more focused work practice on this issue, than being a reflection of improved asset performance of the Network. The zero number for this period may also be a factor of the reduced intervention in the Network due to reduced activities because of the Covid issue **This output is therefore considered to be Stable**	**Stable**
% of iron Samples Exceeding 75% of PCV	Line 12	The AIR21 output is 0.76 %, calculated from a total of 14 failures out of 1835 samples. The current failure rate is relatively low, with the ongoing trend fluctuating below the lower limit (above) for the last 5 years. This figure is related to a random sampling regime. Taking these factors into account, this therefore indicates that this measure indicates a **Stable** trend as the random sampling regime can skew the trend slightly from one year to the next.	**Stable**
Number of Customer Contacts per 1000 population (Discoloured Water)	Line 14	The Population figure utilised here for the **AIR21** return is 1,895,870 The output figure is therefore 2807 relevant contacts/1,895,870 = 1.48 This output suggests that this trend is Stable, as the graph remains within the upper and lower limits of the target envelope	Stable
Water Distribution Losses	Line 15	Explanatory factor. See below. The Losses seem to have settled down to an average figure just over 120Ml/day over PC15. This year's figure of 117.80 Ml/day is the lowest figure for PC15	Explanatory factor
Overall Rating		**Final Explanatory Text**	**Stable**

Primary Indicator

Line 5 – Number of Burst Mains per 1,000km



Number of Burst Mains per 1,000km

The number of Burst Mains per 1000 km was 81.88 for AIR20.
The number of Burst Mains per 1000 km is 87.80 for AIR21

Total Burst Mains divided by Total length of mains multiplied by 1,000

2400 – 29 (rechargeables) / 27,014.82km = 0.0878 x 1,000 = 87.80

Burst Numbers Summary Table	AIR17	AIR18	AIR19	AIR20	AIR21	Percentage Changes	
						AIR19 to AIR 20	AIR20 to AIR 21
CSD Networks Water (non-proactive detection)	1313	1394	1451	1186	1268	-18.3%	6.9%
CSD Networks Water (pro-active detection)	883	1116	1111	1051	1132	-5.4%	7.7%
Third Party Damage	61	66	95	26	29	-72.6%	11.5%
Total	2135	2444	2467	2211	2371	-10.4%	7.2%
Burst Rate per 1000km	79.7	91.1	91.5	81.9	87.8	-10.5%	7.2%

This assessment suggests that burst rates have dropped significantly since AIR10 with six consecutive previous year-on-year improvements between AIR10 and AIR16 and then

levelling out in subsequent years. In PC15 the number of burst mains per 1000km have consistently kept between the lowest and the median limits as seen on the attached graph

There is an increase in the figure from 81.9 last year to 87.8 this year (but is very much in line with the average figure for the last five years and this year's figure is still below the median line above), fluctuations are to be expected in a distribution network, for example due to the impact of prolonged cold weather last winter. This is also reflected by an overall 9% increase in the number of 'Run of Water' complaints logged compared to AIR 20 figures.

- Mains rehabilitation schemes continue to have a positive impact in reducing the no. of defects with older iron mains being replaced
- Pressure Management Schemes in targeted areas including new installations, replacements and relocations of pressure reducing / sustaining valves
- Continuing detail has been paid to the classification of mains repairs as opposed to communication pipe repairs or replacements

The number of mains repairs down to proactive leakage detection methods, is up in comparison with the last five years' average figure from AIR 17 onwards (1059no.) and there has been continued emphasis on proactive leakage detection by 'In House' Crews.

There is no significant change in the number of repairs attributable to Third Party Damage. The reasons for this remain unclear and are difficult for NI Water to manage as the figure is dependent on both contractors admitting liability and front line operatives initiating a rechargeables process. NI Water will continue to emphasise the need for this process to be followed by front line operatives when circumstances apply.

Unplanned, Unwarned Interruptions

AIR	DG3 Properties Affected	2018/19	2019/20	2020/21
Table 2: Line 5	More than 3 hours	58,816	49,181	**24,661**

The above figures confirm that between AIR19 and AIR21, there was an approx. 50% reduction in the Table 2 Line 5 DG3 outturn number of properties affected by an unplanned, unwarned interruption of more than 3 hours and unlike previous returns, the trend is not reflected in the Table 11 Line 11 burst rate outturn.

The primary reason for this is the ongoing implementation of the **ITS Strategy** which is continuing to have a positive impact on performance as a number of proposals and initiatives are taken forward.

- Post interruption reviews are establishing learning points from past events that can be developed though the ITS Project Board and adopted as BAU.
- Significant engagement work has been undertaken in the last year by the ITS Project Manager with the implementation of the new 'working differently' process aimed at reducing the Minutes of Lost Supply per Property outturn.

- NI Water's Water Production Line and Asset Delivery staff have been 'working together' for the benefit of customers.

- Tankers have been deployed during ITS events to maintain storage levels at service reservoirs and to feed directly into the water distribution network.
- Temporary supplies have been laid in order to minimise interruptions during planned and unplanned operations.

- Additional equipment has been purchased to assist colleagues, including ITS Trailers.

Future Reporting

For AIR 22 Networks Water will continue to use the established process for monthly reporting using MWM systems as a source for base information.

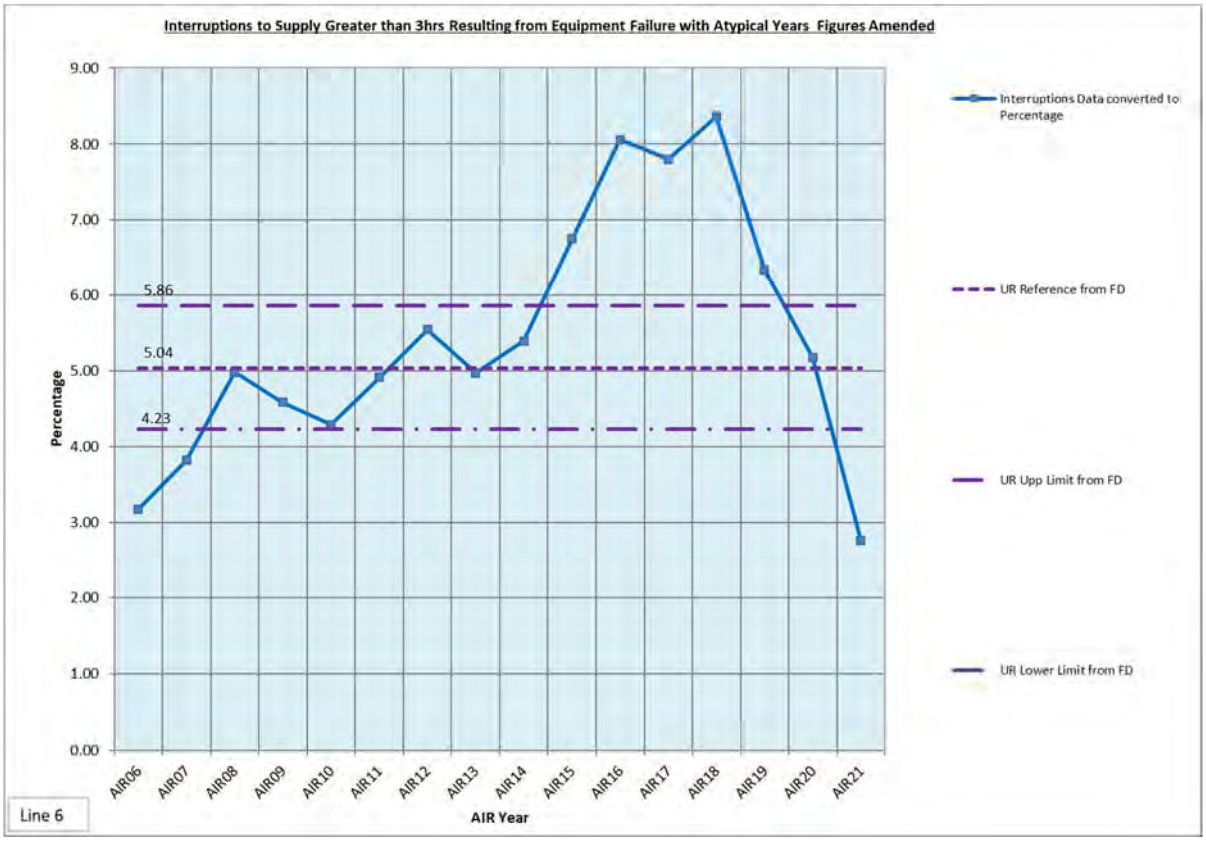
This Serviceability Indicator is considered as Stable

The overall trend in PC15 onwards shows a positive trend towards reduction in bursts within the UR final determination with the outputs stabilising between the upper and lower limits on the graph. (See graph above)
This assessment suggests that burst rates have dropped significantly since AIR10 with six consecutive previous year-on-year improvements between AIR10 and AIR16 and then levelling out in subsequent years.

During PC15 the number of burst mains per 1000km have consistently kept between the lowest and the median reference UR line, as seen on the attached graph above.

Secondary Indicators

Line 6 – Interruptions to Supply > 3hrs resulting from Equipment failure



AIR19 Utilising the Updated Methodology

Utilising the updated methodology, the revised *(and reported)* percentage of connected properties affected was calculated at 55,414 properties affected, divided by the total number of properties connected to the Network (874,307) = 6.34%.for the AIR 19 period as recorded on the graph above

AIR 20 Utilising the Updated Methodology

Utilising the updated methodology for AIR 20, the percentage of connected properties affected was calculated at 45,759 properties affected, divided by the total number of properties connected to the Network (883,423) = 5.18% as recorded on the graph above.

AIR 21 Utilising the Updated Methodology

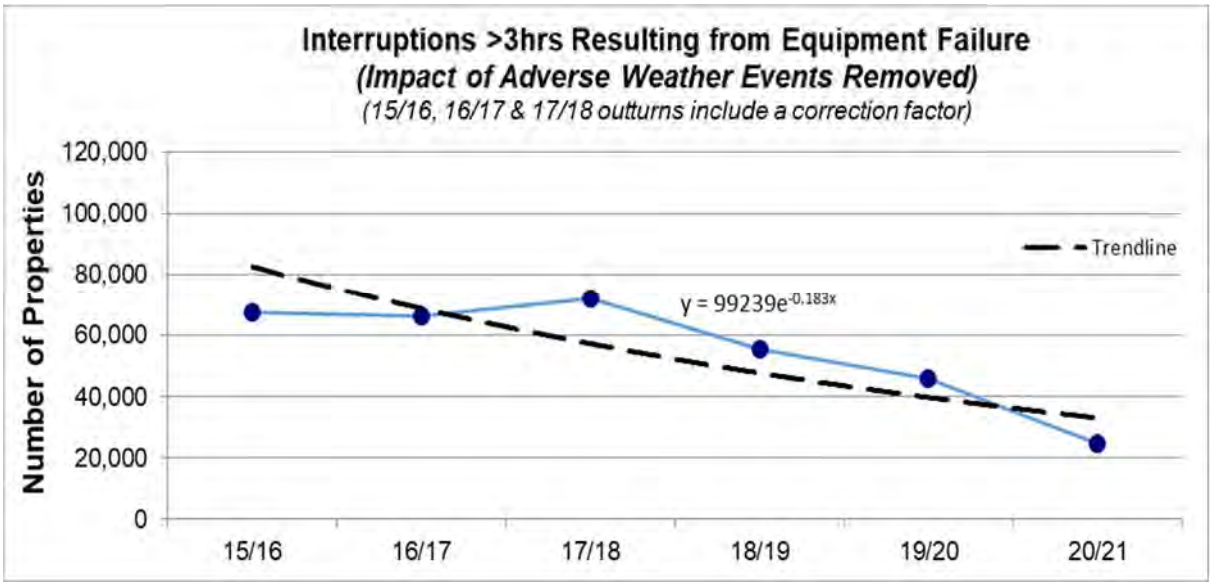
Utilising the updated methodology for AIR 21, the percentage of connected properties affected was calculated at 24,661 properties affected, divided by the total number of properties connected to the Network 892,910 = 2.76% as recorded on the graph above.

Discussion on the Impact on the Trend Line of the Implementation of the IMS System during 2014 /15

The NIW consensus is that the apparent deterioration since AIR14 is due to the introduction of IMS in July 2014, together with a detailed review process for unplanned interruption events, lasting between 3 hours and 6 hours

Accuracy Validation

A detailed review was carried out on 74 events that happened during this reporting period, looking at events with 100-500 properties involved.
Originally 11,558 properties were originally considered to be affected in this particular sample, however, the detailed analysis of the properties affected subsequently indicated that only 5,585 properties were actually affected
This indicates a (51%) reduction in originally reported figures, initially recorded at the time of the events achieved through this review process, which is similar to the reduction in the percentage reported above. This indicates that the further refinement and accuracy of reporting measures, after the events have taken place, may be responsible for the majority of the improvement reported here rather than a general improvement in the behaviour of the Network



The following table lists the unadjusted annual actual outturn numbers of unplanned interruption **events** lasting more than 3 hours, more than 6 hours and more than 12 hours from 2015/16 to 2020/2021

Number of Events/Incidents in Each Category Contributing to Unplanned Outages Includes atypical factors where applicable (there were none for AIR19)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
More than 3 hours	781	779	803	654	591	476
More than 6 hours	119	95	81	75	63	26
More than 12 hours	17	12	9	4	4	0

This table further suggests stability in the network for the > 3hours category.

Conclusion

There is no evidence in either the OMIS or IMS datasets *(excluding atypical factors)* to suggest that serviceability has been 'marginal' or 'deteriorating'. An assessment of asset performance based on the OMIS dataset confirms that serviceability was '**stable**' during the 7-year period from 2007/08 to 2013/14.

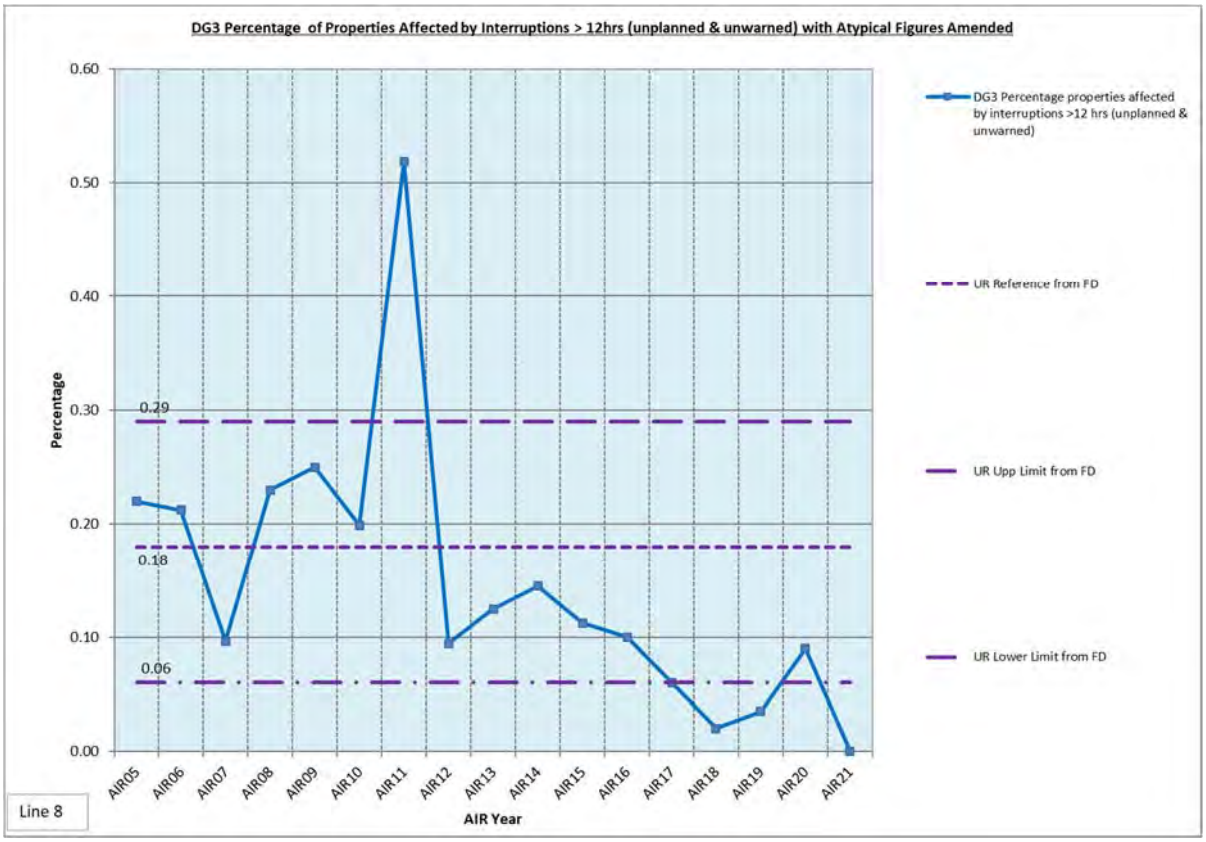
An assessment of asset performance based on the IMS dataset and with a correction factor applied to account for historical instances of over-reporting, confirms that serviceability was 'improving' during the period from 2015/16 to 2020/21. But this is believed to have been the result of an improved operational focus on work practices.as opposed to an improvement in asset serviceability.

Progress continues to be made as proposals and initiatives identified under the ITS Strategy are implemented across the business. Significant engagement work has been undertaken with the implementation of the new 'Working Differently' process aimed at reducing the Company's lost minutes per property outturn from planned work. Additional equipment has been purchased to assist colleagues and the benefits of such initiatives are already being realised, for example, tanker operations during the Dungonnell to Parkmore incident.

As the 2017/18 outturn did not conform to an improving trend and the trend was based on six years of data, the conclusion is that NI Water's performance against this measure remains '**Stable**'.

As the quantity of IMS data continues to increase over the coming years, the reliability of the associated serviceability trend should improve and the long-term trend should become more apparent. The Company will continue to monitor asset serviceability trends on a yearly basis and review as necessary.

Line 8 – Percentage of Properties Affected by Interruptions > 12hrs



For AIR 18 the graph shows that, the percentage outturn of properties with outages lasting greater than 12 hours (190) divided by the number of connected props of 862,988 in AIR18 was 0.02%

For AIR19 the graph shows that, the percentage outturn of properties with outages lasting greater than 12 hours (Total number = 308) divided by the number of connected props of 874,307 in AIR19 = 0.035%.

For AIR20 the graph shows that, the percentage outturn of properties with outages lasting greater than 12 hours (751) divided by the number of connected props of 883,423 in AIR20 = 0.09%.

For AIR21 the graph shows that, the percentage outturn of properties with outages lasting greater than 12 hours was zero for this reporting period

Table Summary of equipment failures 2007-2020

Summary Table annual outturns of property outages **excluding** atypical factors for >12hrs

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Outturn	**1,655**	**1,358**	***1,563***	***697***	**663**	***1,017***	**1,105**	***928***	**839**	**344**	***190***	**308**	**751**	**0**

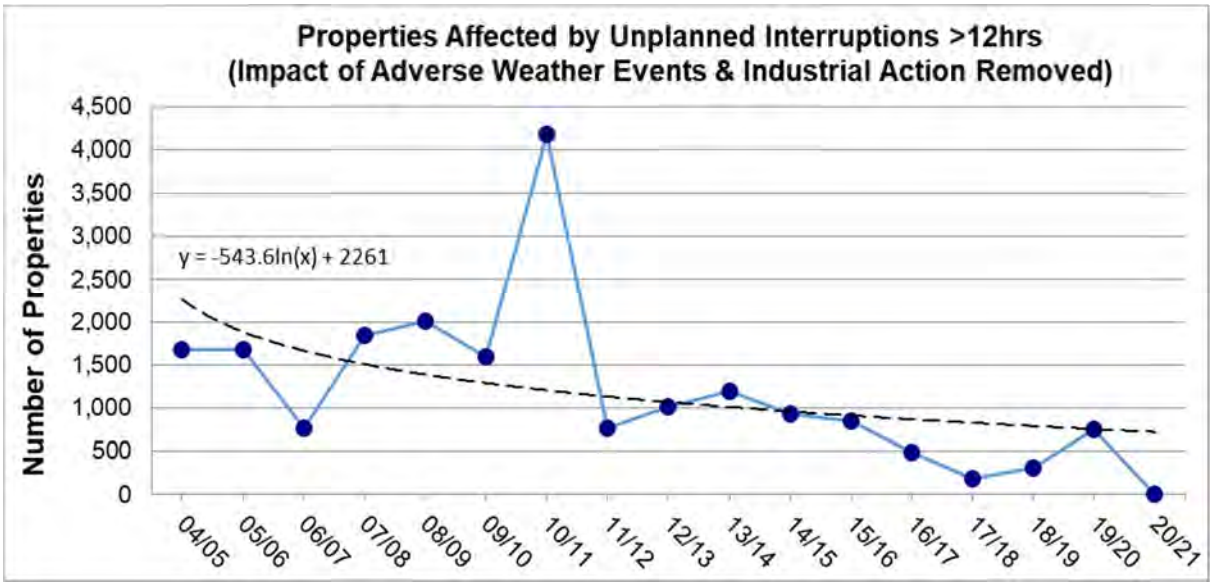
The calculation of this figure is considered a very accurate output, as it has been arrived at by a thorough examination of several individual incidents on a one by one basis by NIW staff. Unlike the 3 hour figure above which has been compiled from the new IMS system which came into use between AIR15 and AIR16, this pattern of improvement is not affected by the automated IMS data collection.

The conclusion was that, although the annual outturn for Table 46: Line 8: DG3 Percentage properties affected by interruptions >12 hrs (unplanned & unwarned), continues to be stable, the ongoing perceived improvement of previous years, may be more likely to be attributed to an improved operational focus on work practices than asset performance.

Note: The 2019/20 outturn of **751** (above**)** was higher than the previous three outturns because of the severity of two of the four interruption events making up the figure, as summarised in the following table. The figures are however within the acceptable envelope in this period

Events in 2019/20	**>6hrs**		**>12hrs**		**>24hrs**	
	Props	**%**	**Props**	**%**	**Props**	**%**
Multiple bursts on trunk main between Tullywhisker and Rakelly SRs	1,824	0.206	233	0.026	23	0.003
Burst main, Craigstown Road, Kells	626	0.071	463	0.052	0	0.000
Burst main, Jacksons Road, Holywood	400	0.045	33	0.004	0	0.000
Burst main, Lettermire North SR, Foreglen Road, Londonderry	49	0.006	22	0.002	0	0.000

Note: In the 19/20 period, the Tullywhisker and Craigstown events each had a greater number of affected properties than the Company's >12hr in-month target of 108. The Tullywhisker outage was not caused by pipeline deterioration but due to a local ground slippage



Despite the impact of events in 2019/20, the overall trend for this serviceability measure continues to be one of stability

These figures are considered a very accurate output or each year, as it has been arrived at by a thorough examination of several individual incidents on a one-by-one basis by NIW staff,

The conclusion is that, although the annual outturn for Table 46: Line 8: DG3 Percentage properties affected by interruptions >12 hrs (unplanned & unwarned) seems to be one of

improving performance, this trend is more likely to be attributed to an improved operational focus on work practices than asset performance.

The AIR21 reductions for unplanned interruption events lasting more than 6 hours and more than 12 hours are therefore more likely to be associated with changes in work practice, aimed at reducing the duration of unplanned interruptions and driven by DG3 annual target reductions.
In addition the weather variations were not extreme in the winter period
The reductions in both figures however must also be seen in the context of the Covid scenarios where there were reduced activities on the Networks due to restrictions on Work practices

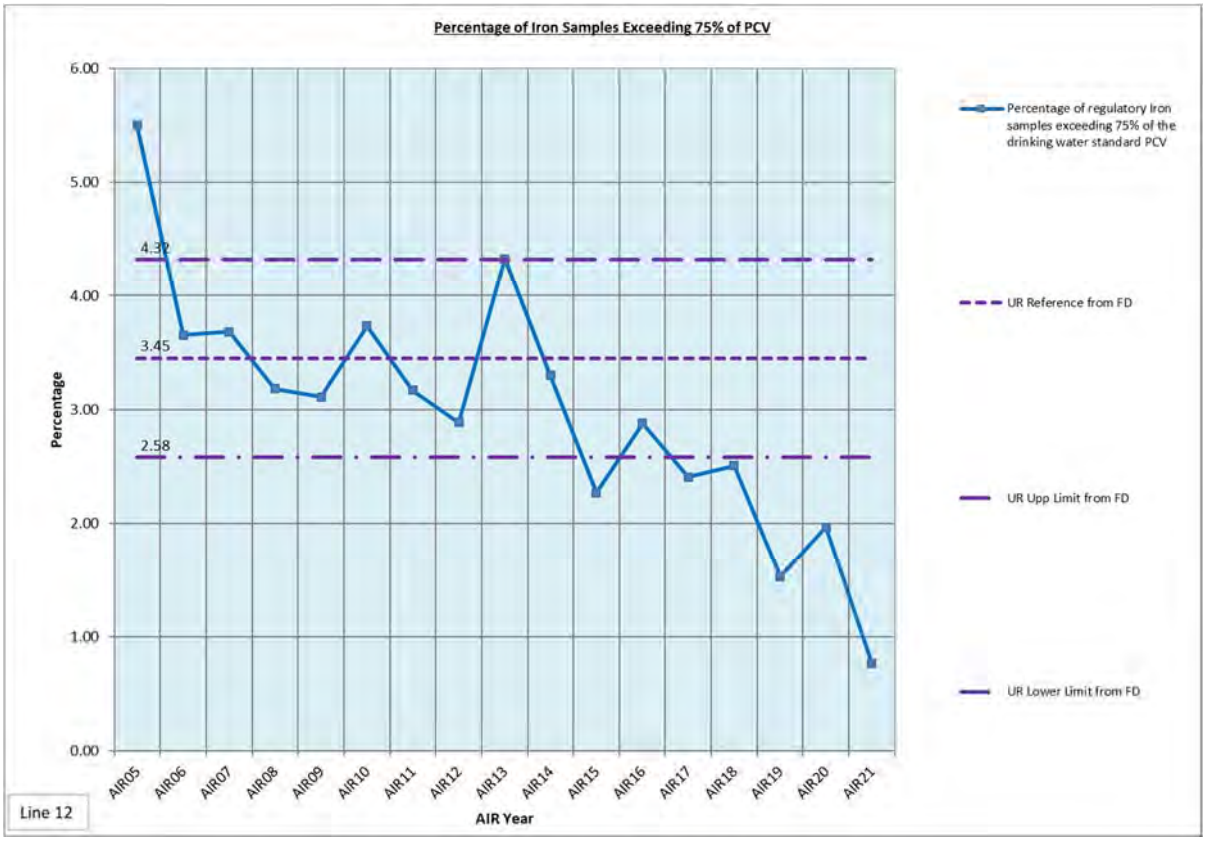
To date, the impact of initiatives targeted towards improving performance has been greatest on the 'more than 12 hour' time band as the main focus has been on those interruptions that last the longest and which therefore have the greatest potential to inconvenience customers.

NIW has commenced a Post Interruption Review (PIR) process, the aim of which is to establish learning points from ITS events, including unplanned interruption events lasting more than 12 hours.

The conclusion is that although the annual outturn for Table 46: Line 8: DG3 Percentage properties affected by interruptions >12 hrs (unplanned & unwarned) is still near the lowest threshold target (Note -The outturn for this measure was zero occurrences in this period), the ongoing improvement of the last couple of years may be more likely to be attributed to an improved operational focus on work practices than asset performance.

The performance for this Serviceability measure is "Stable

Line 12 – Percentage of Iron Samples Exceeding 75% of PCV



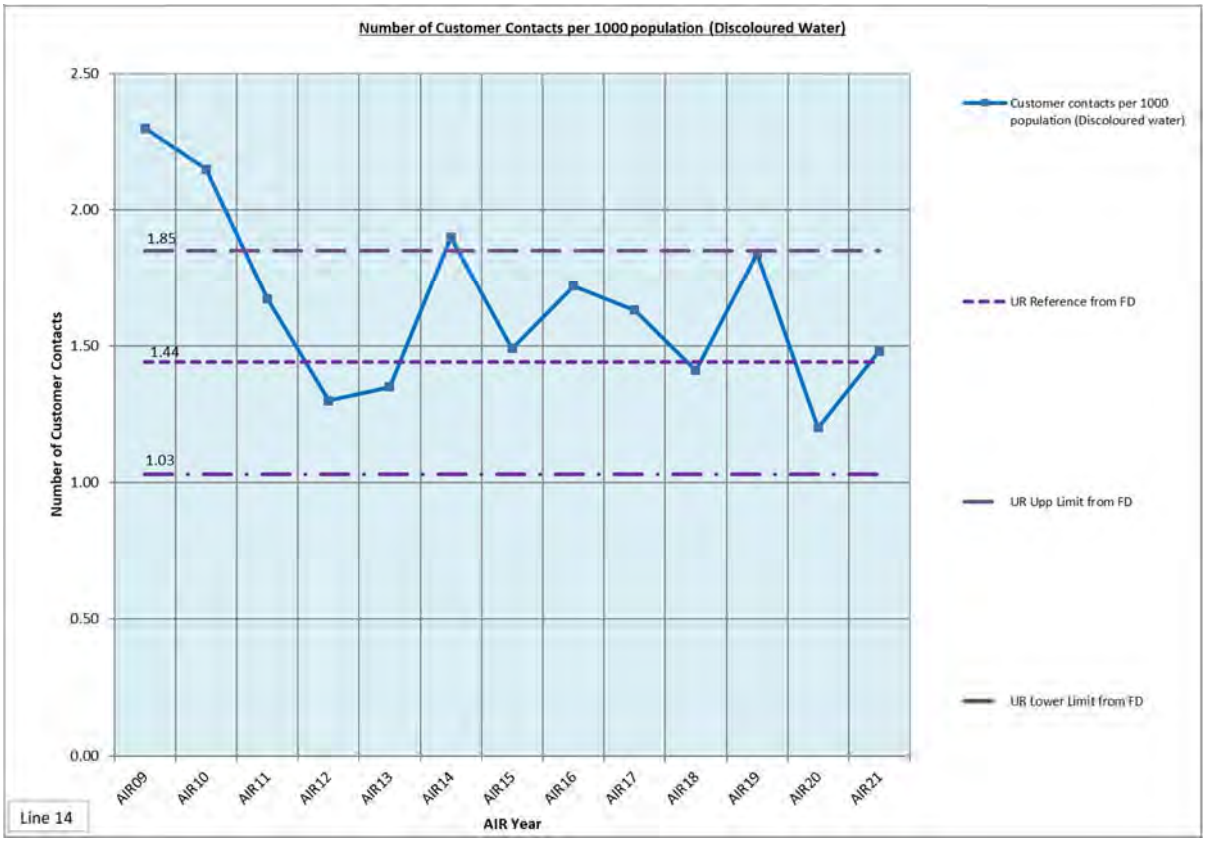
The AIR21 output is 0.76 %, calculated from a total of 14 failures out of 1835 samples.

The current failure rate is relatively low, with the ongoing trend fluctuating below the UR lower limit (see above) for the last 5 years.

This figure is related to a random sampling regime.

Taking these factors into account, this therefore indicates that this measure indicates a **Stable** trend as the random sampling regime can skew the trend slightly from one year to the next.

Line 14 – Number of Customer Contacts per 1000 population (Discoloured Water)



The Company has arrived at a 'Stable' assessment for this measure.

The Population figure utilised here for the AIR21 return is 1,895,870
The output figure is therefore 2807 relevant contacts/1,895,870 = 1.48

For comparison in the **AIR19** return, the measure for discoloured water Customer Contacts, (calculated from the number of Customer Contacts was 3447 divided by the population figure of 1,869,170 = 0.00184 –multiplied by 1000 for this measure was = 1.84).and the AIR 20 measure was 2257/ 1,886,300 so this figure was 1.2

During AIR21 NI Water recorded 2807 relevant contacts to be divided by a population figure of 1, 895,870 = 1.48

This output suggests that this trend is Stable, as the graph remains within the upper and lower limits of the target envelope

AIR 19 Anomaly

Due to the timeframe for which this data was submitted for the AIR 19 feedback, the severe (yellow warning) weather events in Feb and March 2018 were included, increasing the number of calls in these months by 10% over the typical monthly average for 2018. (See table below showing calls logged per calendar month).

In June and July the total of calls on this issue were approx. 25% greater than the average for 2018 due to the dry (drought) spell in June July with August call total being 50% greater than the average. A peak was also recorded in Aug 2018 due to a Pumping Station test at Drumfane SR in Broughshane, Antrim which required re –zoning work to be implemented following on from the high demand issue during the summer. A similar rezoning event also occurred in Dec 2018 in the Finaghy area of Belfast

Summary

The trend has remained between the UR upper and median reference level from the Final Determination, since AIR15 .The figure in this reporting period is the lowest figure for PC15 Therefore, apart from the anomalies for the AIR 19 period as described above, there has been a stable trend in the last 5 years.
This measure is considered to be **Stable**

Note: A new proactive flushing/conditioning methodology was piloted in Autumn 2019 with the expectation that for certain pipe cohorts NI Water may be able to address discolouration issues more quickly and effectively, following this methodology with Capital funding being approved by Stakeholders

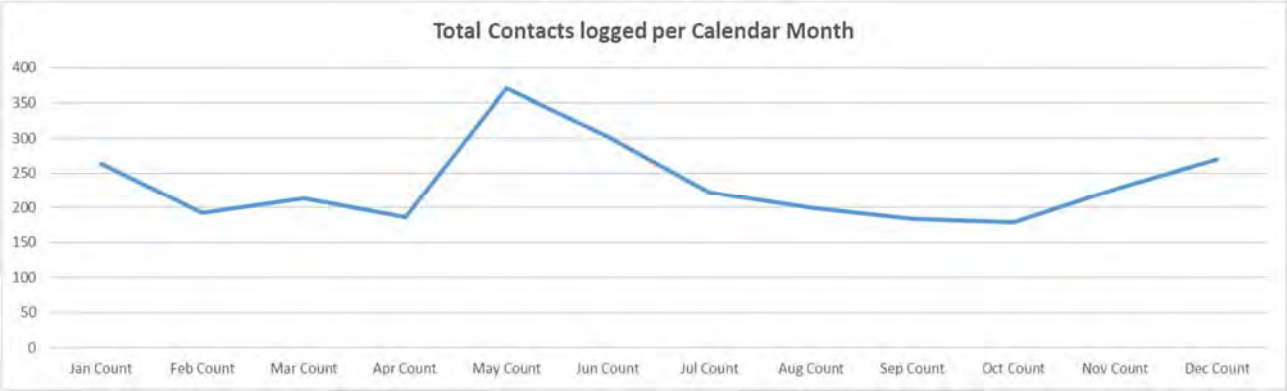
See the actual contact numbers in the table below during this period.

	AIR 17	AIR 18	AIR 19	AIR 20	AIR 21
Average Monthly Number of Calls on This Issue	252	219	287	188	234
Total Customer Contacts on Water Network for Discolouration Issues	3029	2632	3447	2257	2807

Total Calls Logged Per Calendar Month in 2020 (For AIR 21 Reporting Period)

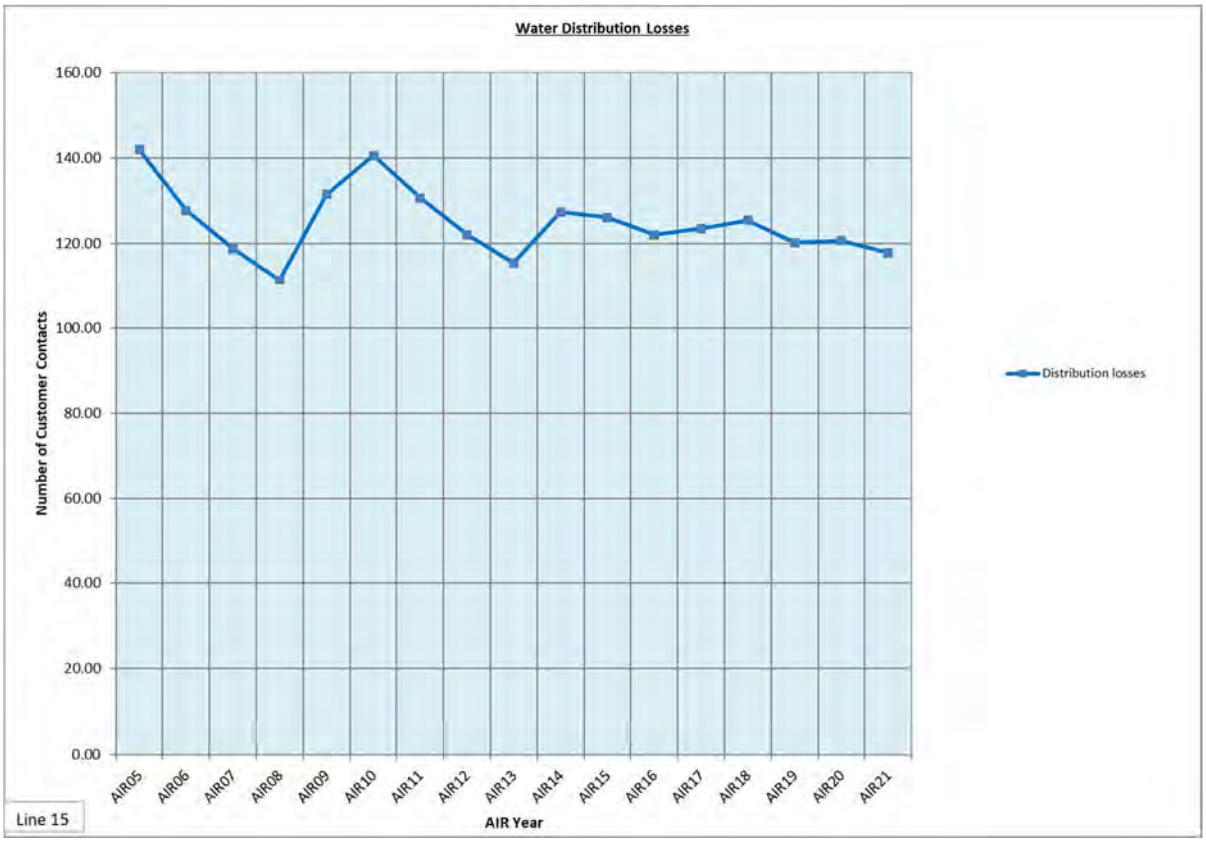
Discolouration Contacts per month 2019	
Month	**Count of Contact**
Jan Count	**264**
Feb Count	192
Mar Count	213
Apr Count	186
May Count	371
Jun Count	302
Jul Count	222
Aug Count	199
Sep Count	183
Oct Count	178
Nov Count	227
Dec Count	270
Grand Count	2807
Average Monthly number of contacts	234

Total Calls Logged Per Calendar Month in 2020 (For AIR 21 Reporting Period)



Line 15 – Water Distribution Losses

This information as an explanatory factor for mains bursts which can be monitored for potential mains bursts trends.



The Water Distribution losses total for **AIR20** =117.80 Ml/day

The pattern for PC15 has been:
AIR15 = 126.08, AIR16 = 122.08, AIR17 =123.55, AIR18 = 125.44, AIR 19 = 120.23Ml/d
AIR21 = 117.80

This is calculated by subtracting Lines 16 (DSOU) and 20 (Water Delivered) from Line 26 (Distribution Input),

The slightly rising Distribution losses in AIR17 and AIR18 because of an increase in reported leakage. The increasing trend in this indicator, in the AIR 17 and 18 period seems to have levelled off as the extreme weather events of the past two years that have contributed to this pattern did not occur during this reporting period. (See more detailed commentary in Table 10).

The current figure is the lowest recoded in the PC15 period

This Indicator is considered to **Stable**

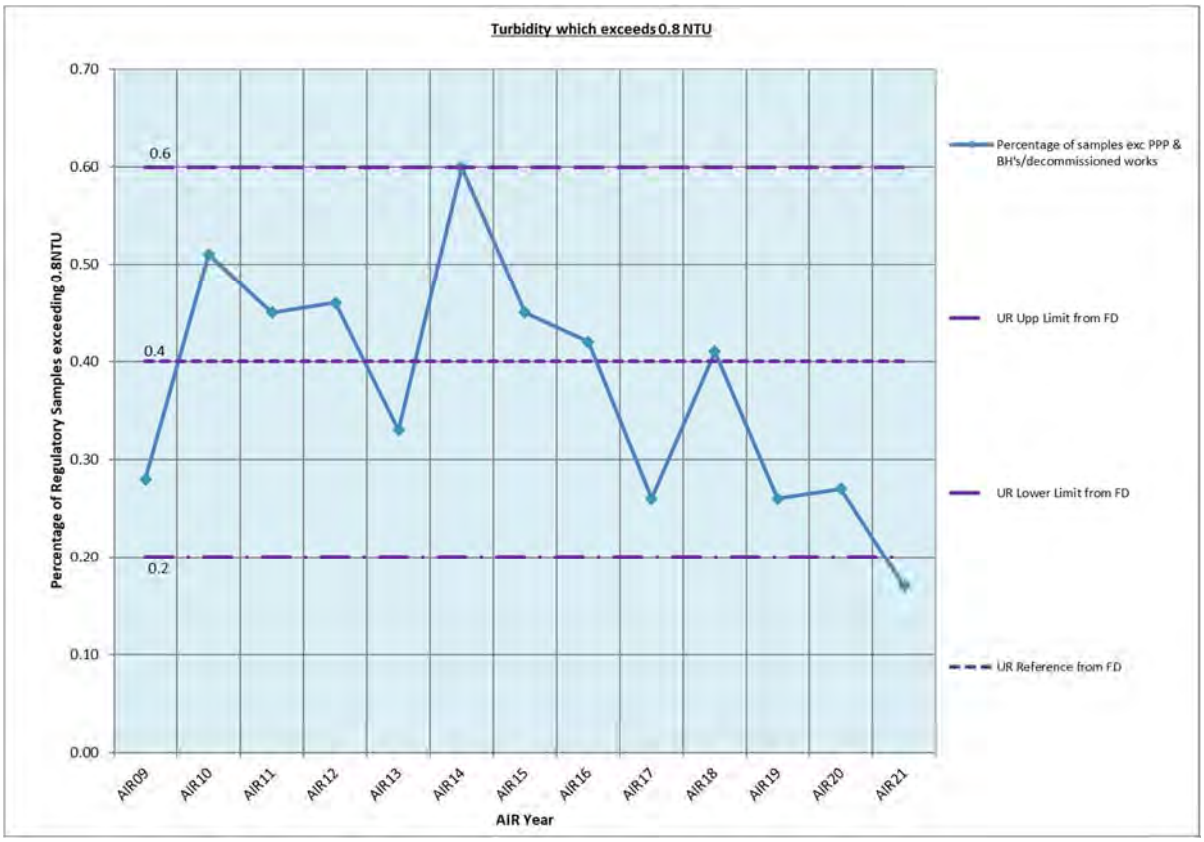
Line 30 – Company's overall serviceability assessment for water non-infrastructure

The serviceability assessment has been designated as **Stable** as the trend analysis associated with the basket of serviceability indicators, used to assess serviceability for water non-infrastructure, are either within, or have outperformed the control limits based on the latest AIR20 information.

This can be seen in the serviceability graphs below and the associated comments:

Primary Indicator

Line 20 – Turbidity which exceeds 0.8NTU – excluding PPP & BH's/decommissioned works



The output for AIR 21 is 0.17%

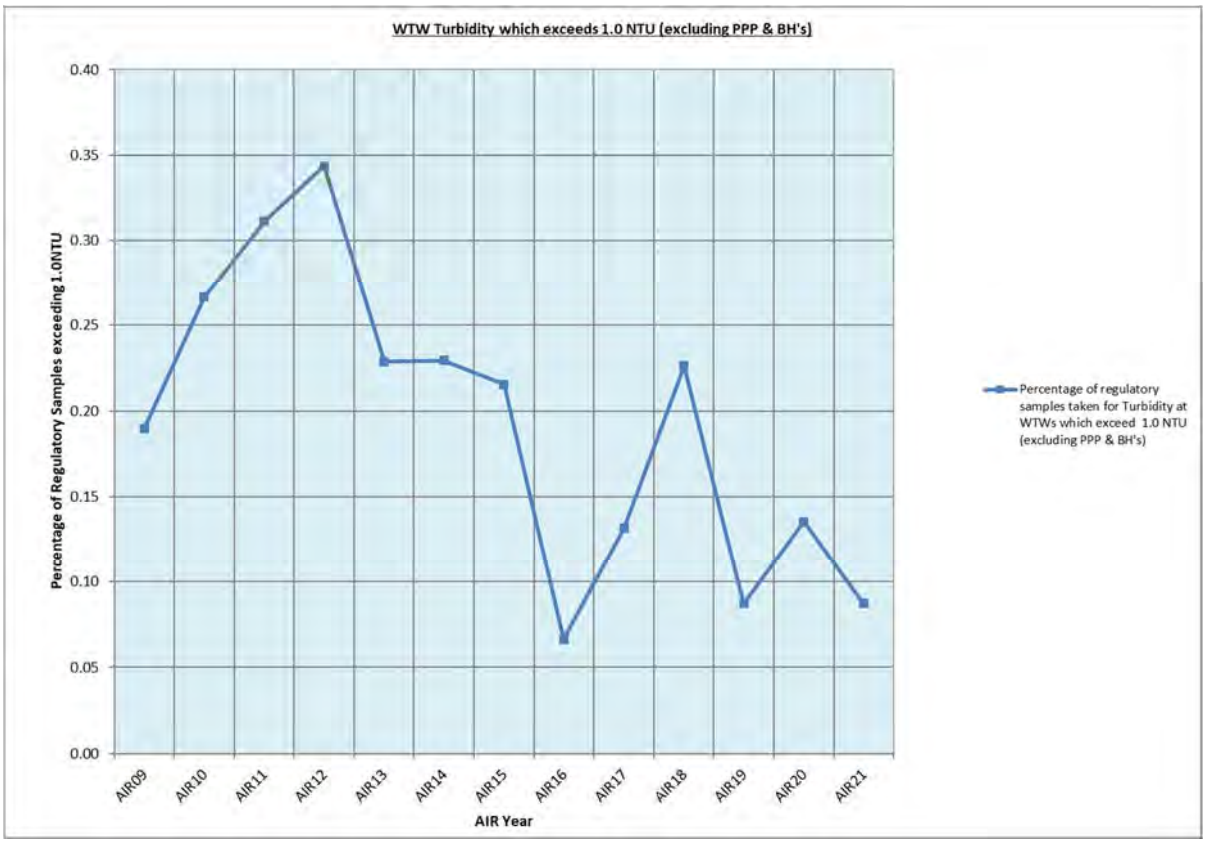
The AIR21 figure is calculated from Line 19 = 8 failed regulatory samples divided by Line 17 = 4584 (total samples) and calculated as a percentage.

The AIR20 figure has just dropped below the lower of the agreed PC15 FD Limits, on the graph. Throughout the PC15 period the output measures have remained between, just above the median reference line on the graph and the UR lower limit target from the FD

As the figure for AIR16 was unusually elevated, the Regulator requested NIW carry out investigations as to the reason, resulting in the figure being reduced by the Regulator due to unrepresentative sample failures, such as issues with sample points or faulty analytical equipment, which can cause a sample to fail but are not reflective of the water quality, or the Serviceability of the WTW. The graph includes the amended reduced figure for AIR16. This measure is considered to be **Stable**

Secondary Indicators

Line 18 - WTW Turbidity which exceeds 1.0 NTU

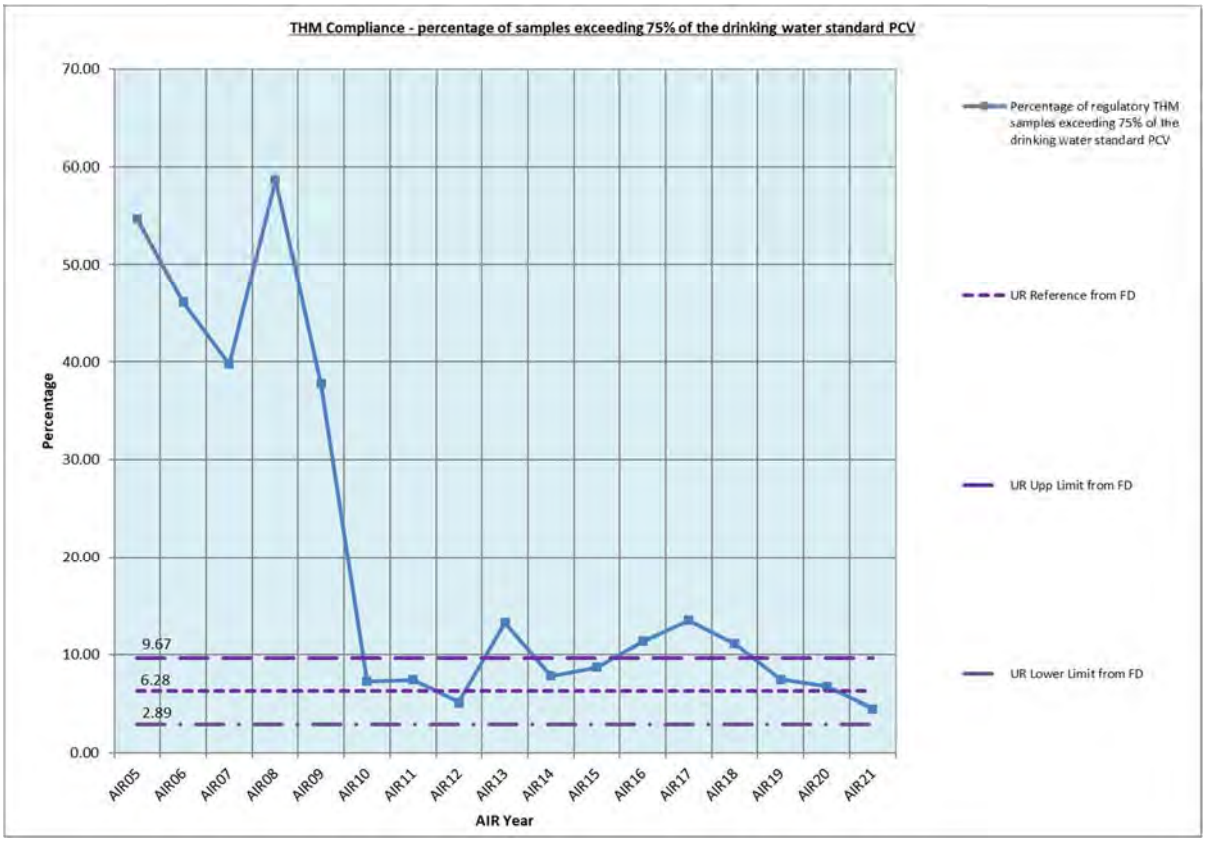


The AIR21 figure is calculated from line 18 = 4 failed regulatory samples divided by Line 17, = 4584 samples, expressed as a percentage =4/4584 = 0.09 i.e. 0.09%
This factor is included as an indicator only. The outputs from the last three years has shown a pattern, not exceeding 0.15% for the last 3 years.

The “WTW Turbidity which exceeds 1.0 NTU – excluding PPP & BH’s/decommissioned works” does not have indicator limits/references set by the Regulator. It has been included for illustrative purposes only.

NIW continue to carry out investigations in relation to quality check issues with sample points and analytical equipment, which can indicate exceedances, but are not generally reflective of the water quality, or the Serviceability of the WTW.
This measure is considered to be **Stable**

Line 24 - THM Compliance - percentage of samples exceeding 75% of the drinking water standard PCV



This output is calculated by dividing Line 23 = 18 samples which failed in this range by Line 21= 400 samples taken , i.e. 18/400 expressed as a percentage = 4.5%.This output shows the trend for the past 3 years settling within the upper and lower reference point

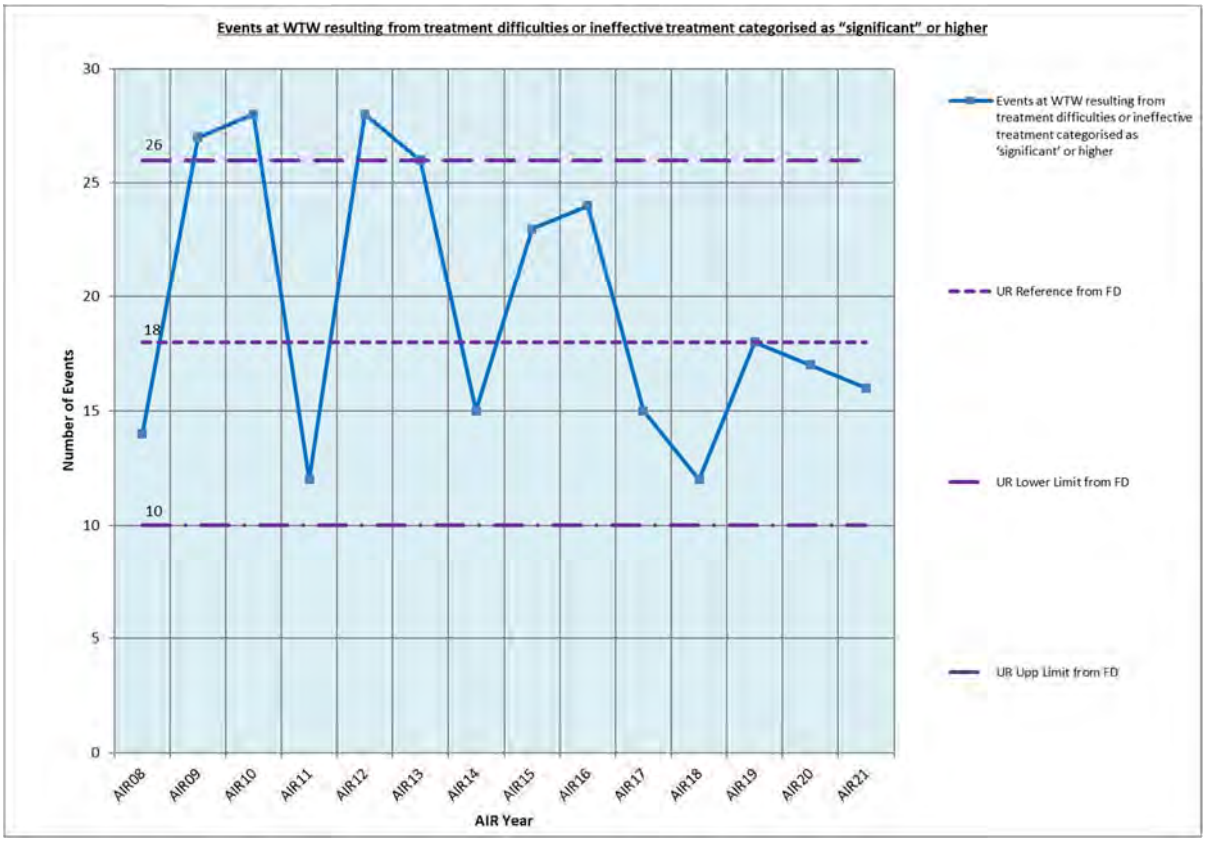
As the AIR17 figure had resulted in a significant cumulative rise above the Upper Limit for the second consecutive year, serviceability for this indicator was seen as Deteriorating. However AIR17 to AIR21 outputs have shown improvement, and is therefore now considered to be **Stable.**

The WTWs have a final water operational monitor for THMs, which acts as a proactive alarm if 50% of the PCV (50µg/l) is measured.

It should be noted that mains water temperature was higher on average in 2016/17 than in previous years, which would contribute to the increase in concentration and the further exceedance, to greater than 75% of the PCV.
THM Action Plans have been developed, and both THM results and the Action Plans are discussed on a monthly basis at the Water Quality Compliance Review Group.

This measure is considered as **Stable**

Line 25 - Events at WTW resulting from treatment difficulties or ineffective treatment categorised as “significant” or higher



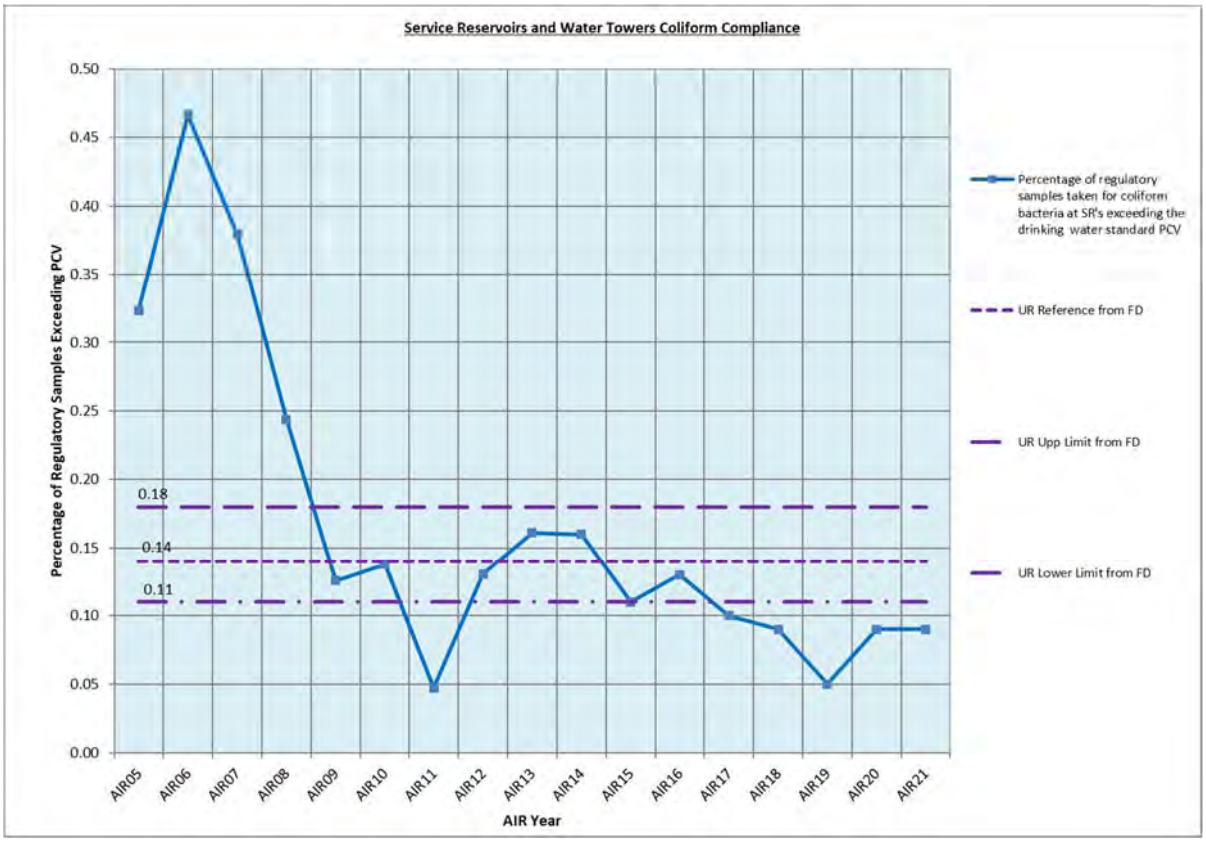
The output for AIR21 is a number of events recorded as 16 nr

The PC15 trend is comfortable within the UR Lower and Upper Limit Line during PC15

The AIR 19 to 21 figures fluctuates around the UR reference line and the UR Lower Limit Line on the graph .The trend here seems to be fluctuating between the reference line and the Lower Limit

"Events at WTW resulting from treatment difficulties or ineffective treatment categorised as significant or higher" to DWI, has continued, since AIR 14, to perform as **Stable.**

Line 28 - Service Reservoirs and Water Towers Coliform Compliance – Secondary Indicator



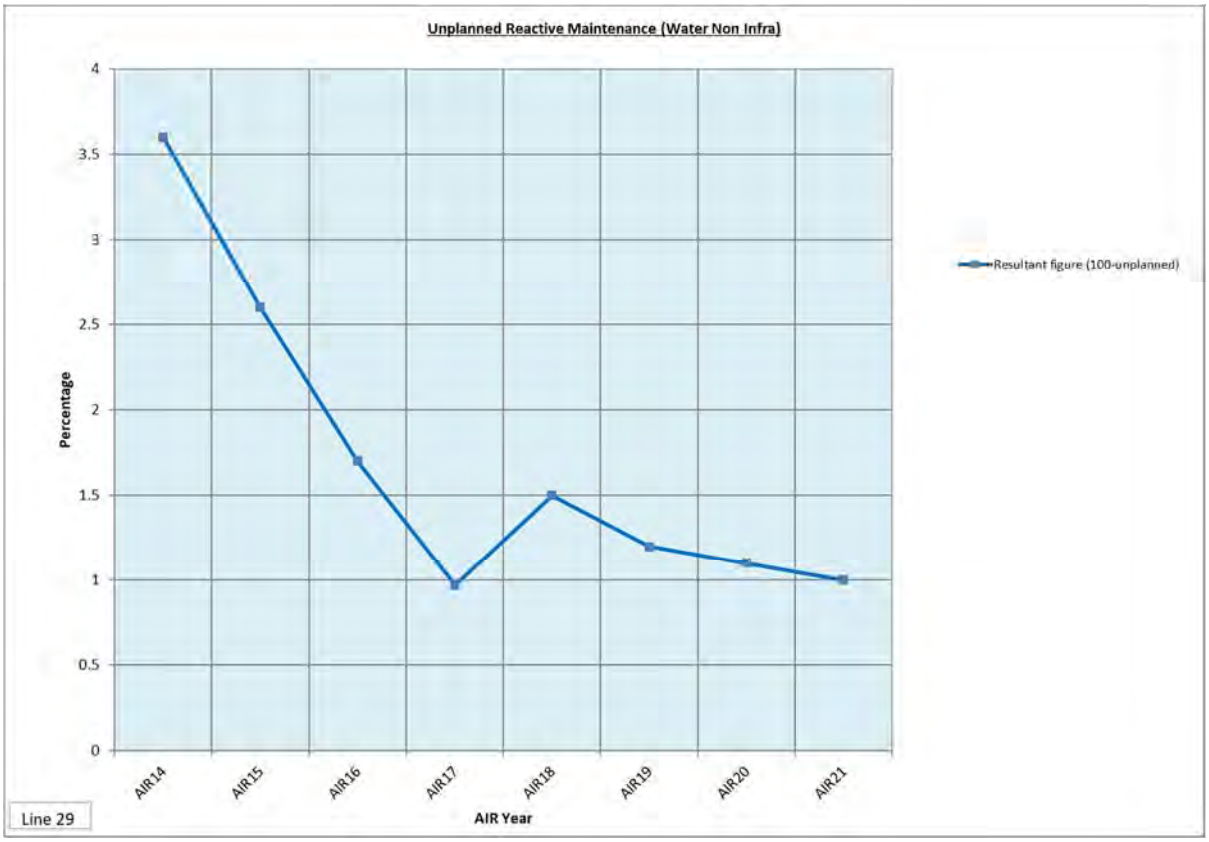
The AIR21 figure is calculated from Line 27 (number of failed samples) = 13 divided by Line 26 = Total number of samples taken 15,025nr

13/15 025 expressed as a percentage = 0.09%

This figure has dropped over the PC15 period to a figure below the lower UR final determination target limit. This is a result of proactive inspections and refurbishments and proactive SR management.

“Service Reservoirs and Water Towers Coliform Compliance” has continued to show **Stable** performance over recent years.

Line 29 – Unplanned Reactive Maintenance (Water Non Infra) – Percentage of Availability of Critical Assets



Although this indicator is the Percentage of Availability of Critical Assets the figures in the above graph depict the non-availability of critical assets for illustrative purposes, and to maintain a consistent approach with other graphs within this document.

The figures are based on telemetry data for the critical items of plant in a failed state. As this is relatively new reported data, the reference and limits have not been set, as a larger range of data is required before Serviceability can be reasonably assessed.

The reduction of items in a failed state over recent years may be due to routine proactive maintenance and the prioritisation of capital investment to sites/assets where most required.

There is a continued focus on the out of service database and returning failed assets to service as soon as possible. This has resulted in this reduction over previous few years, however, it is accepted that due to the nature of the industry there will always some level of unavailability of assets. The trend has now levelled off at around 1-1.5% over the last 5 years.

The percentage figure for AIR21 is 1.03% This measure is considered **“Stable”**

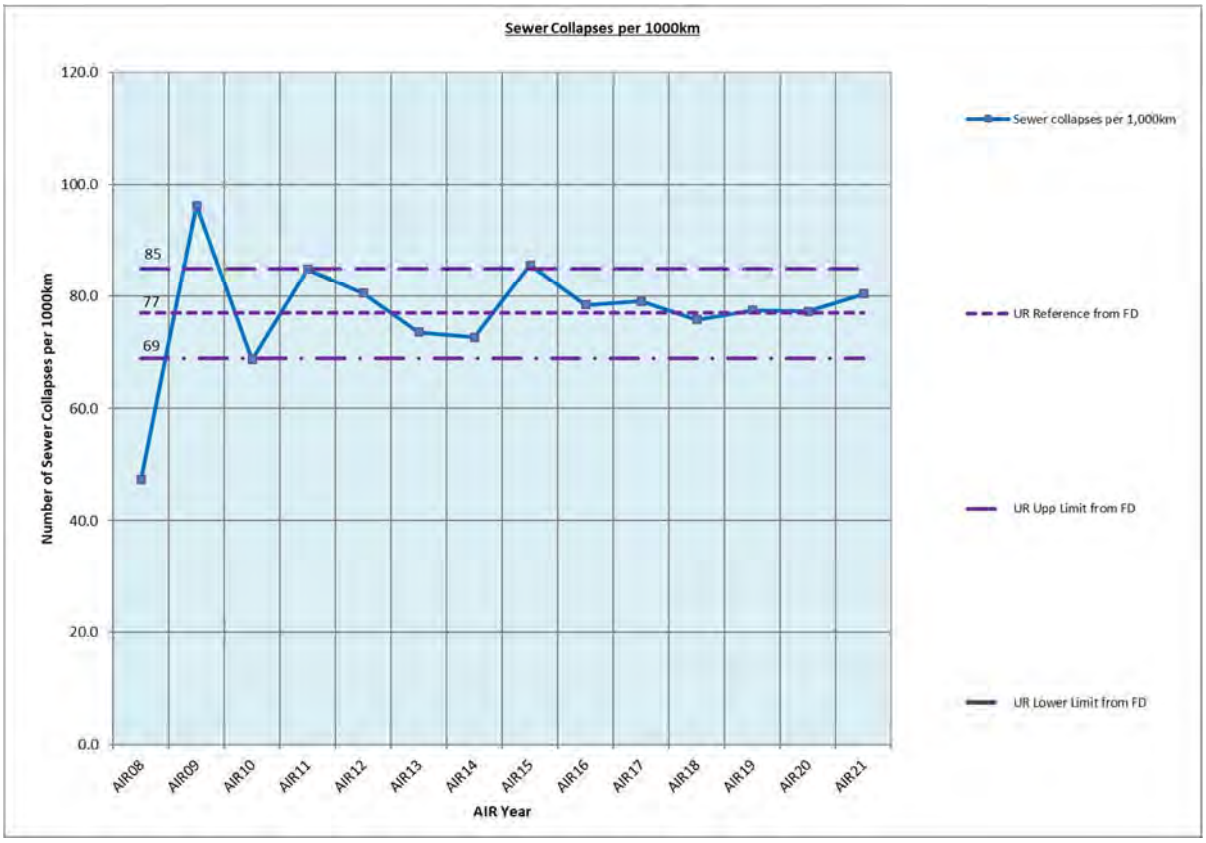
Line 45 – Company's overall serviceability assessment for Sewerage Infrastructure

The serviceability assessment has been designated as Stable as the trend analysis associated with the basket of serviceability indicators, used to assess serviceability for sewerage infrastructure, are all within the control limits or under the lower control limits based on the latest AIR21 information.

Wastewater Infra Serviceability

Primary Indicator

Line 35 – Sewer Collapses per 1,000km



This graph shows the number of collapses reported over the AIR return periods, which would indicate a continuing Stable performance for AIR21.

Secondary Indicators

Line 37 – Sewer Blockages per 1,000km

This graph shows the number of blockages per 1000km over the different AIR return periods, which would indicate a Stable performance.

The reduction strategy set out by NI Water is making a positive impact in the reduction of sewer blockages. By the use of the hotspot tool, letter drops in certain catchments and an increased programme of CCTV, the number of blockages has greatly reduced since 2008/09.

Line 39 - Number of H, M and L Pollution Incidents from Sewer Network

This graph shows the high, medium and low pollution incidents from the sewer network over the AIR return periods for CSO's, rising mains and foul sewers. Which would indicate a Stable performance.

Line 42 – Total Number of (Sewerage) Equipment Failures Repaired

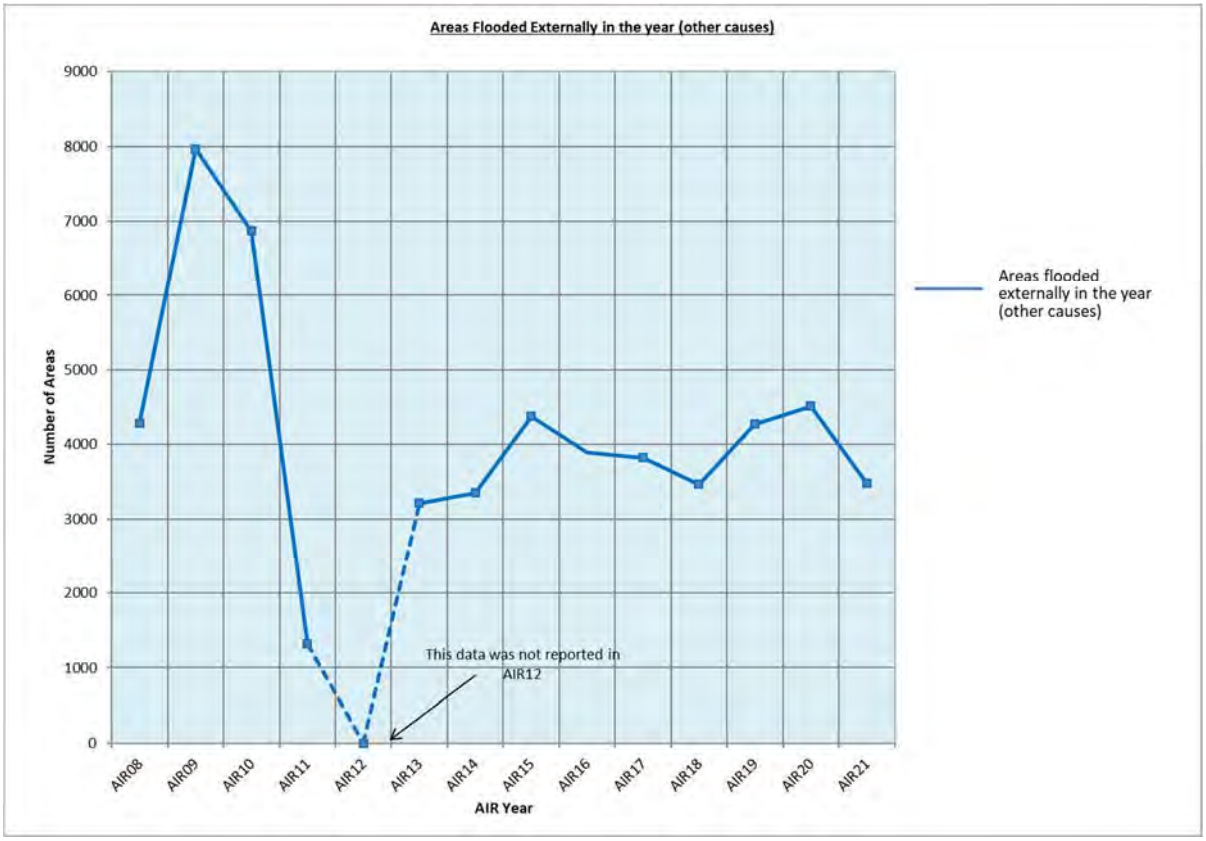
This graph shows the total number of sewerage equipment failures repaired, and continues to show an Improving performance.

Tertiary Indicators

Line 40 – Properties Flooded in the Year

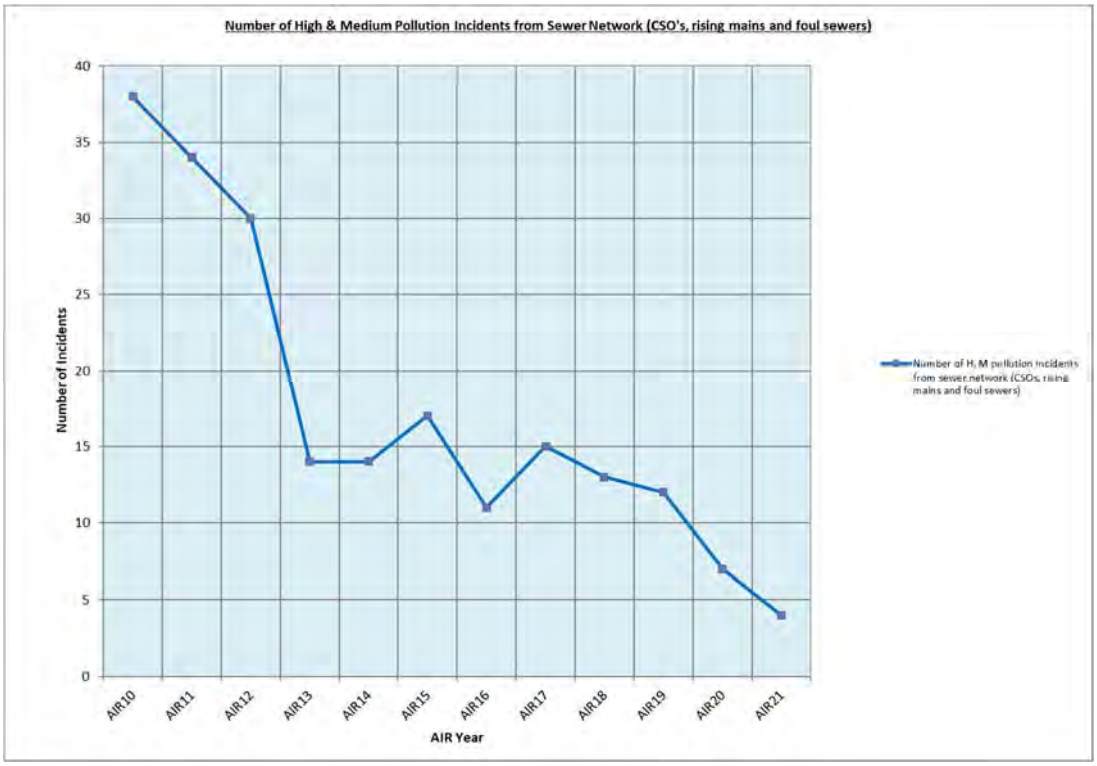
This indicator is to monitor performance and not incorporated in the serviceability assessment, it has however been included as a Tertiary Indicator. It continues to perform as Stable.

Other Informative Graphs



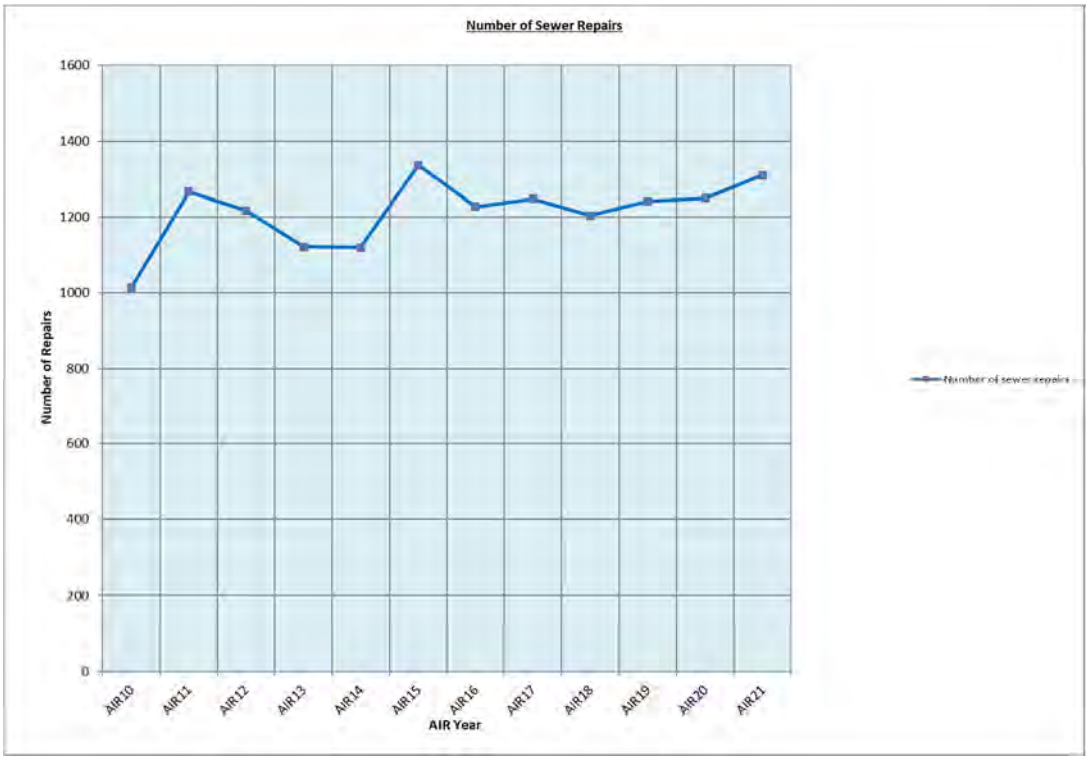
Line 41 – Areas flooded externally in the year

This graph is included for information only.



Line 38 – Number of H and M Pollution Incidents from Sewer Network

This graph has been submitted for information purposes only.



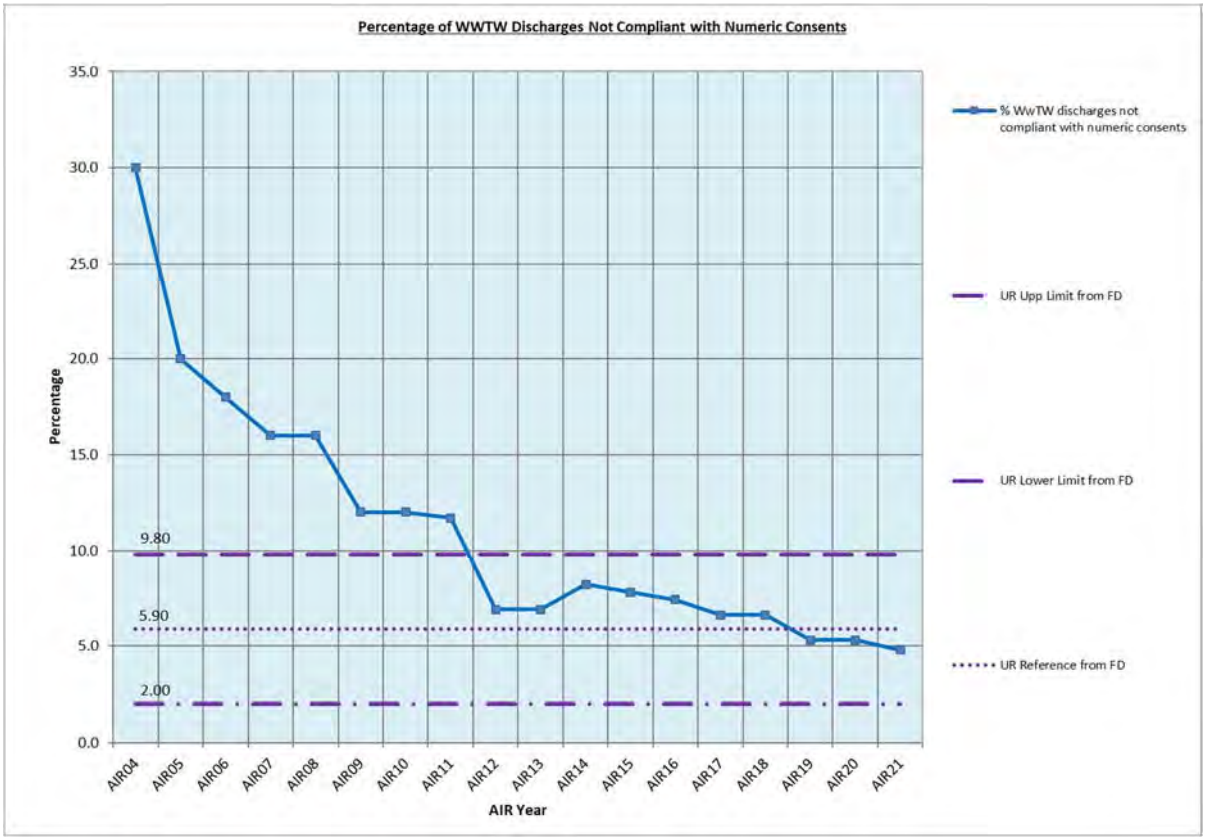
Line 44 – Number of sewer repairs

This graph is included for information only.

Line 54 – Company's overall serviceability assessment for wastewater non-infrastructure

The serviceability assessment has been designated as Stable as the trend analysis associated with the basket of serviceability indicators, used to assess serviceability for wastewater non-infrastructure, shows the Primary Indicator as Stable and the Secondary Indicators as Improving.

Primary Indicator

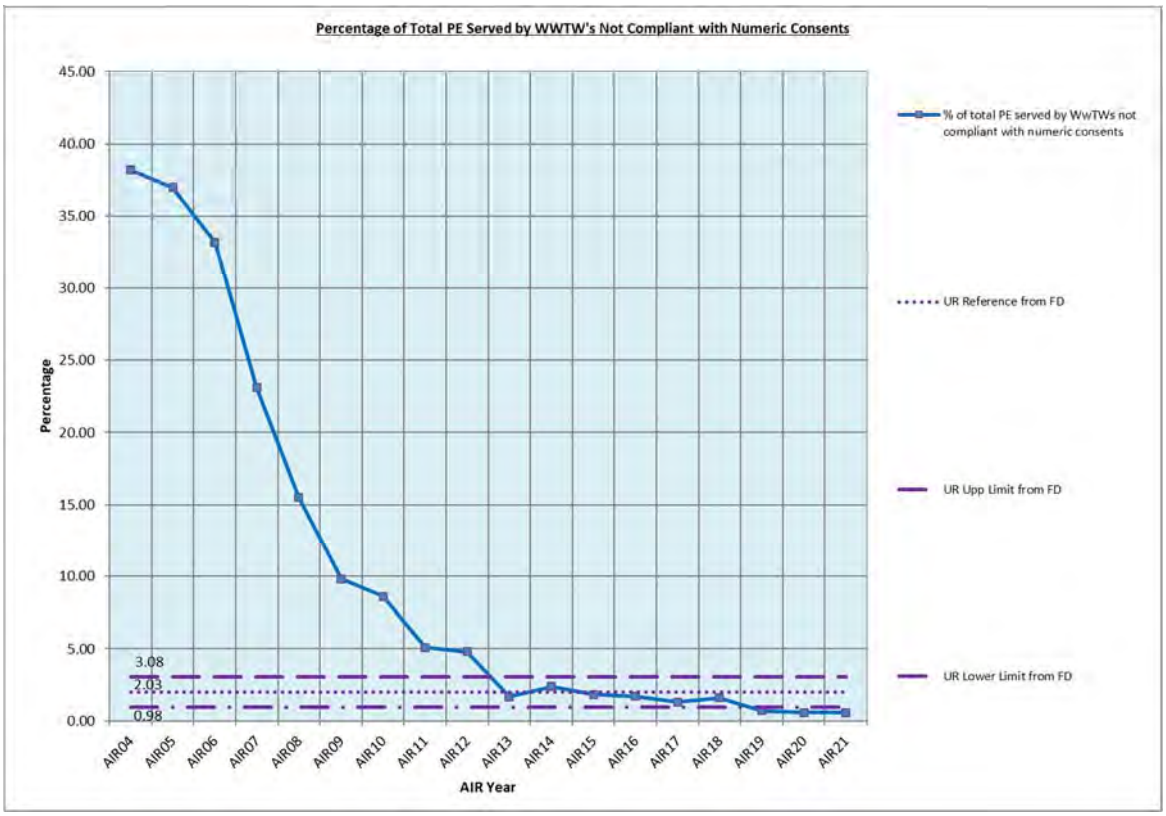


Line 46 – Percentage of WWTW Discharges Not Compliant with Numeric Consents

"Percentage of WWTW Discharges Not Compliant with Numeric Consents" has continued to show Stable performance over recent years. The regular investment from Capital Maintenance and Quality driven projects has helped maintain this Stable output.

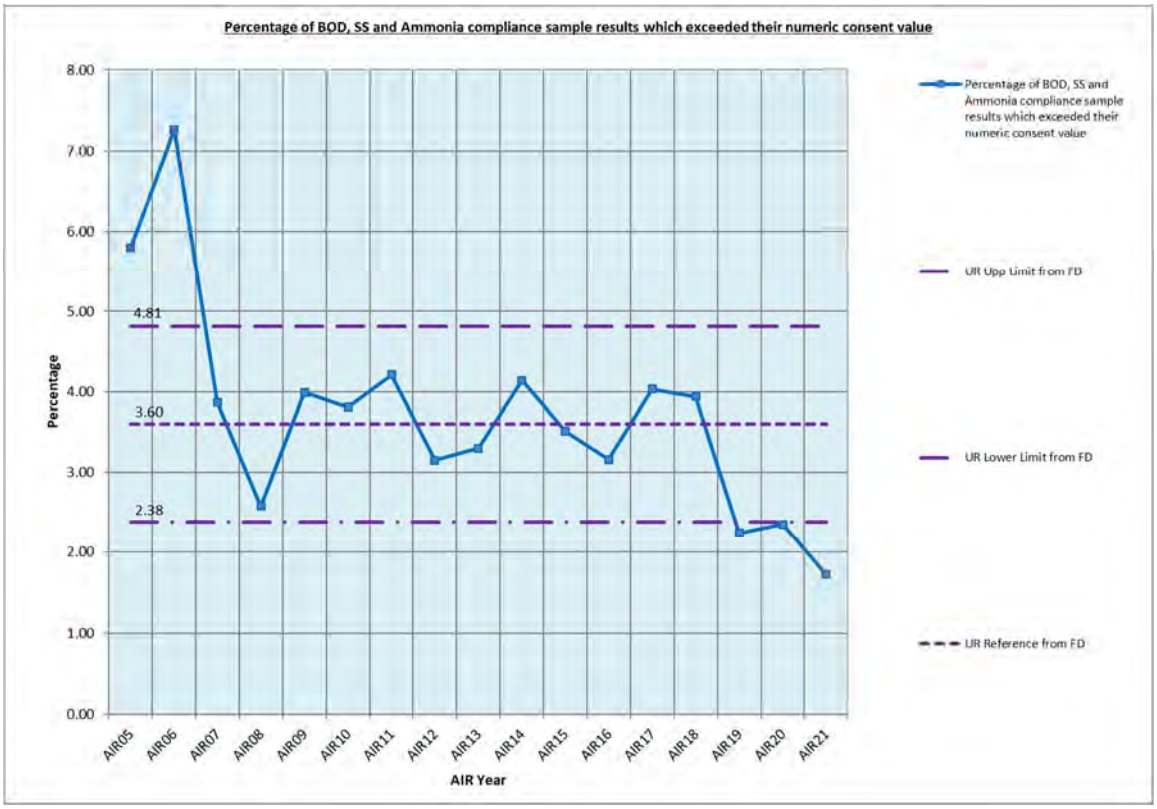
Secondary Indicators

Line 47 – Percentage of Total PE Served by WWTWs Not Compliant with Numeric Consents



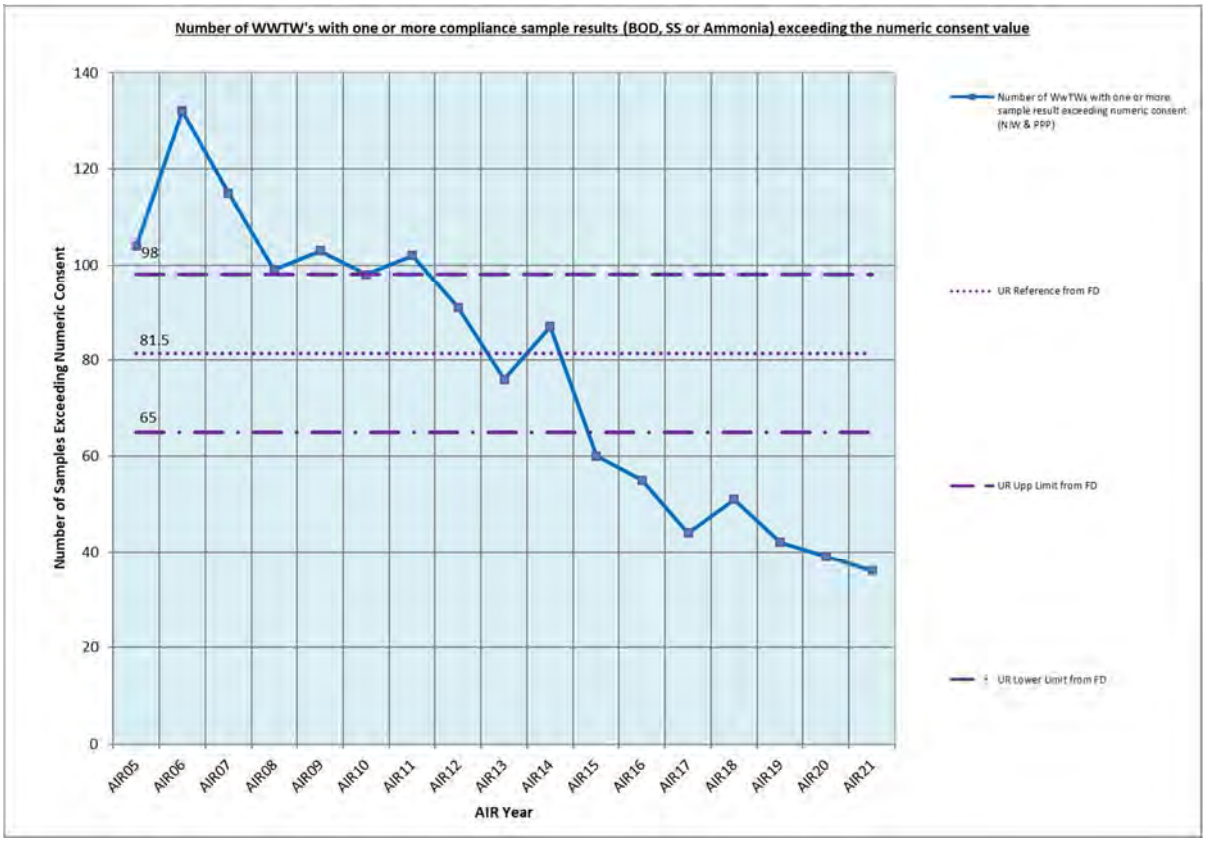
"Percentage of Total PE Served by WWTWs Not Compliant with Numeric Consents" has shown Improving performance.

Line 50 – Percentage of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value



Since the initial outlying figures of AIR05 & AIR06 the “Percentage of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value” has continued to perform well, and in AIR21 it has been assessed as Improving.

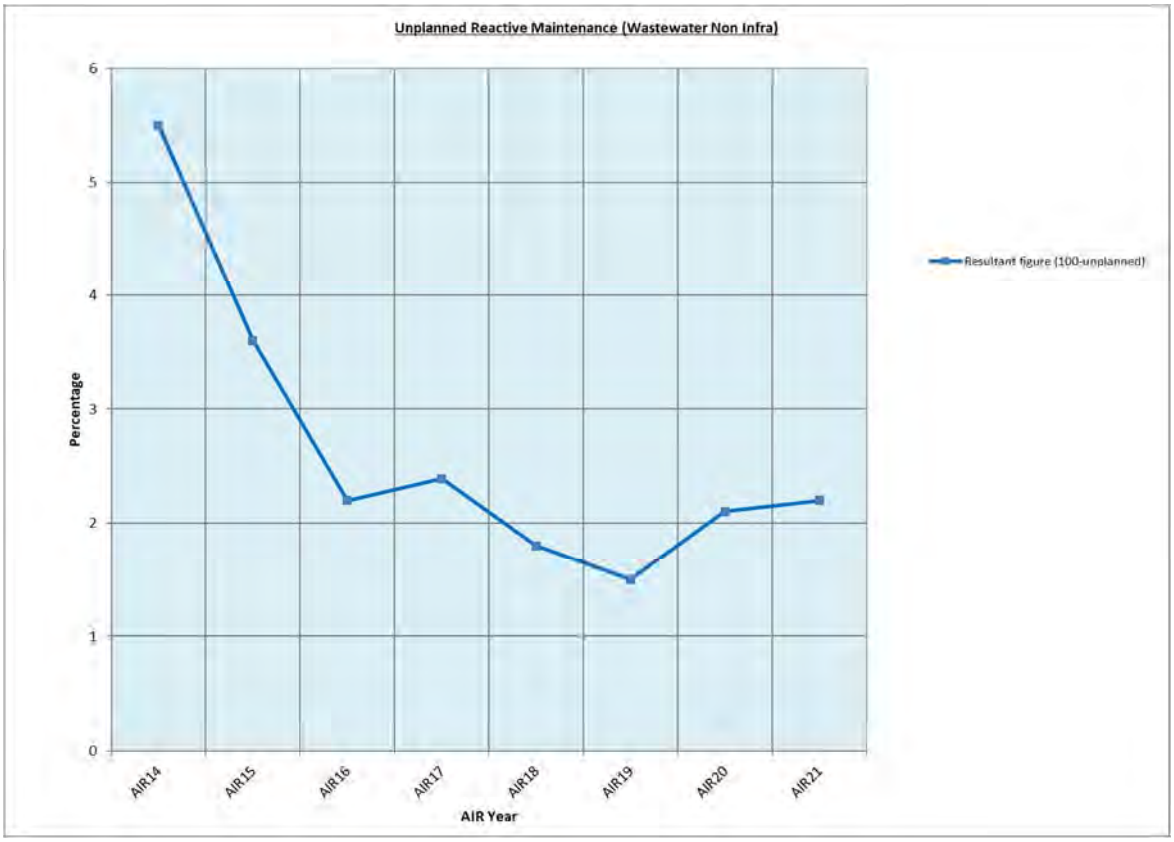
Line 51 - Number of WWTWs with one or more compliance sample results (BOD, SS or Ammonia) exceeding the numeric consent value



“Number of WWTWs with one or more compliance sample results (BOD, SS or Ammonia) exceeding the numeric consent value” has for the fourth consecutive year out-performed the Lower Limit. This has become evident by both the annual investment in assets and the extensive operational effort.

Other Informative Graphs

Line 53 – Unplanned Reactive Maintenance (Wastewater Non Infra) – Percentage of Availability of Critical Assets



Although this indicator is the Percentage of Availability of Critical Assets, the figures in the below graph depict the non-availability of critical assets for illustrative purposes, and also to maintain a consistent approach with other graphs within this document.

The figures are based on telemetry data for the critical items of plant in a failed state. As this is relatively new reported data, Reference and Limits have not been set as a larger range of data is required before Serviceability can be reasonably assessed.

The reduction of items in a failed state over recent years may be due to the benign weather, routine proactive maintenance and/or the prioritisation of capital investment to sites/assets where most required.

Table 47 – Development Outputs

DEVELOPMENT OUPUT			
1. Development of new consumer measures			
Final Determination: *The company shall report progress on the development of new consumer measures and satisfaction survey outlined in Section 3.7 of the PC15 final determination.*			
GOVERNANCE			
Directorate	**SRO**	**Project Lead**	**Approving Authority**
CSDD	Des Nevin	Rod Neill	EC
Additional Details:			
N/A			
PROJECT SUMMARY			
• New consumer measures have been developed in conjunction with stakeholders as part of the joint CEOG and CM/SAT working groups. • 4 new metrics were initially agreed by CEOG – 3 Quantitative and 1 Qualitative: o total contacts o first point of contact resolution (FPOCR) o repeat contacts o Net Promoter Score (NPS) style measure • This was then amended to: o unwanted contacts o first point of contact resolution (FPOCR) o Net Promoter Score (NPS) • The trial for the new metrics was completed and reported in AIR16. • They continue to be measured and reviewed by NIW, the UR and CM/SAT group members. • There was insufficient data to set targets (based on trendline analysis) at the PC15 mid-term review for performance reporting during the second half of PC15. • Performance targets for the new measures have been proposed and included in the PC21 business plan and draft/final determinations.			
KEY MILESTONES		Target	Status
1. Development of new consumer measures and approval by CEOG			Complete
2. Complete a trial of new consumer measures		30 Sep 15	Complete
3. Complete a trial of a new consumer satisfaction survey		31 Dec 15	Complete
4. Go live with a new consumer satisfaction survey		01 Apr 16	Complete
5. Report new measures in AIR16		15 Jul 16	Complete
6. Provide update for PC15 Mid-Term Review (via AIR17)		15 Jul 17	Complete
7. Propose targets in PC21 Business Plan		Q3 2019/20	Complete

Line 1 - Development of new consumer measures

The company shall report progress on the development of new consumer measures and satisfaction survey outlined in Section 3.7 of the PC15 final determination. The company shall:

- *Complete a trial of new consumer measures by 30 September 2015;*
- *Go-live with new consumer measures on 1 April 2016;*
- *Complete a trial of a new consumer satisfaction survey by 31 December 2015; and*
- *Go live with a new consumer satisfaction survey 1 April 2016.*

Activity Completed to date and its outcome

Listening to our customers' views and building these into our plans is essential for us to ensure that our customers' needs are at the heart of our service delivery.

NI Water has been working extensively on providing an improved customer experience. Under the auspices of the Customer Engagement Oversight Group (CEOG), NI Water has been actively engaging with NIAUR, CCNI and DRD to develop a range of new quantitative and qualitative customer measures which are most relevant to us and our customers, including the merits (or otherwise) of the current (OPA/DG) regulatory measures.

These new measures include the development of targets and methodologies for:

- Reducing unwanted contacts,
- Resolving customer queries at first point of contact (FPOCR), industry trends show that Customer Satisfaction increases in line with FPOCR increase,
- Developing a solution to obtain more meaningful and timely customer satisfaction feedback to highlight, as close to real time as possible, those areas and activities, which cause dissatisfaction for customers.

The measures above were trialled and reported on for the first time in AIR16.

The customer satisfaction measure has been further developed through the implementation of Voice of the Customer (supported by Watermelon), which has subsequently replaced the previous Allto Survey. By using the Voice of the Customer survey this has allowed NI Water to significantly increase the sampling of customer satisfaction from the previous 800 per annum to c8,000 per annum. Voice of the Customer data has been used for AIR 21.

During 2019/20 CEOG engaged Ipsos MORI to carry out customer research which has supported the PC21 submission.

DEVELOPMENT OUPUT		
2. Plan for Asset Maintenance		
Final Determination: The company shall provide a clear plan of how it will develop its approach to asset maintenance by 30 June 2015 with an interim update by 30 April 2015. The plan shall meet the basic requirements set out in Section 4 of the final determination. The company shall report progress against the plan throughout PC15. We shall determine the frequency of reporting once the plan has been developed.		
PROJECT SUMMARY		
A detailed PID and programme plan have been developed and progress is monitored by the Project Board.		
KEY MILESTONES	Target	Status
1. Interim update to UR	30 Apr 15	Complete
2. Approach document to UR	30 Jun 15	Complete
3. Complete visits with sample E/W/S water Co.s	31 Jan 2017	Complete
4. Update EC and gain approval on way forward	8 Mar 17	Complete
5. Verbal update to UR on progress to date and way forward	16 Mar 17	Complete
6. Business Case for Development of CMP Tools AO CIP Approval	May 17	Complete
7. Provide update for PC15 Mid Term Review (via AIR17)	15 Jul 17	Complete
8. Award Contract for Development of CMP Tools	Sep 17	Complete
9. Scenario Analysis to inform PC21 draft capital submission	Feb-Aug 19	Complete
10. PC21 Business Plan – Capital Maintenance Plan	Sep-Dec 2019	Complete

Summary of Progress since AIR20

In previous correspondence, NI Water set out its approach to asset maintenance in accordance with the Final Determination Main Report 2014. This included details of the appointment of a service provider to develop Deterioration Models and Service Impact & Reliability Modelling and the work to date on this element. It also highlighted that further development of NI Waters Tactical Investment Planning Tools was being carried out.

These models were used to inform the PC21 Capital Maintenance Plan submitted in January 2020. The outputs from various tactical investment tools were also used to inform the submission. In total there were 70 projects across 12 sub-programmes that made up the 'Pure' base maintenance estimates for the PC21 Submission.

As highlighted previously the number of initiatives related to the original CMP High Level Roadmap was rationalised to enable greater clarity going forward. The majority of the initiatives related to the CMP High Level Roadmap have mostly been completed, and where appropriate, are now part of BAU. Details of work ongoing are listed below:

Nr	Initiative Type	Key Initiative Overview	Delivery Milestone	Complete	Latest Update
10	Water Infra - Raw Water Trunk Mains, Trunk Mains & Strategic mains	Identify Intervention Options and Impacts/Benefits of Approach	PC21	On-Going	Various techniques to assess the condition of Trunk Mains are being investigated to enable enhanced targeting of Trunk Mains for rehabilitation.
11	Water Infra - Sluice Valves	Prioritise critical sluice valves for intervention (based on risk and consequence approach) and identify capital need	PC21	On-Going	NI Water embarked on a Strategic Valve Pilot analysis. The initial Project identified 100 critical valve interventions on the top 100 critical strategic mains. The initial pilot has been completed and money has been requested for further work in PC21.
14	Water Infra - Distributi on Mains	Identify Intervention Options and Impacts/Benefits of Approach	PC21	PC21	There has been some refinement in the approach to replacing Distribution Mains due to water quality issues.

DEVELOPMENT OUPUT		
3. Preservation of Services and Civil Emergency Measures Direction (PSCEMD)		
Final Determination: *The company will report progress on delivery of PSCEMD enhancements agreed with the Department for Infrastructure (DfI).* *The Utility Regulator will seek updates from DfI to confirm that the agreed work has been completed.*		
Additional Details:		
The NI Water Security & Resilience Manager works closely with DfI and CPNI to ensure compliance with PSCEMD.		
PROJECT SUMMARY		
PSCEMD is a Regulatory Instrument directing NI Water to undertake such works as are necessary to preserve services and mitigate the effects of a Civil Emergency. On an annual basis, NI Water appoints an approved external Certifier to prepare a Statement of Compliance and provide a supplementary report for DfI, detailing progress on delivery of key measures previously notified. In-year progress reporting, on an exception basis, is directly to DfI via regular QSM Reports		
KEY MILESTONES	Target	Status
1. External Certifier has pre-audit meeting with WDPD staff	Dec 20	Not Required by DfI
2. External Certifier completes PSCEMD Audit	Feb 21	On Target
3. Submission of Compliance Statement & PSCEMD Report to DfI	1st Apr 21	On Target
4. In-Year reporting to DfI by exception	As Required	On Target

Executive summary

With respect to activity completed to date and its outcome, details were provided to DRD Water Policy Shareholder Division as part of the Quarterly Shareholder Meeting Report for Quarter 2 (16/17) for the period to 30 September 2016. A subsequent joint review to refine reporting arrangements concluded that going forward, reports for PSCEMD Critical Sites will, as requested by Water Drainage Policy Division, be by exception only.

Regarding Planned Next Steps for Delivery, this was the subject of extensive bilateral discussion with WPSD staff commencing in July 2014 and continuing through various iterations and changes requested by the Department, until a programme was agreed, as confirmed in writing by the Director of Water Policy and Shareholder Division dated 12th April 2016.

The independent PSCEMD Audit Report and CNI Sites Audit Reports which were due to be submitted to The Department for Infrastructure, Water Drainage Policy Division on 1st April 2021 have not been competed due to the COVID-19 restrictions. The restrictions prevented the independent auditor from travelling to NI from GB. As site visits were only permitted for essential purposes the CNI site audits have not been completed. It is hoped these will be carried out in Q1 of 21/22.

Detailed update
On 31st March 2016, NI Water wrote to The Department enclosing a programme of security hardening work to be completed during the remainder of the PC15 period, comprising

- 13 Non-CNI Water Treatment Works (5 Enhanced & 8 Basic Plus)
- 54 Service Reservoirs all Enhanced
- 2 Wastewater Treatment Works (2 Basic Plus) (Now not required see below)

It was agreed that the programme would be subject to ongoing review throughout the PC15 period to capture and reflect changes in the distribution network and in some instances reappraisal of needs.
For example, the number of Service Reservoirs to security harden has changed due to decommissioning and overlap with other capital projects on the Base Maintenance Programme, the nett effect being a reduction from 54 to 52 sites requiring security hardening under this programme.

The most recent programme review in December 2018 indicated that:

- 13 Non-CNI Water Treatment Works were due to complete by May 2020 – previously reported as November 2018 - delay due to budgeting alignment and the rescheduling of work programmes on site.
  The final commissioning has been delayed due to COVID-19 working restrictions. It is hoped to complete this work by September 2021.
- 52 Enhanced Service Reservoirs will complete by March 2020 - previously reported as August 2019 - delay due to further work required to integrate additional alarm signals from site to a single user interface at our Alarm Receiving Centre.
  This has not been achieved due to commissioning difficulties and COVID-19 working restrictions. It is hoped this work will be completed by September 2021.
- 2 Wastewater Treatment Works, sites confirmed as Omagh Transfer Pumping Station and Newtownstewart WWTW, delivery programme still to be confirmed but were planned to complete during PC15 period.

Following review DfI have confirmed in their letter dated 9 November 2018 that no security hardening work will be required on wastewater sites.

Changes to the original estimated delivery timetable reflect actual time spend on issues such as programme scheduling, in-year budgeting alignment and revising design elements in light of experience gained from previous security hardening projects.

DEVELOPMENT OUPUT

4. ICAT Strategy

Final Determination:

The company shall report progress on the development and implementation of the ICAT strategy including implementation of the trial projects proposed for PC15 and its benefits and the economic case for extending the strategy.

PROJECT SUMMARY

The Instrumentation, Control, Automation and Telemetry (ICAT) Strategy is focussed on enabling NIW to become more customer focussed, to improve compliance and become more resilient, whilst simultaneously reducing costs. This project addresses this through development of reliable automation and controls, to minimise manual input and on site presence, for process and plant controls and to facilitate remote monitoring and control of plant and processes that is not currently available for our assets, (focusing on Service Reservoirs). The project is divided into 6 phases based around WTW supply zones. The full programme overview for the 6 phases for PC15 was provided in AIR 16. A shorter milestone programme is outlined below.

KEY MILESTONES	Target	Status
1. PC15 ICAT Business Case Approval	30/11/15	Complete
2. First PC15 ICAT Delivery Programme Board Meeting	06/05/16	Complete
3. PID Approval (Phase 1 Omagh / Cookstown)	06/05/16	Complete
4. ICAT delivery team fully established	18/07/16	Complete
5. First task order issued to contractors (Phase 1)	08/08/16	Complete
6. First Site started - Brigh SR (ACE Key milestone)	22/08/16	Complete
7. Update to BIPB - Midway through Omagh / Cookstown (ACE Key milestone)	30/11/16	Complete
8. 2nd ICAT Delivery Programme Board Meeting	30/11/16	Complete
9. 3rd ICAT Delivery Programme Board Meeting	21/03/17	Complete
10. Approval of Business case for phase 2 (Belfast)	31/05/17	Complete
11. Completion of listed Service Reservoir in Omagh / Cookstown	30/06/17	Complete
12. PPE1 - Omagh / Cookstown Work Package	31/07/17	Complete
13. Update to BIPB - Completion of Omagh / Cookstown	31/08/17	Complete
14. PPE2 - Omagh / Cookstown Work Package	30/09/21	On target
15. Ards Work Package Start (ACE Roadmap Milestone)	01/04/18	Complete
16. North West Work Package Start (ACE Roadmap Milestone)	01/04/18	Complete
17. Completion Belfast Work Package	30/12/21	On target

KEY MILESTONES	Target	Status
18. PPE1 Report completion for Belfast Work Package	28/09/21	On target
19. PPE2 - Belfast Work Package	28/09/22	On target
20. North West Work Package Finish (ACE Roadmap Milestone)	31/03/20	Complete
21. Ards Work Package Finish (ACE Roadmap Milestone)	31/03/20	Complete
22. Newry Work Package Start	01/04/20	Complete
23. Newry Work Package Finish	31/05/21	On target
24. Enniskillen Work Start	01/04/21	Paused until PC21
25. PPE1 Report completion for Newry Work Package	01/09/21	On target
26. Enniskillen Work Package Finish	01/09/21	Paused until PC21
27. PPE1 Report completion for Enniskillen Work Package	01/12/21	Paused until PC21
28. PPE2 - Newry Work Package	01/05/22	On target
29. PPE2 - Enniskillen Work Package	01/09/22	Paused until PC21

***** See Table Figure 1 for details of changes to milestones**

Activity completed to date and its outcome

PC15 ICAT delivery programme business case was approved by the NI Water Business Improvement Project Board (BIPB) on the 30th November 2015 with £4.784M of funding to install ICAT technology at approximately 200 sites. The delivery programme was divided into 6 phases based around water supply zones.

The project when complete will deliver improved resilience in the water supply network. This will be achieved through increased overall network storage volume, reservoirs spending less time in low-low level alarm, potentially quicker reaction time in operational incidents through automated or remote manual intervention, remote access to controls in poor weather conditions and better overall management of the water network through the ability to manage storage and balance flows across the network.

The project will also contribute to reducing corporate risks in terms of supply resilience and will act as an enabler for Customer Relations Centre (CRC) and Production lines benefit realisation.

The total nett financial savings of the total project is estimated at £645K over 10 years, made up of reductions in base maintenance, overflows, site visits, overtime and truck rolls.
In addition the capital cost savings and functionality associated with automation provision through the ICAT delivery method are significantly lower when compared to normal capital delivery methods for automation provision.

A dedicated ICAT delivery team was established in July 2016 and have delivered the following:

Phase	Area	Number of sites	Cost (£K)	Start Date	Finish Date	Status
1	Cookstown and Omagh	45	1,032	July 16	Jun 17	Complete
2a	Belfast Stage 1	21	685	July 17	-	Complete
2b	Belfast Stage 2*	17	313 (total £998)	-	Dec 20	On Going
3	Ards and North Down	27	689	Apr 18	Mar 20	Complete
4	North West	24	436	Apr 18	Mar 20	Complete
5	Newry*	23*	667*	Apr 20	Mar 21*	On Going
		5*	128*	Apr 21*	May 21*	Deferred to PC21
6	Enniskillen	7				Deferred to PC21

* Indicates phases impacted by COVID-19

To date feedback from Customer Services Delivery Directorate (CSDD) on these sites has been very positive. In addition other issues (e.g. hydraulic issues) within the network system have been identified and addressed.

Detailed baseline figures for estimating benefits in competed phases have been established and will be used to complete PPE's after approval by internal audit.

ICAT non-financial benefits and functionality have been clearly demonstrated during recent abnormal operational events in water supply zones across Northern Ireland.

These include events such as water treatment works emergency shutdowns such as at Lough Fea, Drumaroad, Carmoney WTW; drought contingencies at Killylane, Drumaroad and in Fermanagh. During these abnormal and adverse events inlets to reservoirs were managed remotely without field staff being deployed. This ensured abnormal events were managed with minimal customer supply issues. Remote operation of the ICAT systems ensured field works which would have taken several days in some instances, were completed in under three hours. Whilst enabling the resilience of the various water networks around the province and ensuring customer service provision, the ICAT functionality tested under real operational challenges has given NI Water staff confidence in the reliability and functionality available to them.

ICAT solutions are the practical and necessary on-site automation and control 'work horse' for the proposed IOC (Integrated Operational Control centre).

NI Water provided the Utility Regulator with a presentation on 13 October 2016 giving an overview of the PC15 ICAT programme.

Standardisation of the design has enabled a single, detailed user manual to be developed which covers all ICAT SR sites.

A dedicated training rig connected to telemetry and associated mimics allows staff to be trained, gain experience and familiarise themselves with the system before operating the live systems.

NI Water have received a Patent to protect the IP of the system and its unique controls.

Planned next steps for delivery

Over the iCAT delivery period there have been a number of funding constraints. This has impacted the delivery of the project and delayed the programme resulting in the 6th phase (Enniskillen Area) being deferred to PC21.

The restrictions to "unnecessary" work imposed under COVID -19 control measures has also impacted the 20/21 programme. As a result it is anticipated that only 23 out of 28 sites were completed within the PC 15. The remainder will be completed in PC21.

The impacts of these changes are shown in Figure 1 below

Figure 1

	Title of Milestone Impacted	Original Baseline Date (PID)	Current Approved Date	'Revise to' Milestone Date	Comments
14	PPE2 - Omagh / Cookstown Work Package	31/07/18	31/03/20	30/09/21	Revised due to resource constraints and internal audits
17	Completion Belfast Work Package (ACE Roadmap Milestone)	31/01/18	30/06/20	30/12/21	Revised date dependant on ability to access sites due to COVID
18	PPE1 Report completion for Belfast Work Package	28/02/18	31/08/20	28/02/22	Dependant on Belfast area finish date as in line 17.
19	PPE2 - Belfast Work Package	28/02/19	31/08/21	28/02/23	Dependant on Belfast area finish date as in line 17.
22	Newry Work Package Start	28/02/18	30/04/19	01/05/21	Original schedule revised to accommodate operational need Approved by BIPB Jan18. Funding for project removed by M&G Prioritisation Panel /Capital Monitoring Group 13/12/18. Business case approved Feb 20 with April 20 start date achieved.
23	Newry Work Package Finish	31/12/18	30/03/20	31/05/21	Date changes to accommodate revised start date. Covid -19 has impacted on site work, only 23 out of 28 sites completed within PC 15. The remainder will be delivered in PC21.
24	Enniskillen Work Start	01/01/19	30/04/20	PC21	Original schedule revised to accommodate operational need Approved by BIPB Jan18. Funding for project removed by M&G Prioritisation Panel /Capital Monitoring Group 13/12/18. Deferred to PC21.
25	PPE1 Report completion for Newry Work Package	01/05/20	31/05/20	01/08/21	Delayed as per line 23 start date

	Title of Milestone Impacted	Original Baseline Date (PID)	Current Approved Date	'Revise to' Milestone Date	Comments
26	Enniskillen Work Package Finish	31/07/19	31/08/20	PC21	Start deferred as per line 24
27	PPE1 Report completion for Enniskillen Work Package	30/09/20	30/09/20	PC21	Start deferred as per line 24
28	PPE2 - Newry Work Package	01/05/21	31/05/21	01/05/22	Delayed as per line 23 start date
29	PPE2 - Enniskillen Work Package	30/09/21	30/09/21	01/09/22	Start deferred as per line 24

PC21 Planning

Whilst installation at the SR sites in Newry area has been delayed due to COVID 19, the

ICAT team are in process of completing any outstanding installations throughout Newry and the wider NI Water estate of gravity supplied SRs including the Killyhevlin supply area in Fermanagh.

During 2019/20 the NI Water iCAT team have developed and installed the first intelligent Water Pumping Station (iWPS) prototype at Ballyhome, Portrush. This work was completed in advance of the OPEN Golf championship and the new station, along with other local ICAT SR assets and have performed as planned during and since this event. This development work has informed our PC21 submission and provides the company an opportunity to improve performance and customer resilience by installing the iWPS solution at WPS sites during PC21 post completion of the gravity SR sites. This iWPS solution is equivalent to the iSR solution and will run in tandem with automated SRs to assist in developing intelligent water system controls. Approximately fifty water pumping stations and receiving service reservoirs have been identified for ICAT functionality upgrades during the PC21 period.

The ICAT team are also engaged in future iCAT design and planning for various asset types, including development of system controls (intelligent network distribution control system – iNDCS) linking multiple sites together to provide integrated system management. The first prototype iNDCS system was installed in 2013 on the B1 dispatch line from Ballinress WTW. This has operated very successfully, demonstrating more stable treatment at the plant reducing water quality risks as well as the other benefits outlined within the report for the reservoir controls. Additional smaller scale prototype systems have also been implemented and tested such as resilience works in Fermanagh ref Killyhevlin and Lough Bradan supply zones interlinked at Drumharvey SR.

DEVELOPMENT OUPUT
5. Water resource management plan and drought plan
Final Determination: *The company shall complete a Water Resource Resilience Plan which combines a Water Resource Management Plan and Drought Plan.* *- A draft plan should be available for consultation by June 2016;* *- A plan should be complete for publication by April 2017.* *When developing its plan, the company should set out and incorporate its water demand management strategy and its policy on water efficiency measures in homes and businesses.*
PROJECT SUMMARY
The WR&SR Plan sets out how NI Water intends to maintain the balance between the supply and demand for water over the long-term, and the operational and management options and activities available to respond to the short-term critical events such as droughts and freeze-thaw issues. Final Determination target dates have been amended with the agreement of the WR&SR steering group: reflected in the milestones below.

KEY MILESTONES	Target	Status
1. Demand Forecast Results	Nov-15	Complete
2. Deployable Output Results	Mar 16	Complete
3. Outage & Headroom Results	May 16	Complete
4. Options Workshops	June 16	Complete
5. Resilience Workshops	Oct 16	Complete
6. Multi-Criteria Assessments of Options & Strategies	Jan 17	Complete
7. Draft Plan for Internal Review	Feb 19	Complete
8. Plan available for consultation	May 19	Complete
9. Plan published	May 20	Complete

Activity completed to date and its outcome

As highlighted in the update for AIR 20 the final plan was submitted to DfI in April 2020 for permission to publish which was granted in May 2020 and hence the final plan was published in June 2020.

Plans are now underway for the development of the next plan to inform PC27 and beyond. As a first step the Water Resource & Supply Resilience Plan Technical Guidance has been updated. This guidance is based on current industry best practice as applicable to Northern Ireland for both water resources planning and drought planning. It further provides guidance for events such as freeze-thaw, which have particular relevance to Northern Ireland.

DEVELOPMENT OUPUT

6. Sustainable Economic level of Leakage

Final Determination:
The next economic level of leakage assessment shall be prepared in 2016-17 to inform the Water Resource Resilience Plan and revised leakage targets for PC15 from the mid-term review onwards. This should be updated in 2019-20 to inform the company's business plan submission and the establishment of leakage targets for the PC21 period.

Additional Details:

NIW developed its PC15 business plan based on the SELL 2014 assessment, proposing a leakage reduction profile to reduce leakage below the SELL to reach 153 Ml/d by 2021.

PROJECT SUMMARY

The SELL determination will incorporate all relevant findings with respect to data and methodology improvements and accounting for leakage review comments and relevant changes to the industry best practice since the 2014 SELL determination.
The outline scope of work for delivery includes:

1. Data Collection and Quality Assessment
2. Cohort Definition
3. AZNP / HDF
4. Background / Policy Minimum Leakage & Infrastructure Correction Factor determination
5. NRR 2015-16 (already completed)
6. ALC Cost Functions per HDZ
7. Asset Renewal Functions
8. Pressure Management Functions
9. MCoW Calculation
10. Social & Carbon Leakage Management Externalities
11. Environmental & Carbon LR Externalities (short-cut estimation)
12. SR ELL & SELL Calculation
13. SELL Sensitivity & Uncertainty Analysis (climate, MCoW etc.)
14. ELL/SELL Monte Carlo Analysis
15. Draft and Final Executive Reporting
16. Household night use allowances update
17. Customer supply pipe leakage update
18. Review of non-household night use calculations and data/logging requirements to update.

The SELL review takes into account the potential for further leakage reductions into the next PC period as part of a least cost plan to meet the future demand for water, whilst minimising environmental impacts.

KEY MILESTONES	Target	Status
1. Project initiation	Apr-16	Complete
2. Phase 1 scoping study documentation	Jul-16	Complete
3. Phase 2 SELL refresh initiation	Jul-16	Complete
4. Draft & Final Executive Reporting	Apr-17	Complete
5. Household night use & customer supply pipe updates	Apr-17	Complete
6. SELL19 project initiated	Mar-19	Complete
7. SELL19 scoping documentation	Mar-19	Complete
8. SELL19 – data transfer & analysis	Jul-19	Complete
9. SELL19 – draft SELL outputs for PC21 updating	Jul-19	Complete

10. SELL19 – draft & final executive reporting	Sep-19	Complete
KEY MILESTONES	Target	Status
11. PC21 draft submission	Feb-20	Complete
12. PC21 draft submission audit and queries	Mar-21	Complete

DEVELOPMENT OUPUT

7. Controlled Reservoir Safety

Final Determination:
The company shall report progress on the inspection and maintenance of controlled reservoirs under the proposed Reservoir Bill addressing:
- Remedial work on Camlough Reservoir (see Annex K [of the Final Determination]);
- Implementation of the inspection requirements of the proposed Reservoir Bill for controlled reservoirs by the end of 2017/18;
- Completion of maintenance requirements arising from these inspections by 2020/21.Report on any material issues identified in the surveys which require immediate attention which cannot be delivered within the estimate PC15 funding.

PROJECT SUMMARY

- **Remedial Work on Camlough Reservoir.**
  - All work completed in June 2017
- **Implementation of Inspection Requirements of the Proposed Reservoir Bill for controlled reservoirs by the end of 2017-18.**
  - The new consultancy framework has been awarded
  - Section 10 inspections have been completed and improvement options and scope identified. Some re-inspections have been completed during 20/21 to ensure NI Water can retain 'Responsible Reservoir Manager' status.
- **Completion of Maintenance Requirements Arising from Inspections by 2020/21.**
  - Although £4m BM (12/13 Costs) was identified within PC15 FD to action the outputs of the Section 10 reports only £810k (17/18 Costs) has been allocated for the latter years of PC15 for the highest priority issues
- **Designation of Service Reservoirs and Clear Water Basins Capacity > 10,000m^3 yet to be confirmed by DfI Rivers.**
  - The category designation of individual SRs and CWBs is still to be confirmed and agreed with DfI Rivers, as they require NI Assembly approval.
  - Panel Engineer inspections for these assets was not programmed as a PC15 output.

KEY MILESTONES	Target	Status
1. Remedial Work on Camlough reservoir	June 2017	Complete
2. The award of new consultancy framework	June 2017	Complete
3. Implementation of inspection requirements of the Proposed Reservoir Bill for controlled reservoirs	March 2018	Complete
4. Inspection Reports identifying improvement options and scope completed	Dec 2018	Complete
5. Complete all maintenance requirements identified by the Panel Engineer's reports within the PC15 period subject to funding availability	March 2021	Majority deferred to PC21

Remedial work on Camlough Reservoir

A contract (JV853 - Camlough Impounding Reservoir Refurbishment) was awarded to rehabilitate the dam core and outlet pipework. The contract was commenced in May 2016 and completed in June 2017.

Implementation of the inspection requirements of the proposed Reservoir Bill for controlled reservoirs by the end of 2017-18

The Reservoirs Act (Northern Ireland) 2015 received Royal Assent on 24 July 2015 however the main provisions of the act were not commenced at this time. The latest update from DfI Water Policy unit has indicated the Act could be fully commenced by March 2022.

NI Water presently has 45 Impounding Reservoirs, in service and out of service, which are recognised by the act as being 'controlled reservoirs'. This is a decrease one from AIR20 following the official discontinuance of Ballintemple Impounding Reservoir. A controlled reservoir is any structure or area that is capable of holding 10,000 cubic metres or more of water above the natural level of any part of the surrounding land. This also covers SRs & CWBs, which is an important change from the E&W 1975 act that only covered Impounding Reservoirs.

Although DfI Rivers had an initial list of SRs and CWBs, belonging to NI Water it was agreed that surveys would be required establish the volume above the natural level of any part of the surrounding land. The initial survey was completed in 2019 with 40 SRs and CWBs likely to be deemed controlled reservoirs in the future. In addition following the upsizing of Lough Fea, Killyhevlin and Drumaroad CWB these will also be designated as Controlled Reservoirs giving a total of 43 SRs and CWBs. All Service Reservoir Panel Inspections are now to be completed at these sites to confirm the final listing and ensure compliance with the Reservoir Act (NI). As the Reservoir Cleaning programme was suspended due to Covid no All Service Reservoir Panel Inspections took place in 20/21 however the programme has recently commenced with inspections due to take place in early years of PC21.

A contract was let (Aug 2017) for the Section 10 inspections of the in-service and out of service Impounding Reservoirs. These inspections are now complete and based on latest estimates £8m is required to rectify the identified measures from the various reports.

Completion of maintenance requirements arising from these inspections by 2020-21. Report on any material issues identified in the surveys that require immediate attention that cannot be delivered within the estimate PC15 funding.

Although £4m BM (12/13 Costs) was identified within PC15 FD to action the outputs of the Section 10 reports only £1080k (17/18 Costs) was allocated for the latter years of PC15 for the highest priority issues. This was due to NI Water not being funded to the full PC15 FD and with competing prioritises the remaining Base Maintenance budget was required elsewhere in the latter years of PC15.

Plans for Delivery of the inspection requirements of the proposed Reservoir Bill for controlled reservoirs

The legislation when fully enacted will require NI Water to ensure all its controlled Reservoirs are under the supervision of a Supervising Engineer and also that 10 years inspections are carried out by an All Reservoir Panel Engineer. Historically NI Water has always had 10 year inspections carried out by an All Reservoir Panel Engineer but the role of a Supervising Engineer was carried out internally and the personnel where not a member of a panel of reservoir engineers which is a requirement under the proposed Reservoir Act (NI).

In the absence of the Reservoir Act (NI) a technical advice note (TAN) 'The Practical Application of Strategic Planning Policy for 'Development in Proximity to Reservoirs' was issued which set out how the Department for Infrastructure (DfI) Rivers will apply its responsibilities with regard to the provisions of planning policy contained within the Strategic

Planning Policy Statement (SPPS), together with the provisions of Policy FLD 5 of Planning Policy Statement (PPS) 15 (Revised) "Development in Proximity to Reservoirs".

One of the outputs of the TAN was planning was not permitted in the flood inundation zone of any controlled reservoir while there are outstanding 'matters in the interest of safety'. In regards to NI Water this would currently apply to 40 of the 45 Controlled Reservoirs. Following discussions with the application of the TAN a proposal was put forward by DfI Rivers for Responsible Reservoir Manager Status which if granted would automatically satisfy the TAN requirements.

To achieve Responsible Reservoir Manager Status NI Water had to comply with a number of requirements. For all bar one of these NI Water complies as part of its BAU but there was a requirement to:

- Commission a supervising engineer to monitor the reservoir at all times

This Supervising Engineer had to be a member of a panel of reservoir engineers and as such NI Water appointed 3rd party Supervising Engineers to monitor all its controlled reservoirs in November 2019 to satisfy the requirements.

In future as additional SRs are designated controlled reservoirs these will also be under the supervision of the 3rd party Supervising Engineers.

DEVELOPMENT OUPUT

8. Water mains prioritisation

Final Determination:
The company shall engage with stakeholders on the development of its water mains prioritisation process to incorporate the outcome of PC15 consumer engagement including interruption to supply and dirty water complaints by 31 March 2015.
The company shall provide updates on the implementation of the prioritisation annually throughout PC15.

PROJECT SUMMARY

NOTE: The following Text refers to the development of the NI water Watermains Rehabilitation prioritisation process –The Watermains Infrastructure Model (WIIM). There is currently an ongoing review within NI Water in relation to reviewing the ongoing processes including the possibility of incorporating Deterioration Modelling and Watermains Conditioning into the process of prioritisation and identifying appropriate interventions.

- For PC15, NI Water developed a Watermains Infrastructure Investment Model (WIIM) to identify and prioritise water network rehabilitation investment. WIIM is now operating as a BAU tool for Capital Maintenance Planning.
- The model is refreshed every two years using updated corporate datasets (e.g. bursts customer contacts, water quality sampling exceedances, etc.) to inform the ongoing investment programme.
- WIIM1 incorporated dirty water complaints but not DG3 within the methodology. With the exception of DG3 there was a strong alignment between the original WIIM 1 methodology and CEOG analysis (Note: WIIM1 refers to the initial methodology used to identify the investment programmes for 2015/16 and 2016/17). WIIM2 model was modified to incorporate DG3 in April 2016 and used to identify the 2017/18 and 18/19 investment programme.
- NI Water acknowledged the omission of DG3 data in the original WIIM1 analysis. The UR was informed of the company's intention to revise the methodology approach in a detailed response in September 2014.
- A formal presentation was delivered to CCNI in September 2014 to provide an update of the WIIM process, including plans to incorporate DG3 in the WIIM2 methodology. Further formal presentations to external stakeholders (CCNI, DWI and UR) were undertaken in May 2017 to achieve ongoing buy-in to the WIIM2 methodology.
- Ongoing review of the WIIM process ensures the methodology remains focused on NI Water's customer promises.

KEY MILESTONES	Target	Status
1. DG3 incorporated into WIIM 2	March '15	Completed Apr '16
2. WIIM methodology now operating as a BAU.	March 15	BAU
3. WIIM2 methodology to be communicated to key stakeholders	May 17	Completed
4. WIIM methodology shared with key stakeholders when changes are made to methodology	As required	BAU
5. WIIM 3 Analysis and data update implemented to build the WIIM 3 Workpackages	June 2018	BAU

Activity completed to date and its outcome

The company has engaged with stakeholders on the development of its water mains prioritisation process to incorporate the outcome of PC15 consumer engagement including:

A) Interruption to Supply

- CEOG analysis ran in parallel with development of WIIM 1 in 2014
- Gap analysis established that strong alignment existed, however DG3 alignment DG3 needed to be addressed. Other than DG3, no recalibration of WIIM was required as a result of CEOG (see document 141006 WTC WIIM).
- Although it had initially been considered that issues around geo-coding historic DG3 data would prevent effective incorporation of DG3 into WIIM, this was incorporated into the WIIM 2 procedure, as the outages were mapped by utilising the Project resources.
- The UR was informed of the proposed approach regarding incorporation of DG3 into WIIM in a detailed response to this and a number of related queries in September 2014 (see PC15 DD Response Annex K 5 11 9 V1.4 Watermain Rehab.doc available on request). A formal Presentation was also delivered to CCNI in September 2014 in order to inform them of progress around WIIM and explain plans regarding incorporation of DG3 into analysis.
- In addition there was a further Stakeholder presentation on 10th May 2017 in which the WIIM 2 and the proposed WIIM 3 approach was presented and discussed.

B) Dirty Water Complaints

- Dirty water complaints were incorporated into the model from the outset – this was something which DWI was satisfied with from the outset of the development of WIIM.
- DWI, CCNI, NIAUR and DRD Water Policy were members of a group who were invited to review the tender specification of the first WIIM contract. Engagement continued throughout the development of WIIM.

C) The Company shall provide updates on the implementation of the prioritisation annually throughout PC15.

- The WIIM 2 methodology incorporates the “Interruption to Supply” requirement .See above where the updates were provided to the external stakeholders

Improvements contained in WIIM2 (from the original WIIM 1 Methodology) are summarised below:

- Parent Length segments of water mains are now based initially on Road Junction information, resulting in construction of a NIW corporate dataset which better models or represents the distribution network for ease of analysis.
- Feedback from recent customer engagement has been incorporated into the WIIM2 approach, ensuring that methodology is customer focused.
- DG3 interruption to supply data is now captured and scored in alignment with NI Water KPIs.
- Scoring matrix is better defined, containing increased weighting for issues relating to Water Quality and DWI involvement.
- Unit Rates can be more easily programmed.
- Pipeline flushing has been incorporated.
- WIIM 2 has the ability to insert ad-hoc pipeline queries in relation to assessment of high priority customer feedback issues, in conjunction with rescoring of programme

elements. Ad hoc schemes can be flagged up and separately identified from those generated through 'bottom up' analysis.

- Rather than the static list of outputs created during WIIM1, WIIM2 outputs are captured under a Scheme Management Tool, allowing for dynamic management of the overall programme. This will enable reaction to changes in regulatory environment or public expenditure.
- Schemes outputs are now bound into geographical work packages for delivery rather than leaving this to the Verification stage to allow for analysis of the makeup of the Workpackage at an earlier stage than WIIM 1
- DG2 schemes are dealt with in a separate methodology/process approach .The ongoing DG2 targets are being achieved by this methodology.

Maximum WIIM 2 Scoring matrix summarised below:

- Scoring for each category is compiled by accruing scores from multiple drivers, with an indication of **maximum** scores available in each category, shown in the table and diagram below.

WIIM2 category	Maximum Score
Water Quality	2350
Flushing	200
Structural	1100
DG3 interruption to supply	400
DG2 low pressure	450
Complaints	200

Impact of the Balance between WQ and Structural Schemes (Analysed from the WIIM 2.1 Workpackage Schemes)

Length of schemes (km)		
	Water Quality	Structural
>= 150 Points	76	244
	30%	70%

NOTE ON SCORING IMPACT: The chosen cut-off score (based on annual Budget planned for that period, and the geographical bundling required for AD integrated capital delivery) may also skew the makeup of the WQ/Structural Split from Workpackage to Workpackage.

Note: DG2 Workpackages are analysed separately but some DG2 solutions arise out of nearby rehabilitation of the network in the vicinity of some of these properties

More detail on the WIIM procedure and outputs are available on request

The WIIM 3 Workpackage build followed the procedures above, however it was based on a fresh data extract in 2018.

Some improvements contained in WIIM3 (from the WIIM 2 Methodology) are summarised below:

- Some manual interventions have been implemented on the DG3 analysis related to the top DG 3 issues

- Buffering to nearest main was improved by adding a verification process to allocate Water Quality and complaints data to specific mains rather than a global buffering map approach.
- The Watermains Infrastructure Scheme Tracker Layer on Car2map is now used to identify previous schemes that have already been identified and avoid double handling of work
- Other than the above ,the same matrix shown above for WIIM2 was utilised for WIIM 3

Schemes Tool

The Schemes Management Tool, developed under the WIIM project is held by the NIW Strategic Asset Performance Team and is available for analysis on request. The Tool has been developed to hold all vital scheme information and produce outputs as required by the end-user.

Further Development for PC21

As highlighted above, the WIIM Procedure has been used successfully to identify and prioritise water network rehabilitation investment.

This is reviewed on an ongoing basis to ensure the methodology remains focused on NI Water's customer promises. However the WIIM tool does not enable Forward Looking Risk Based Assessments which has traditionally been a shortcoming across all service areas within NI Water. As part of improvements for PC21 planning Deterioration Models and Service Impact & Reliability Models (DRRM) were developed and this included Water Infrastructure models. These models were used to support the PC21 Capital Maintenance Plan but are also being analysed to potentially be used to identify and prioritise water network rehabilitation investment, similar to WIIM.

Some initial investigations have been carried out to establish if the Water Infra DRRM model could be used to identify specific rehabilitation schemes on the ground and this has identified a number of shortcomings. This includes

- The DRRM outputs has identified a number of small sections of main for replacement (20% of these interventions were less than 10m long). It was agreed to investigate the possibility of incorporating the Parent Lengths information into the DRRM Clean Water Infra Model.
- The current DRRM outputs PVC only accounts for 0.5% of the selected schemes compared to approximately 30% from WIIM. It was highlighted that some older PVC mains may have a different failure profile and consideration to be given to splitting PVC mains to Pre & Post 1970 within the model.
- The base data with the DRRM model is from November 2017 and this to be refreshed with updated information

Once the actions above have been incorporated within the DRRM model, further investigations will be carried out to establish its suitability to identify specific rehabilitation schemes

DEVELOPMENT OUTPUT
9. Sustainable Catchment Management
Final Determination definition: *The company shall report progress on Sustainable Catchment Management annually. The report shall set out the action the company has taken and its plans for subsequent action. The report shall identify the benefits in terms of activity, improvements in raw water quality and reduction of peak flows.*
PROJECT SUMMARY
1. Catchment Management Plans: All CMPs were completed by 2019/20. There were no further plans completed in 2020/21 period. **2. SCaMP NI Interventions in 2020:** **a)** Actions to reduce pesticides in raw water **b)** Mournes Holistic Management Plan **c)** Riparian planting **d)** Peatland Restoration **3. 'Cooperating Across Borders for Biodiversity' INTERREG VA project.** **4. 'Source To Tap' INTERREG VA Project:** NI Water is the lead partner for the €4.9M INTERREG VA project and are working in collaboration with Irish Water, Agri-Food and Biosciences Institute, East Border Region, Ulster University and The Rivers Trust to deliver: **a)** A €1.2M pilot Land Incentive Scheme in the Derg catchment. **b)** A forestry trial. **c)** A peat restoration pilot. **d)** An education programme. **e)** Citizen science programme. **f)** A cost benefit analysis. **5. Plans for 2021**

KEY MILESTONES	Target	Status
1. Completion of Catchment Management Studies as per schedule	March 2019	Complete (Mar 2020)
2. Commencement of programme for completion of SCaMP NI interventions as a result of Catchment Management Studies	March 2019	Complete

SCaMP stands for sustainable catchment management planning. Our team works to improve the quality and reliability of raw water received at NI Water's raw water abstraction points through sustainable catchment-based often green solutions that focus on protecting the natural environment through achieving favourable condition and habitat improvement. We build relationships with stakeholders who also want to work on sustainable projects.
The NI Water strategic approach has been shaped around our 5 strategic priorities as detailed in the 'Our Strategy' document. The objectives of SCaMP NI are closely connected to two of these priorities as follows:

Water - delivering great tasting, clean and safe water to meet customer needs

The SCaMP NI program seeks to improve the quality of raw water in the environment prior to it being extracted. SCaMP results in fewer contaminants entering the WTWs and thus improves water quality compliance through reducing the risks of water quality exceedances in the final water. SCaMP NI environmental projects such as bog restoration, pollution control or habitat restoration also help achieve a more stable and reliable water source, which in turn results in a less problematic water treatment and improved compliance.

Nature - protecting and enhancing the natural environment:

SCaMP NI projects such as peatland restoration and tree planting go hand in hand with our environmental objectives to enhance habitats, protect endangered species, meet legislative requirements on designated landholdings and also help achieve good ecological status water quality targets as required under the Water Framework Directive.

1. Catchment Management Plans

NI Water has completed all CMPs for each of its active water catchments. These plans have highlighted how catchments should be managed going forward to maximise benefit to NI Water and ensure that legislative requirements are met.

Diffuse water pollution and insensitive land management may pollute surface and ground water supplies with substances such as nutrients, pesticides and microbial pathogens and increase colour and turbidity in abstracted water. These increase capital and operating costs of water treatment, increase the quantity of effluent and waste produced, and increase the carbon footprint of the industry. The aim of the CMPs was to undertake a scoping and planning study of the catchment, using the approach advocated in the UKWIR framework for quantifying the benefits of catchment management, to establish the basis for a programme of catchment management that provides business benefit to NI Water. The outcome of this project has provided a basis for the preparation of business plans for catchment management in support of drinking water source protection for PC21 and, in part, for meeting other WFD and corporate obligations.

The CMPs were undertaken on a prioritised basis. The prioritisation rationale involved collating a series of details on each catchment and drivers needed to justify SCaMP projects, as follows:

- PRIMARY DRIVER 1 - Protect or improve the raw water quality abstracted by NI Water (Factors considered: DWI CPEOs, algae bloom incidents, colour/turbidity, TOC, pesticides exceedances)
- PRIMARY DRIVER 2 - Protect or improve the reliability or quantity of raw water abstracted by NI Water (Factors considered: Reliability of source, potential to improve reliability risk, quantity, drought risk, potential to remedy quantity risk.)
- PRIMARY DRIVER 3 - Reduce the risk to the quality, reliability or quantity of raw water abstracted by NI Water (Factors considered: Presence of tourism, livestock agriculture, arable agriculture, forestry, residential dwellings, industrial, hydrocarbons, rubbish / fly tipping incidents, effluent, septic tanks.)
- PRIMARY DRIVER 4 - Aid NI Water in managing its land portfolio and deliver its statutory responsibility under national and international obligations to protect and manage the natural environment (Factors Considered: Presence of ASSI, AONB, SPA, SAC, RAMSAR, percentage of catchment land owned by NI Water, habitat protection or creation, managing lands as ‘carbon sink’, biodiversity management, invasive species management.)
- SECONDARY DRIVER - NI Water working with other stakeholders to improve the overall quality of the catchments from which it draws water (Non-NI Water owned land in catchment). (Factors considered: Habitat protection or creation, biodiversity management, improved farming practices, recreational activities, revenue creation for NI Water.)

2. SCaMP Interventions in 2020

a) Actions to reduce pesticides in raw water: NI Water will, over time, improve raw water quality arriving at its Water Treatment Works

Due to Covid-19 restrictions, the SCaMP Team were unable to attend and provide best practice advice in person at agricultural shows, or present as a partner on The Water Catchment Partnership (WCP) at rush control events, or conduct farm engagement visits on site in 2020/21, but released several press and social media articles in the interim, around pesticides and ammonia reduction. The Team also presented virtually at 3 x DAERA Environmental Business Development Group zoom meetings from October-November 2020, presenting on water quality, drinking water treatment process and NI Water's common issues with water quality in NI.

Despite Covid-19 restrictions, The 'Rush Solution Without Pollution' weed-wiping trials in three drinking water catchments continued with appropriate risk assessments.

Case Study: Rush Solution Without Pollution, Seagahan catchment.
Beginning in 2017, NI Water carried out a weed-wiping trial in Seagahan WTW drinking water catchment area in Co Armagh, working in conjunction with The Water Catchment Partnership and the farming industry as part of an innovative campaign to help reduce levels of MCPA in the reservoir. A free weed-wiping service using Glyphosate, as an alternative to spraying MCPA was offered to all eligible land managers, to demonstrate that an alternative effective rush control method endorsed by CAFRE causes less water pollution. The weed-wiping application method 'wipes' the target weed rather than spraying it, so less product is used and lost to air drift. Glyphosate has an added benefit of demonstrating short half-life in water, so it breaks down in between 3-7 days in comparison with MCPA which prevails in water for up to 6 weeks.

The overall aim was to show that pesticide levels can be reduced in the reservoir without the need for more expensive water treatment processes. Seagahan has been used as a pilot project to demonstrate the benefits of NI Water working together with land managers.

The 4-year project was managed by NI Water and conducted in conjunction with the WCP. This involves representatives from Ulster Farmers Union, NIEA, DAERA, CAFRE and the Voluntary Initiative. All stakeholders have input knowledge and expertise which were vital to the success of the project and their cooperation and assistance was appreciated and valued by NI Water.

Benefits for NI Water in this project included;

- Water quality improvements - Ongoing water sampling of the reservoir throughout years 1 and 2 (2017 and 2018) showed a marked decrease in MCPA found in raw water compared to pre-trial levels (58% and 53% reductions, respectively). Analysis of the results from years 3 and 4 (2019 and 2020) demonstrated a raw water MCPA residual reduction in the 2019 and 2020 periods compared with pre-trial levels (64% and 40% reductions, respectively).
- Project development and implementation learning – The trial demonstrated that NI Water have the capabilities and governance structure to allow this type of work to be carried out with private land owners.
- Partnership development – NI Water worked closely with the WCP to ensure its success during all aspects of the weed-wiping project. Ongoing liaison with the UFU and CAFRE was particularly beneficial to the success of the project.
- Pesticide load reduction – The product Roundup Energy was used for the project following trials and advice from CAFRE. This product proved successful in controlling weeds, but also led to a reduction in chemicals applied to the land. This trial has prevented 2,400 litres of MCPA being applied in the Seagahan catchment.

- Farmer Engagement – Feedback from farmers and UFU on the progress of the trial has been positive, with strong and trusting relationships now built between NI Water and the farming community.

The trial in Seagahan Catchment was conducted between 2017 and 2020 and is now complete (as of October 2020). Further weed-wiping trials are ongoing at Glenhordial and Eden Burn catchments.

b) Mournes Holistic Management Plan: NI water will work toward meeting its environmental obligations in its catchments. Development of a holistic long-term management strategy for the NI Water-owned High Mournes is underway.

There is additional annual work carried out to control invasive species, *rhododendron* and *cotoneaster*, in the Mournes catchment landholding to ensure designated land is managed and environmental obligations are met.

The Eastern Mournes Wildfire project is implemented to reduce the risk of wildfires damaging wildlife habitats and adversely affecting raw water quality from the catchment. The group deal with wildfires in the area as and when they occur. This project was carried out with a range of stakeholders, e.g. NI Fire and Rescue Service (NIFRS), NIEA, Mourne Heritage Trust (MHT), UFU, DAERA, etc. Through controlled burning and firebreak construction in spring 2019, no significant wildfires within the area occurred in 2020. The Wildfire Strategy is currently being reviewed.

c) Riparian planting: The people of Northern Ireland will benefit from improved biodiversity in Northern Irelands Water's land and, over time, and a reduction in the costs associated with treating raw drinking water. A number of riparian planting projects are ongoing to reduce bankside erosion and create wildlife buffer strips along watercourses to reduce diffuse pollution.

Case Studies – As of spring 2020, over 20,000 native deciduous trees have been planted in the area upstream of Glenedra raw water abstraction point in the Caugh Hill catchment on the banks for the Glenedra River. This planting has stabilised the riverbanks from erosion due to animal encroachment and snow melt, hopefully producing a cleaner raw water source for Caugh Hill WTWs.

Planting is ongoing on 36km strip of riverbanks at Faughan and Burntollet upstream of Carmoney WTW raw water abstraction point, with 20 hectares of new woodland planted and 2 wet woods in the Faughan catchment. In 2020/21 as part of NI Water's Regreening initiative, the SCaMP Team assisted in arranging two lease to release a 10 hectare area at Dunore Point PPP WTWs on which to plant 22,000 native deciduous trees, and another 5 hectare site in Fofanny catchment on which to plant 12,000 trees. These trees will count towards NI Water's commitment to plant 1 million trees in 10 years.

b) Peatland Restoration (Forest-to-Bog Restoration): NI Water will, over time, reduce the risks of raw water quality incidents effecting WTW output capability
Extensive areas of Forest Service lands exist within NI Water drinking water catchment areas. Forest Service felling and replanting activities require careful planning in order to avoid any detrimental impacts on raw water quality which is abstracted for water treatment. Work is ongoing with Forestry Service to improve tree felling and replanting techniques resulting in fewer high colour and turbidity incidents when forestry activities are carried out.

Case Study - In February 2021, the SCaMP Team started work on a forest to peatland restoration project at Lough Bradan Forest outside Omagh in County Tyrone. Working with DAERA Forest Service, the 27 hectare area of former conifer plantation around the shores of Lough Bradan was restored between February and October 2021 and has been restored using a technique called cell bunding. NI Water also used a method of deliberate drain blocking, to rewet the area and thereby retain water in the underlying peat and raise the water table. It is hoped this project will reduce turbidity and colour in Lough Bradan raw water, and the team are developing methods currently by which to capture the project in terms of carbon and natural capital.

3. **CABB: NI Water will, over time, see an improvement in the reliability of water quantity from its upland sources**

Case Study - NI Water have been working in partnership with Royal Society for the Protection of Birds Northern Ireland (RSPB NI) and other partners on a project funded by INTERREG VA and managed locally by the Special European Union Programmes Board (SEUPB). The project is called the 'Co-operation Across Borders for Biodiversity' (CABB) Project and began in 2017, with completion in late 2021.

The overall objective of the CABB project is to bring about the recovery of protected habitats (active raised and blanket bog) and priority species (breeding waders and marsh fritillary at key sites) on a cross border and cross country basis. The overall CABB project has been awarded €4.6m of EU funding for projects in Scotland, N Ireland and the Republic of Ireland. CABB will contribute to delivering the EC Birds and Habitats Directives and Biodiversity Strategies in each of the three countries and will also link with strategies for climate change mitigation and adaptation and sustainable development in the three countries, as well as Programme for Government targets.

The NI Water aspect of the project involved a €175k project to restore of the entire Dungonnell WTW catchment area at Garron Plateau on the Antrim Hills, which is in the catchment of Dungonnell WTW. NI Water owns 2000ha of the Garron Plateau SAC and previously 72ha of land has had drain blocking work done.

The CABB project completed restoration works in spring 2019 to promote natural hydrological conditions by blocking 38,473 metres of drains using peat, stone and timber dams to raise the water table. All drain blocking was completed at Garron Plateau in spring 2019 and target restoration of 444ha exceeded to total 583ha.
NI Water oversaw the drain blocking and hosted an IUCN engagement event in September 2019 to demonstrate the excellent outcomes of the work.

It is hoped that the bog now retains water in the catchment and reduces the effects of the heavier rainfall events and flooding downstream. The restored peat promotes carbon sequestration, preventing the release of CO_2 into the atmosphere the capture and reporting of which is being developed currently.

RSPB NI are currently working with researchers to define the financial and carbon value of the restoration work with a report to be published in 2021.

By the end of 2021, the CABB project will have prepared 8 Conservation Action Plans (CAP) for important Natura 2000 Special Areas of Conservation (SAC) and Special Protection Areas (SPA) sites and delivered works to improve the condition of over 2228 hectares of blanket bog in total.

4. Source to Tap

NI Water is the lead partner for the €4.9M INTERREG VA project and are working in collaboration with Irish Water, Agri-Food and Biosciences Institute, East Border Region, Ulster University and The Rivers Trust. The project is piloting sustainable cost effective measures to reduce pollution and contribute to improvements in cross border raw water quality in the Erne and Derg catchment areas which provide water that serves parts of counties Fermanagh, Tyrone, Donegal, Cavan, Leitrim and Longford.

The project, which has recently been extended, will run from 2017 until the end of September 2022. Outputs include the following:

a) It is delivering a €1.2M pilot Land Incentive Scheme in the Derg catchment, funding measures to reduce run-off from the herbicide MCPA and sediment. To date there have been 221 Water Environment Management Plans produced for farmers setting out recommendations for measures which could improve water quality and the farm business and 119 applications for funding to install measures on farms are being progressed. An intensive monitoring programme to monitor the impact of the scheme is underway in the Derg (intervention) and the Finn (Control) catchments.

b) A forestry trial has piloted a range of measures, at 12 sites over 2 years, to reduce sediment in forestry drains and rivers after harvesting takes place.

c) A peat restoration pilot has taken place at Tullychurry forest near Pettigoe and has trialled a new technique called cell bunding to restore an area of formerly afforested peatbog.

d) An education programme has been developed as part of a learning and outreach strategy. The five units within the programme are being delivered in schools within the Erne and Derg catchments and is also available as an online resource.

e) Citizen science volunteers have been trained in the Riverfly monitoring technique to assess their local rivers.

f) A cost benefit analysis is being carried out on the outcomes of the LIS pilot and the lessons learned will be shared on a legacy Source to Tap website.

5. Plans for 2021

The following SCaMP projects are planned for 2021/22:

a) Continued implementation of recommendations from CMPs – Throughout the PC15 period we have engaged consultants to assess and collate information on all WTWs catchments where raw water is abstracted for treatment. The CMPs were completed using the UKWIR approach. The completion of the CMPs has resulted in a wide range of recommendations which now are being developed and implemented on the ground on a prioritised basis, following the Prioritisation exercise completed by RPS on behalf of SCaMP.

b) Mournes Holistic Management Plan - Beginning in March 2020, the SCaMP Team recognised the need for a new way of managing our landholding in the Mourne Mountains and all land management activities occurring therein. The plan will engage with the right direct and indirect stakeholders to pursue a more holistic long-term approach in dealing with grazing tenants, water quality protection via erosion prevention, visitor and recreation management, wildfire protection and prevention, habitat protection, invasive species control and enhancement and carbon and natural capital capture in NI Water's landholding.

c) Mourne Wildfire Containment - The Silent Valley drinking water catchment area has been subject to wildfires which damaged large areas of upland heath, impacting both the environment and water treatment costs due to the carbon run-off. NI Water, in conjunction with MHT, NIEA and NIFRS, commissioned a report by Wildfire Advisory Services. This paves the way for a focused and structured approach to managing wildfire outbreaks in the wider Eastern Mournes area, considering practical wildfire management

and emergency response within the drinking water catchment. This report has been adopted and NI Water are committed to proceeding with implementation as part of the partnership. The Eastern Mournes Wildfire work will continue in this manner until the Plan in section 1 is ready to be delivered.

d) Mourne Invasive Species Control - The expansion of invasive species such as *rhododendron* and *cotoneaster* is of concern to upland heath land management as it causes damage to the designated habitats and erosion which impacts on raw water quality. There is a legal obligation for NI Water to control these invasive species on our landholdings. Work has been ongoing in recent years, but the work needs to continue to further control invasive species and prevent re-colonisation. This is particularly important to help ensure that native plants have the opportunity to establish within the catchment. This work will continue in this manner until the Plan in section 1 is ready to be delivered.

e) Riparian Planting – The SCaMP NI team are continuing to facilitate The Woodland Trust in carrying out riparian planting given the success of work in completed catchment areas in recent years. These areas enhance biodiversity and help raw water quality by reducing erosion and livestock encroachment. These projects were carried out alongside NGO's and were able to avail of match funding. Work has been instigated with The Woodland Trust and NI Water Business Improvement to plant trees on 4 plots of land owned by NI water within the Mournes area.

f) Weed-wiping Trials – Ongoing at Glenhordial (year 4) and Eden Burn (Year 3), with a passive sampling regime planned in the Carmoney catchment in Claudy Co. Londonderry to inform a future weed-wiping trial through identifying MCPA hotspots.

g) Catchment Staff – The recruitment of 2 x full time Catchment Liaison Officers is underway to efficiently and effectively deliver the remaining recommendations from the CMPs in PC21. There are currently 6 SCaMP Champions who help deliver projects through volunteering one day a month.

h) Peace Plus – The SCaMP Team are currently working with AD colleagues to identify suitable cross-border projects to pursue under the upcoming Peace Plus funding programme.

DEVELOPMENT OUPUT
10. Minimising the water quality risk from lead pipes
Final Determination: *The company shall provide an annual report detailing how the implementation of its strategic lead policy and lead replacement programme is progressing. This should explain how the company is managing this activity and targeting hotspots to maximise benefits and how it is assessing the improvements delivered by the work undertaken. The report shall also provide details of the activity undertaken by the company, in conjunction with other stakeholders, to develop and implement a strategic risk based approach for addressing compliance issues associated with private supply pipes and domestic distribution systems.*
Additional Details:
The lead replacement programme is 'Business As Usual' with analysis being undertaken by the Strategic Asset Performance Team and briefed for delivery to the AD Integrated Capital Delivery Team. To date the target number of lead replacement pipes per annum is being achieved.
PROJECT SUMMARY
• Annual update on the lead pipe replacement programme is provided through the company's AIR Return*: 'AIR 16 Submission -2015-2016 Table 47 - Line 10 – Minimising the Water Quality Risk from Lead Pipes'.* • To better inform DFI Water Policy Unit, as part of the Long Term Water Policy Strategy, a Lead Service Replacement Pilot has taken place at Craigyhill Bungalows, Larne. As part of the pilot the complete service pipes, including the Supply Pipes, were replaced to assess the cost and benefits of such an approach with a view to a grant scheme being established. A Report on the pilot has been produced and issued to DFI for policy consideration.

KEY MILESTONES	Target	Status
1. Annual reporting provided through the AIR Return process.	Annually	BAU
2. Complete pilot study for DFI policy development.	March 16	Complete
3. Develop summary document and recommendations to assist DFI in developing policy.	Sent to DFI April 18	Complete

Part 1 – Progress of the Implementation of Strategic Lead Policy and Lead Replacement Programme

The NIW Lead Project comprised a desk top survey (alongside proactive targeted sampling) of available data from NI Water Corporate Systems relevant to lead services and analysing and collating information and data obtained from relevant Mapinfo layers (In Open Format) to compile a prioritised and costed schedule of lead replacements for PC15.

Work also included Scheme Prioritisation and Site Verification work including visual inspections and sampling work.

The methodology includes: -

- Prioritise by highest lead exceedance samples and densest clusters
- Desktop exercise to help focus on the areas required for further prioritised sampling verification and review
- If the Network Distribution pipe connected to the Lead Communications pipes ,being analysed ,is considered to be unsuitable structurally or due to WQ issues ,then the

Communications pipe requiring Lead replacement was not progressed in this procedure (To be picked up potentially under the WIIM process)
- On site sampling and inspections were carried out to further verify priority areas
- Value for money in delivery of this work was obtained by clustering priority work where possible

Prioritisation

The Strategic Asset Performance Team compiled a Specification for this approach and, following a Tender exercise; Consultants were appointed to deliver the required outputs.

A quantitative, risk-focussed analysis procedure to identify lead "hotspots" across Northern Ireland was then commenced. The focus of this approach was to use available datasets in a transparent and cost effective process, which is easily repeatable or editable in the future using updated datasets or incorporating new data as it becomes available.

Taking cognisance of best industry practise and recent DWI guidance it was agreed between NIW and the Consultant, that greater emphasis be placed on using an evidence based approach, such that once the initial hotspots were prioritised, a second stage involving customer site surveys and a water quality sampling exercise be undertaken to validate the assumptions. This approach facilitates an assessment of risk based on the combination of the likelihood (probability) of occurrence and the consequence (extent and seriousness) of the failure on the quality of water received by NI Water's consumers.
The following staged approach was adopted.

1. Data Gathering and Desktop Analysis,
2. Prioritisation of those hotspots based on probability of lead occurrence,

The various datasets were spatially analysed using MapInfo software to create "hotspot" areas based on combining clusters of unusually high concentrations of point data, such as water quality lead exceedances (>10µg/l) and watermains of a known age (i.e. those installed pre 1920). The digitisation of hotspot polygons allowed the large datasets to be rationalised into a manageable number of areas which contained a high probability of lead occurring. A range of polygons was initially created by spatially querying various lead indicator criteria or where lead piping was confirmed to be present. They were then manually reviewed to validate the information and edited by enlarging or enclosing each, based on similar cohorts

Assignment of a prioritisation score to each dataset was derived based on the significance of each as an indicator of the likelihood of lead occurring or its impact to public health. An iterative sensitivity analysis process was also conducted to test the robustness of each assessment criteria and understand the causal relationships between datasets.
The scoring matrix assigned to each is described below.

Watermains Age

Lead was used throughout Northern Ireland up until ~1975 for connecting a property to the water supply main and for internal plumbing. Lead's availability, inherent strength, malleable nature and corrosion resistance properties meant it was favoured over other metals such as copper and brass.

Accordingly, watermains of a certain age have been assessed as a good indicator of the presence of lead and the criteria in Table 1 below were used to score the age of watermain criteria. To ensure that each polygon was assessed using its predominant watermain age

type, those polygons that contained only a small % of a differing age type were discounted, by applying a rule that selected the most common type of watermain age within the polygon.

Criteria Age of watermains	Score
Majority of Mains in Polygon laid after 1975	0
Majority of Mains in Polygon 1970 to 1975	1
Majority of Mains in Polygon laid 1950 to 1970	2
Majority of Mains in Polygon laid 1920 to 1949	3
Majority of Mains in Polygon laid before 1920	4

Table 1: Age of Watermain Score

Historical LIMS Water Quality Data

NI Water LIMS data provided information on 25,800 water quality sample records from 2002 to 2014, which were scored based on the total numbers of samples per polygon (likelihood) and the lead parameter result (severity of impact).

Criteria Lead Result (µg/l)	No of Occurrences within Polygon(1)	Weighting Factor(2) *	Score (3)*
0	x	0	0
0.00 - 9.99 **µg/l**	x	0.1	1
10 -14.99 **µg/l**	x	1.0	2
15 - 49.99 **µg/l**	x	3.0	3
> 50 **µg/l**	x	5.0	4

(*Note The overall score is = (1 x2 x 3)

Table 2: Historical Lead Water Quality Density Score

Weighting factors were used to negate the influence of large numbers of sample data skewing the overall scores.

In order to prioritise the water quality samples based on the severity of identified water quality results the polygons were also assigned a score based on the highest exceedances. Approximately 4% of the total water quality records exceeded the Prescribed Concentration Value (PCV) of 10µg/l, with 1% (approximately 250 samples) exceeding 39µg/l.

Water quality results were also analysed to remove where a new main had been laid since the sample had been taken, (typically under the Watermains Rehabilitation Programme). In this case it has been assumed that the communication pipe was replaced during the process. A more recent sample at the same location superseded the previous sample.

Lead Failures by DMA

In order to apply a holistic approach across the entire water distribution system each DMA was initially scored by the percentage of lead exceedances within its boundary, relative to

the total number of water quality samples taken. NI Water has approximately 1,380 DMAs which encompass its distribution network and each DMA with the exception of some trunkmain DMA's, has water quality results with which to compare. Analysis would identify the worst performing DMA, such that any potential replacement scheme would provide water quality betterment to customers within the entire DMA, and potential neighbouring or cascading DMA. The scoring system is presented in Table 3 below.

Criteria Lead Result (µg/l)	Weighting Factor (2)	Score (3)*
<10 (contains 97% of WQ samples)	0	0
10 – 20.19 (contains 1% of WQ samples)	0.5	1
20.20 - 38.99 (contains 1% of WQ samples)	1.5	2
> 39 (contains 1% of WQ samples)	2.0	3

(* Note The overall score = 2 x 3)

Table 3: Water Quality Results

A thematic illustration of those DMA's ranked by the highest percentage of water quality failure is available on request. The output showed that the largest numbers of DMA with a higher percentage of failures are concentrated in the Greater Belfast area.

Northern Ireland Housing Executive (NIHE) Properties

NIHE has endeavoured to provide an extract from their digital asset dataset which details the ownership of properties in Northern Ireland and the age of the dwelling. Once received this data can be used to verify assumptions regarding the age of watermains and identify additional areas where lead may be present.
NIHE has confirmed that it has no capital works planned in the short-term (2015) to replace kitchen or private supply pipes. Accordingly, there appears to be limited opportunity to coordinate the replacement of customer communication pipes with NIHE private supply pipes where practical, in the short term.

Watermains Rehabilitation Programme

The NI Water Watermains Rehabilitation Programme Team provided detailed information in relation to the numbers of lead communications pipes replaced on each rehabilitation / replacement scheme installed between the years 2005 to 2014. Once cleansed the data provided details on some 8,150 lead pipe replacements undertaken during the Watermains Rehabilitation Programme and following a digitisation exercise the information was spatially mapped to link to the NI Water PC13 Schemes Core MapInfo table.

92% of the WMRP schemes which involved replacement of lead communication pipes occurred in the Greater Belfast area. In contrast to the other data sources which were potential indicators of lead presence, this source confirmed that lead didn't exist and as such it wasn't possible to assign a score to each polygon. In this case the data was used to manually review each lead hotspot to:

- identify hotspots for removal following confirmation of rehabilitation (For the most part the NI Water AIC GIS data confirmed this, though this process captured any recently constructed mains that hadn't yet been returned to the NI Water AIC),
- Identify additional (neighbouring) polygons where lead was likely to be present using similar water main cohorts.

Corporate Asset Register (CAR)

NI Water staff queried the Corporate Asset Register (CAR) to identify those properties which had lead communication pipes replaced or had combined services separated through opportunistic or business as normal services, since 2009.
The information was geo-referenced and analysis was targeted to identify the polygons with the largest remaining numbers of lead communication pipes, such that any potential replacement scheme would provide maximum water quality betterment to customers within the entire DMA. The scoring system is presented in Table 4 below.

Criteria Opportunistic Lead Communication Pipe Replacement	Number of Polygon Properties with Lead Communication Pipes replaced	Score
Polygon Contains confirmed Lead Communication Pipe Replacements	No of Properties	5
Polygon Contains no confirmed Lead Communication Pipe Replacements	No of Properties	0

Table 4: Opportunistic Lead Communication Pipe Replacement Score

Sensitive Customers

Given the well documented increased risk to children from increased levels of lead in drinking water (*Childhood Lead Poisoning, World Health Organisation, 2010*) a list was created of sensitive non-domestic properties from the Pointer NI dataset, which may present increased levels of risk to children. Such non-domestic properties include,

- Primary Schools,
- Nursery Schools / Day Care Centre,
- Sure Start Centre's,
- Children's Activity Centre's,
- Playgroups.

The scoring system is presented in Table 5 below.

Criteria Sensitive Property	Score
Yes	3
No	0

Table 5: Sensitive Property Score

Visible Lead Score

A dataset was then created by combining information obtained from previous NIW water quality customer surveys and Customer Complaints, which details where lead pipe material has been confirmed at either the communication pipe, the service pipe or internal riser (typically at the kitchen or first floor bathroom). Given this was the only data source which confirmed the presence of lead at a particular property (in advance of the site surveys) it received the highest weighted score, where lead was deemed to be present. The scoring is provided in Table 6 below.

Criteria Lead Pipes Visible	Score
Yes	10
No	0
Unknown	0

Table 6: Lead Pipe Visible Score

To date this Project has identified and assessed 1,680 lead hotspot areas which encapsulate some 92,400 properties across Northern Ireland (average of 55 properties per polygon). The hotspots have been prioritised for the next phase of the Lead Pipe Replacement Programme (Water Quality and Customer Site Survey) using the prescribed scoring methodology.

DWI Stakeholder Discussion

This approach was presented in detail, alongside the proposed Work packages, to DWI on 26th March 2015

The "MapInfo" geographical presentation of the outputs and this associated methodology were very positively received at this session.

Pilot Study "Craigyhill Bungalows"

A Lead Service Pilot has been completed at a small development (40 or so properties)," Craigyhill Bungalows", Larne, to identify the benefits and associated costs of replacing the communications pipe within private property.

As part of the pilot, in addition to replacing the public side communications pipe, NIW replaced the private communications pipe to internal boundary of the properties. It should be noted this did not include the internal pipework. This was carried out at the 18 privately owned houses within the development. The remaining houses within the development are NIHE owned, and NIHE replaced both private communications pipework and the internal pipework. NIW carried out first draw sampling at the properties, both pre and post work.

A draft report following the pilot lead-replacement project at "Craigyhill Bungalows" has been completed and has been reviewed by NI Water Governance mechanisms. As suggested in last year's report the initial outputs suggest there is limited benefit in replacing private communications pipe unless all internal lead within a property is removed. This report was forwarded to DFI in April 18 for further consideration.

These activities and the associated forums will then inform the future review strategy in this area and will help inform the approach in terms of how frequently NIW might re-sample and also the timing and volume of samples that are required, to get a clear picture of the effect that this programme of work has had on Lead reduction.

See below the initial Work packages which were identified for delivery in PC 15 and subsequent years.

These packages will change in relation to accessibility and practicality of installation following Enablement work on site.

See below the initial Workpackages allocated from this process.
A more accurate list of ongoing progress will be available on request following the planned review (below) in July 2020.

Planned next steps for delivery-

The company will continue with its Proactive Communications Lead Pipe Replacement Programme at circa £1 million per year utilising the existing methodology for the foreseeable future.

Risk to the programme Due to Covid Lockdown

The 6 year target for Lead Communications pipe replacements agreed for PC15, has been achieved.

DEVELOPMENT OUPUT

11. Water Meter Renewal

Final Determination:
The company shall report progress against its programme of water meter renewal, targeted to deliver a uniform rate of replacement to ensure that all revenue meters are no more than 17 years old by the end of PC15.

PROJECT SUMMARY

NIW in accordance with the company policy on Proactive Meter Exchanges (PME) set out its PC15 programme of replacements over a 6 year period,

- The data obtained from the Rapid corporate billing system indicated 29059 water meters would meet the PME criteria during the period 2015-2021. These meters were across all of the billing status.
- It was envisaged that 4843 meter per year would be targeted for replacement over a 6 year period
- During 15/16 NIW due to better than expected success rates decided to increase the pace of replacement and was able to exchange 6,920 meters as opposed to the planned 4843
- During 16/17 NIW was again due to better than expected success rates able to increase the pace of replacement and was able to exchange 7,399 meters as opposed to the planned 4843
- At the start of 17/18 NIW started to target status's other than supplied and issued 75 domestic meters for replacement. As NIW is no longer installing domestic meters senior management determined that proactive replacement of domestic meters should also cease. As a consequence of this NIW were able to replace 272 non-domestic meters based on age profile.
- Due to the accelerated rate of replacements during 15/16 &16/17 NIW plans to scale back replacements for the remainder of PC15. The target of 29,058 meters included all status, PME will now only target supplied billable meters which excludes domestic non-billed customers.
- Reviewing the PME programme in 19/20 and the impact caused by the increase in public realm schemes across Northern Ireland. Meters installed in area which have undergone a public realm scheme and have been identified as >17 years or have a recorded consumption of >8000m3, will be reviewed on a case by case basis if additional maintenance is required to facilitate the replacement. This is due to the costs being prohibitive on these jobs, and the financial benefits may not support the increased replacement cost.
- In the 20/21 period 321 PME replacements were completed, this figure was below the volumes completed in the previous 2 years and was larger due to a targeted approach trying to achieve replacements on PME meters that had previously not been completed. This led to an increased cost per job and a higher percentage of unable to exchange due to operational issues. The ability to carry out replacements was also impacted by the Covid-19 pandemic and this contributed to an increase volume of unable to exchange.

KEY MILESTONES	Target	Status
1. 2015/16	4.843	6,920
2. 2016/17	9,686	14,319
3. 2017/18	14,529	14,591
4. 2018/19	19,372	15,166
5. 2019/20	24,215	15,401
6. 2020/21	29,058	15,722

As part of its PC15 Business Plan submission, NI Water stated that the company has a policy to proactively replace customers' meters which are >17 years old and or have a recorded consumption of >8000m^3.

NI Water is aware having completed research involving extracting and testing sample numbers of customer meters that meters have the propensity to under record consumption as they get older. Wider water industry research also supports this position with many GB companies proactively replacing their meter stock from the age of 10 up to 17+ years.

The numbers of meters matching the NI Water criteria as extracted from the company billing system and quoted to NIAUR are detailed below.

PC15 - PME Numbers							
Due for Replacement	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	
Install Year	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	Total
Meeting Age Criteria	11,634	1,682	2,105	2,905	3,038	3,712	**23,426***
Meeting Consumption Criteria							**5,633**
Overall Total							**29,059**
Proposed Replacement Programme	4,843	4,843	4,843	4,843	4,843	4,843	

*23,426 total = 25,076 – 1,650 ongoing PME jobs between Oct14-Mar15

Pre-empting the PC15 mid-term review and in response to the regulators T47 query NI Water has to report the following progress.

NI Water based on the above numbers has been more proactive in its PME programme during 2016/17 than originally proposed replacing 7399 meters as reported in AIR17. Up until 17/18 the proposed number of meters has been replaced but since it has been decided that only billable meters are eligible for PME there are only approx. 1000 to be proactively replaced until the end of PC15 – some of these may be replaced reactively on failure.

The reason for completing more replacements is that NI Water was able to secure better contract rates following the amalgamation of two former maintenance contracts used for metering into a single and more competitive meter installation and replacement contract.

The billing system has the entire customer meter stock listed against various fields known as water statuses. Examples of these meter statuses are described in the table below.

NI Water - Corporate Billing System Water Status			
1	Combination meter-low	8	RFR – compensation supply
2	Dom sub meter	9	RFR – no billable name/address
3	Domestic supplied	10	RFR – shared supply
4	DRD supply	11	RFR - unable to locate
5	Free supply	12	Sub meter
6	Not supplied	**13**	**Supplied**
7	Retain For Review (RFR)	14	Trade Effluent

NI Water has to date focused its PME programme on the water status numbers contained within the supplied category. It has now been decided that unless there is a change in legislation NIW will only be replacing billable meters.

Being able to better the original anticipated profile has enabled NIW to address the potential under recording of consumption due to the age of the meter and thus improve the accuracy of its measured consumption.

NI Water had anticipated the replacement of 29,058 meters during the PC15 period. As the PC15 period closes the total meters replaced under PME was 15,722. This difference is mainly due to the decision taken during the PC15 period to exclude non-billable meters from PME replacements. It was also decided that PME replacements within areas having undergone public realms work, would be reviewed on a case by case basis due to the increased costs of carrying out replacements at these locations. These factors contributed to a reduced pool of meters requiring replacement during this period.

DEVELOPMENT OUPUT
12. Targeting sewerage 'hotspots'
Final Determination: *The company shall report on its plans to target sewerage hot-spots of blockage and collapse and the development of its sewerage intervention prioritisation to incorporate the outcome of PC15 consumer engagement. The company shall provide updates on the implementation of the prioritisation annually through PC15.*
Additional Details:
The Sewerage Hotspot tool is now BAU activity.
PROJECT SUMMARY

- **Hot-Spots of Blockages**
  - Monthly reports generated automatically to inform Asset Performance and CSDD.
  - Joint AP/CSDD liaison to determine and agree further root cause investigation needs.
- **Sewer Collapses**
  - Sewer collapses are repaired as and when they occur; either through CSDD intervention or through AP for AD ICD delivery of remedial for larger scale repair needs.
- **Sewer Infrastructure Investment Model (SIIM)** is operating as a BAU tool to identify and prioritise sewer Structural Grade 4s & 5s sewer lengths for consideration for rehabilitation as one of the Capital Maintenance Planning tools.
- The SIIM is refreshed annually using updated corporate datasets (e.g. collapses, blockage, out of sewer flooding, pollution, and customer contacts etc.). Annual updates are used to inform the next year's rehabilitation investment programme.
- The rehabilitation programme is risk-based and focused on individual sewer lengths classified as '*High Risk*' and '*High Consequence*'.
- Asset Performance undertakes a targeted CCTV programme and then liaises with CSDD to confirm sewer condition and agree the extent of rehabilitation required prior programme submission to AD ICD.
- From April '17 the rehabilitation programme will be forwarded to AD ICD on a quarterly basis (as opposed to annually). This will allow improved delivery programming.
- Methodology reviewed periodically as BAU to maintain best practice. Review of SIIM has commenced.

KEY MILESTONES	Target	Status
1. Sewer blockage 'Hot-Spot' Reporting	Monthly	BAU
2. Review SIIM methodology.	May 2019	BAU

Planned next steps for delivery

The next steps for delivery include determining whether richer data sets and information are required in order to generate more accurate reports. The purpose being to further reduce the number of blockages across the various catchments in the Province.

DEVELOPMENT OUPUT
13. Polluted Storm Water Overflows
Final Determination: *The company shall report progress on the investigation and remediation of storm-water overflows including enforcement action taken by various authorities and any remediation action undertaken.*
Additional Details:
NIEA identified 47 priority catchments where there appear to be issues with misconnections. To date NI Water has investigated 24 and has been able to resolve a number of pollution issues through "quick wins". However, it has not always been possible to close out issues as there is a gap in the legal powers available to NI Water to remedy misconnections.
PROJECT SUMMARY
• A Working Group has been established comprising DfI's Water and Drainage Policy Division (WDPD), NI Water and NIEA have agreed a new policy for dealing with misconnections. • WDPD, NIEA and NI Water have produced a shortened version of the good practice document titled "Investigation and rectification of drainage misconnections", condensing it to reflect present agreed procedures for dealing with misconnections. • WDPD to liaise with DfI Planning Group to establish how best to promote / educate on the problems associated with misconnections. • Continued development and refinement by NI Water and NIEA has strengthened the investigatory process and working practices. • Where practicable NI Water has dealt with misconnections on a case by case basis. However, the vast majority of misconnections are related to washing machine connections. The Working Group is reviewing policy and legal aspects of correcting misconnections.

KEY MILESTONES	Target	Status
1. Joint Liaison Meetings	Ongoing	Ongoing
2. Prepare draft good practice document	Completed	Complete
3. Agree and implement good practice document	Completed	Complete

Line 13 – Polluted storm water overflows

Activity completed to date and its outcome

Stage 1 of this project has been completed which was the investigation of 24 catchments using CCTV techniques, dye testing and engaging with the public. Following on from these activities NI Water has requested advice from its Shareholder on the next step to take on corrective actions.

The present position on Polluted Storm Water Overflows is detailed below:

- 24 Catchments out of 47 catchments highlighted with NIEA have been surveyed regarding pollution of nearby rivers.
- The surveys highlight that most of the pollution is from private connections e.g. washing machines located in garages which are connected to the roof gully which in turn discharges into a storm water sewer.
- A meeting took place in November 2017 between NIEA, NI Water and DfI with the purpose of developing a policy to address misconnections on private properties. At

this meeting NIEA highlighted that they had identified quick wins concerning some of the misconnections. However, following further investigation by NI Water it was determined that these quick wins were not viable as they involved diverting storm water into foul sewers which did not have the necessary hydraulic capacity.

- The Working Group continue to meet twice a year to establish how best to address private connections.
- Until a policy is developed, NI Water has not conducted any further catchment studies. This decision was made with the agreement of NIEA (2015),
- Misconnections located by NI Water on the public highway are being addressed i.e. they are being redirected to foul sewers.
- NI Water is continuing to investigate and address pollution of storm water overflows where the misconnection is on public property with the help off NIEA.
- Up to now March 2021, NI water has addressed 261 miss-connections.
- An agreed procedure between NIEA and NI Water has been set in place, with a master spreadsheet and a reporting programme set out.

Planned next steps for delivery

The next step for delivery entails a request for clarification from DfI Water Policy Unit on the way forward: regarding potential enforcement actions.

DEVELOPMENT OUPUT
14. Storm water separation
Final Determination: *The company shall develop a plan for investing the funding allocated for storm-water separation by September 2015 which sets out the target projects and the benefits they deliver.* *The company shall assess the scope for storm-water separation and assess benefits it could deliver to support further investment.*
Additional Details:
This is now Business As Usual
PROJECT SUMMARY
• Stormwater separation is an option considered in all new project appraisals. • A plan has been developed using SudStudio methodology to prioritise storm separation across the Province. • The project considered a phased approach as follows: – Phase 1 – considered schools but this proved to be undeliverable due to issues with Education Authority acceptance and buy-in. – Phase 2 – consisted of major industrial premises and terraced housing. Phase 2 has been forwarded to AD ICD to develop detailed solutions – i.e. A0 (KI605) issued to AD ICD in December '16 for delivery of Phase 2 work. Final output costs will only be known after detailed design has been completed. – Desktop assessment of Phase 2 has the potential area removal identified as circa 1,077,150m^2.

KEY MILESTONES	Target	Status
1. PC15 Plan has been developed		Complete
2. Phase 2 schemes identified to AD ICD for detailed design and delivery	Dec '16	Complete
3. Delivery scheduled by AD ICD, methodology has changed due to buildability and cost issues of named schemes.	Dec '18	Complete
4. Provide input to PC21 asset management plan	Dec 2019	Complete

Line 14 – Storm water separation

During PC15 NI Water has planned to remove 19 hectares of impermeable area develop by implementing a variety of projects which also inform the business of the cost effectiveness of storm water separation in a range of situations and catchments. For example:

- where separate systems have been merged when they join the old combined network
- industrial areas and roofs
- areas of terraced housing
- areas of semi-detached housing
- roads.

NI Water's primary aim is to identify the priority locations across Northern Ireland where the retrofitting of storm water separation / SuDS technologies would remove significant volumes of storm water from the combined sewer system. To facilitate this NI Water has employed an innovative tool: SUDS Studio™,

The SUDS Studio™ tool works by using GIS data to identify sources of runoff (for example roof, roads, carparks, hardstandings, etc.), sinks (locations where SuDS solutions can be

installed or nearby watercourses), and pathways which connect the two. The tool has been designed to incorporate a range of complex relationships that are used to determine what SuDS are considered feasible on any given site, and those which are not. SuDS Studio™ assesses the best solution for each source and site, and outputs its results as GIS layers containing tables that can quickly and easily be summarised in reports and easy to understand figures.

The basis of the Suds Studio™ analysis in Northern Ireland is the OSNI Vector mapping dataset. However, NI Water wishes to emphasise that SuDS Studio™ has been developed based on OS Master Map data which is significantly more detailed and functional than OSNI Vector mapping. A significant amount of pre-processing of the data has therefore been required to supplement the OSNI Vector maps in an attempt to replicate the quality of information contained in OS Master Map. It is our understanding that there is a current project within OSNI to develop a polygon based mapping dataset that is similar to OS Master Map which when finished will enhance the output derived from SuDS Studio in Northern Ireland in the future.

However, based on the current situation significant pre-processing is required due to the GIS data available in Northern Ireland (plus time to acquire and purchase additional data sets) and has extended the time taken to conduct the SUDS Studio™ analyses. This in turn has resulted in the slower identification of storm water / SuDs opportunities in Northern Ireland with which to develop NI Water's Storm Water Separation Programme of work.

Since its launch at the start of PC15 a fundamental goal of NI Water's Storm Water Separation Programme has been to develop a robust approach for identifying priority locations across Northern Ireland. This is essential for the successful retrofitting of SuDS technologies / storm water separation infrastructure for the removal of significant volumes of storm water from the combined sewer system. Time taken in developing the system is considered well spent by NI Water and will drive a successful programme going forwards.

During 2015 and 2016 NI Water's consultant has adapted SUDS Studio™ into a bespoke tool for identifying large surface areas in public ownership across Northern Ireland with potential for storm water separation / SuDS Technologies. This resulted in the identification of a large number of schools as potential pilot project sites with high estimated project costs and unfortunately didn't yield the range of situations and catchments desired by NI Water. The four schools short listed for separation and the recommended solutions summarised from the consultant report are presented below:

- Campbell College: SuDS Studio recommends bioretention, swales and the disconnection of downpipes. Recommendations are likely to be delivered entirely within the existing Campbell College boundary. Further work required to investigate ground conditions, quantification of flows within SuDS features, quantification of benefits to the sewer system (including DG5 impacts), design development to determine footprint and landtake, costings.
- St Louise's: SuDS Studio™ recommends bioretention and potential green roofs / disconnection of downpipes. Recommendations are likely to be delivered entirely within the existing St Louise's boundary. Further work would require investigation into ground conditions, quantification of flows within SuDS features, quantification of benefits to the sewer system (including DG5 impacts), design development to determine footprint and landtake, costings. It is also to be noted about this site that it is adjacent to an extensive area of wetland (Bog Meadows) managed by the Ulster Wildlife Trust.

- Ballycastle, SuDS Studio™ recommends bioretention, potential green roofs / disconnection, of downpipes and swales. Recommendations are likely to be delivered entirely within the existing Ballycastle High School boundary. Further work is required to investigate ground conditions, quantification of flows within SuDS features, quantification of benefits to the sewer system (including DG5 impacts), design development to determine footprint and landtake, costings. Other considerations include the existing infrastructure in place on this site in that much of the system is already separately drained with only the ultimate connection point combined. As this is already a piped system consideration should be given to continuing the piped network within Moyle Road to a suitable discharge point such as an existing storm sewer or RA culvert. Consideration will need to be given to the impact of this flow on the discharge location. Buildability constraints should be considered when determining any extension to the outfall pipeline route corridor
- Dromore, SuDS Studio™ does not recommend any feasible option in this instance due to limitations with the input data. In this instance therefore, engineering judgement has recommended that Disconnection of Downpipes is considered. Recommendations are likely to be delivered entirely within the existing Dromore Central Primary School boundary. Further work is required to investigate ground conditions, quantification of flows within SuDS features, quantification of benefits to the sewer system (including DG5 impacts), design development to determine footprint and landtake, costings.

It is important to note that NI Water has already encountered significant stakeholder issues, notably with the Education Board, regarding the safety of SuDs (often used to enable storm water separation) which are yet to be resolved. One of these sites have now been agreed by NI Water at Clandeboye School, Bangor. NI Water is working closely with the Water and Drainage Policy Division of DfI regarding engagement with the Education Board and their legal representatives.

Subsequently NI Water initiated Phase 2 of planning NI Water's Storm Water Separation Programme with the SUDS Studio™ tool. The tool was further modified and the initial SUDS Studio™ run identified a broader range of potential storm water separation opportunities to address the bias which resulted in the identification of a large number of schools in Phase 1:

- 32 high density housing sites
- 61 Industrial estates and
- 28 potential quick win sites

Through the short listing process this was refined down to:

- 14 high density housing sites,
- 14 industrial estates and
- 6 potential quick win sites.

These sites were then packaged into geographically similar study areas and progressed for ground truthing connectivity checks.

Following on from the ground truthing exercise the sites which were assessed as suitable for further consideration were modelled with Infoworks to quantify the benefit that might be achieved from storm water separation / SuDS retrofit. This has allowed us to model and assess the following sites (Table 1) which are now being considered as pilot studies from Phase 2. In total the *maximum potential* area which could be removed as a result of the Phase 2 assessment is 1,077,210 m^2.

The Phase 2 opportunities mainly originate in High Density Housing areas and only one Industrial estate. Industrial estates have proven to be, on the whole, already separate systems. It should be noted that it is unlikely that the 100% separation figure modelled (total area = 1,077,210 m^2) could be achieved in reality. Therefore, these figures should be considered as an initial over estimate which will reduce during the feasibility and implementation phases.

Furthermore, stakeholder issues will be key in determining the viability, likelihood of success and speed at which solutions can be realised. There are a number of other industrial estates and quick win sites which are also suitable for further consideration (having been ground truthed) and these will be brought forward to NI Water in a Report. The sites and potential impermeable area removal (m^2) have been presented in Table 1. It should be noted that consents are yet to be negotiated with a key stakeholder, Rivers Agency, where storm water is being separated and directed into a river or culvert.

Table 1: Phase 2 Sites identified with potential for storm water separation and SUDS solutions, including the associated potential maximum area removal values (m^2).

Location	Potential Area Removal m^2	Potential Percentage Removal Options	
		Storm Water Separation	SuDS Solutions
Alliance Avenue / Brompton Park Area, Belfast	121,000	100%	56%
Lincoln Court, Derry	76,200	100%	60%
Carnhill Area, Derry	95,290	100%	55%
Norglen Parade, Belfast	110,160	100%	64%
Springfield Rd / Cavendish Road Area, Belfast	124,660	100%	49%
St James Road, Belfast	50,860	100%	45%
Tates Avenue / Donegal Rd / Dunluce Avenue Area, Belfast	461,980	100%	52%
Maydown Industrial Estate, Derry	37,060	100%	39%

Significant delays in Phase 2 have been experienced in relation to the ground truthing connectivity checks being undertaken by a CCTV contractor.

After intense surveys and site visits it has been agreed that the locations above are not suitable to take forward due to expense and buildability issues.

As part of Phase 1 Asset Management also engaged within the NI Water Capital Works Programme requesting that stormwater separation should be considered as part of the options analysis regarding drainage solutions i.e. a business as usual process. This has yielded eleven projects in 2016/17, 2017/18, 2018/19, 2019/20 and 2020/21 the impermeable area removal has been presented in Table 2.

Table 2 NI Water Capital Works Programme: storm water separation projects delivered in 2016/17, 2017/18, 2018/19, 2019/20 and 2020/21 impermeable area removal (m^2) values.

Sub Programme	Scheme	Impermeable Area Removal m^2
24	PC15 Sewer Rehabilitation Unplanned	39
24	Olympia Leisure Centre Windsor Park Belfast	70,500
24	8-20 Sloans Street, Dungannon	16,460
24	Ben Crom Place Kilkeel	3,865
24	Foyle College, Limavady Road, Londonderry	82,000
24	Fitzroy Avenue, Belfast,	1,200
24	College Ave/Shandon Drive Bangor Storm Sewer	24,180
24	McClintock Street, Belfast Storm Sewer	6,750
24	Canal Street, Newry Storm Sewer	1,665
24	The Square, Ballyclare Storm Sewer	1,410
24	Dundrum WWTW	98
24	4A Newforge Lane Belfast	600
24	Ormeau Avenue Belfast Sewerage Scheme	47,986
24	Main Street, Ballykelly Storm Separation	11,000
	Total Impermeable Area Removed, m^2	**267,753**

NI Water is endeavouring to move the Storm Water Separation Programme forward but in a different process. This process is to look at catchments with high flows reaching WWTW and causing washouts of these works, this process will give a better overall value for money. This process has been taken forward regarding the Ballykelly catchment.

DEVELOPMENT OUPUT
15. Strategic drainage study
Final Determination: *The company shall report progress on its strategic drainage study programme to complete a business case for investment to resolve strategic drainage issues by March 2020.*
Additional Details:
This work is undertaken as Business As Usual
PROJECT SUMMARY
• The PC15 / PC21 prioritised programme of Drainage Area Studies has been agreed between NI Water and NIEA. (See attached Excel Spreadsheet). DAP Model Programme PC15.xls

KEY MILESTONES	Target	Status
1. DAS Prioritisation Programme Agreed with NIEA	Nov '16	Complete
2. Modelling and "Needs & Options" work used to inform PC21 asset management plan.	Sep-Dec 2019	Complete
3. Progress "Needs and Options" work to inform and support development of agreed PC21 capital schemes	Dec 2023	Ongoing

Line 15 – Strategic drainage study

Activity completed to date and its outcome

Strategic Drainage Area Studies are underway with agreement of NIEA on the catchments to be taken forward.
At present NI Water has fifty-eight Drainage Area Studies underway (at both MBV and N&Os stages) to meet the required outputs. This figure has changed since the AIR 20 value (n=48) due to some studies completing and more studies being commenced over the past year. Expenditure to date is in the region of £7,000k.

NI Water has developed a joint prioritisation list of drainage area studies with NIEA. A data-driven approach has been employed to facilitate the integration of both network and wastewater treatment work needs, which allows identified needs to be addressed on a catchment-wide basis.
In addition, the outputs from the strategic drainage studies (in line with the aims of the Final Determination stated above) can help determine and enable a detailed programme of work to be taken forward during PC21. This is essential as the programme identifies NI Water projects required to address Quality drivers and Base Maintenance issues. Note that under the risk-based approach NI Water is developing solutions to address New Development in catchments with hydraulic capacity issues/risks.

NI Water is also involved in the Living With Water Programme (LWWP). The LWWP requires the completion of an integrated catchment, hydrodynamic water quality model for Belfast Lough and it seems that this will also require the upgrade / development of several MBVs to provide nodal inputs concerning sewer overflows.

Planned next steps for delivery

The next step involves continuing to progress innovative Risk Based Needs and Options studies for the agreed catchments. This continues to inform specific programmes of work being undertaken during PC21, and facilitates development and refinement of A0 outline capital works, to provide strategic catchment-wide solutions

DEVELOPMENT OUPUT		
16. Sewer flooding report		
Final Determination: *The company shall provide an annual report on property flooding alleviation and mitigation providing an update on the DG5 flooding register, progress on feasibility studies to identify solutions and progress in delivery of investment and delivery of outputs.*		
Additional Details:		
This is Business As Usual through the DG5 panel		
PROJECT SUMMARY		
• Properties added / removed from DG5 registers reported annually through the AIR submission • Update on progress on feasibility studies to identify solutions. • DG5 properties resulting from the live feasibility projects have been progressed for delivery within the PC15 DG5 delivery programme. • Target for 20/21 has been met but the overall target for PC15 has not been able to be achieved due to the size of the scheme and access problems.		
KEY MILESTONES	Target	Status
1. DG5 Removals 2015/16, 2016/17, 2017/18, 2018/19, 2019/20 & 2020/21	51	Behind Target

Line 16 – Sewer flooding report

Activity completed to date and its outcome

The company supports the implementation of the Home Owner Flood Protection Scheme being delivered by NI Executive through the Rivers Agency. NI Water contributes to the Home Owner Flood Protection Scheme process by assessing whether homeowners are on NI Water's DG5 Register and whether there is a capital scheme that will alleviate the flooding over the next 5 years. NI Water retains a register of these enquiries and they are discussed at monthly DG5 Panel meetings. The DG5 Register is updated monthly with additions and removals as approved by the DG5 Panel. DG5 Register movements are recorded and provided in the Annual Information Return by NI Water. The AIR21 summary of register movements is provided in the attached document for the period 1st April 2020 to 31st March 2021.

The solutions to address DG5 Internal Flooding properties are being developed and delivered and the investment is commensurate with the PC15 funding provided.

Planned next steps for delivery

The next step involves amassing a programme of fully appraised, detailed solutions thereby enabling NI Water to implement the removal of properties from the DG5 register as set out in the PC15 Business Plan. This will facilitate the meeting of the PC15 regulatory requirements for DG5 internal flooding property removals. Furthermore this approach will enable NI Water to develop the detailed DG5 programme, populated with accurate costings and numbers of properties to be addressed in the PC21 Business Plan.

DEVELOPMENT OUPUT		
17. Sustainable Urban Drainage Systems (SUDS)		
Final Determination: *The company shall record information on SUDS applications and report annually on:* *- The number of applications received; and* *- The number of schemes adopted.* *The company shall maintain a register of its decisions on SUDs applications, highlighting the reasons any application was refused.*		
PROJECT SUMMARY		
NI Water does not receive stand-alone SuDS applications. However, NI Water receives applications for future adoption of development sewers, some of which may have an integral SuDS system. • The reporting mechanism records the number of applications received and authorised for future adoption of development sewers where SuDS is an integral part of the application. • The number of development sewers adopted with a SuDS element. • Development sewers with SuDS are not refused, rather encouraged, so this value will invariably be 'nil'.		
KEY MILESTONES	**Target**	**Status**
1. Report on SUDs applications in AIR	Annually	BAU

Activity completed to date and its outcome

For yearly AIR returns we record the number of Art 161's approved which incorporate SUDS, we also record the number of adopted Art161's which incorporate SUDS systems. Formal recording of SUDS included in adopted sewerage systems has been available since 2016/17.

2018/19 Housing sites adopted, incorporating SUDS utilising hyrobrake/vortex flow control. 36 sites.

2019/20 Housing sites adopted, incorporating SUDS utilising hydrobrake/ vortex flow control 86 sites

2020/21 Housing sites adopted, incorporating SUDS utilising hydrobrake/ vortex flow control 71 sites

DEVELOPMENT OUPUT			
18. Implementation of the PPC requirements for Odour Management			
Final Determination: *The company shall develop a plan for the implementation of PPC requirements for Odour Management by 31 March 2015, which shall be prioritised and agreed with NIEA. The company shall report progress against the delivery of this plan.*			
GOVERNANCE			
Directorate	**SRO**	**Project Lead**	**Approving Authority**
Asset Delivery	Paul Harper	Angela Halpenny	EC
Additional Details:			
N/A			
PROJECT SUMMARY			

NI Water currently operates 29 WWTWs with PPC permits that fall under the Regulations. A collaborative Working Group, the PPC Compliance Group, has been established between the NI Environment Agency (NIEA) and NI Water to agree, progress and monitor the implementation of PPC requirements for Odour Management. This Group meets on a quarterly basis to review actions, which have been agreed and prioritised by the Group. NI Water has continued to work closely with NIEA over the past 12 months in the development of feasibility studies, identification of investment.

The Odour work is split into two stages:

- Stage 1 involves undertaking Odour Modelling at required sites to assess whether the site is already compliant and if not, assess the extent of investment requirements to meet Regulations.
- Stage 2 will deliver investment to meet odour compliance outputs.

The sites have been prioritised with NIEA based on:

- whether an appropriate assessment has already been completed in line with the H4 guidance;
- whether an assessment has already been completed, but it was not in accordance with the H4 guidance;
- whether the site is already a priority site;
- whether the site imports sludges from minor works or septic tank etc., as these sites have a greater potential for odour generation; and,
- by the calculated throughputs.

A project commenced in 2016 to deliver PPC appraisal, odour modelling and assessment and investment to address identified deficiencies. This project will continue to the end of the PC15 period. Civil works commenced in 2017/18, with the main investment from 2018/2019 through to 2020/21.

The table overleaf details the progress with Odour Modelling Implementation Plan (Stage 1).

NI Water Odour Modelling Implementation Plan

WwTW	NIEA Priority	Import site	Phase 1 Target Completion Date	Phase 1 Actual Completion Date	Phase 2 Olfactory Study (If required) Target date	Phase 2 Target Completion Date	Phase 2 Actual Completion Date	Financial Year Completion date	BRAG Status
Dungannon (Moygashel)	1	Yes	Nov-16	Nov-16	Aug/September 16	Nov-16	Nov-16	2016/17	**Complete**
New Holland (Lisburn)	1	Yes	Nov-16	Nov-16	Aug/September 16	Nov-16	Nov-16	2016/17	**Complete**
Carrickfergus	1	No	Nov-16	Nov-16	Aug/September 16	Nov-16	Nov-16	2016/17	**Complete**
Whitehouse	1	No	Nov-16	Nov-16	Aug/September 16	Nov-16	Nov-16	2016/17	**Complete**
Newcastle	3	No	Mar-17	Mar-17	Aug/September 16	Sep-18	Nov-18	2016/17	**Complete**
Culmore	2	Yes	Jun-17	May-17	Oct-17	Dec-17	Jan-18	2017/18	**Complete**
Ballymena (Tullygarley)	2	Yes	Jan-19	Jan-19	Summer 19	Jul-19	Dec-20	2019/20	**Complete**
Antrim	2	Yes	Jun-17	May-17	Not required	Not required	Not required	2017/18	**Complete**
Dunmurry	2	Yes	Jun-17	May-17	Not required	Not required	Not required	2017/18	**Complete**
Cookstown	2	Yes	Jun-17	Jul-17	Oct-17	Dec-17	Jan-18	2017/18	**Complete**
Glenstall (Ballymoney)	2	Yes	Jun-17	Jul-17	Not required	Not required	Not required	2017/18	**Complete**
Limavady	2	Yes	Oct-17	Nov-17	Not required	Not required	Not required	2017/18	**Complete**
Downpatrick	2	Yes	Dec-17	Jul-17	Not required	Not required	Not required	2017/18	**Complete**
North Coast	3	No	Nov-17	Nov-17	Not required	Not required	Not required	2017/18	**Complete**
Enniskillen	3	No	Apr-18	Apr-18	Sep-18	Oct-18	Dec-18	2018/19	**Complete**
Omagh	3	No	Apr-18	Apr-18	Sep-18	Sep-18	Sep-18	2019/20	**Complete**
Banbridge	3	No	On Hold pending deregulation study					2019/20	**On Target**
Larne	3	No	Nov-17	Nov-17	Not required	Not required	Not required	2017/18	**Complete**
Tandragee	3	No	On Hold pending deregulation study			TBC		2019/20	**On Target**
Magherafelt	3	No	Oct-17	Nov-17	Sep-18	Nov-18	Nov-18	2020/21	**Complete**
Waringstown	3	No	On Hold pending deregulation study			TBC		2020/21	**On Target**
Greenisland	3	No	Apr-18	May-18	Not required	not required		2020/21	**Complete**
Ballyclare WwTW	3	No	Apr-18	May-18	Sep-18	Nov-18	Dec-18	2020/21	**Complete**
Newry	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	**Complete**
Strabane	N/A	Yes	N/A	N/A	N/A	N/A	N/A	N/A	**Complete**
Newtownbreda	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	**Complete**
Dromore	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	**On Target**
Lisnaskea	N/A	No	N/A	N/A	N/A	N/A	N/A	N/A	**Complete**

Stage 2 - Plans for Delivery of the PPC investment requirements for Odour Management, as identified from odour model reports and NIEA site inspections

NI Water has continued to deliver investment to address deficiencies identified by the odour model reports and/or through NIEA site inspection reports. The following table summarises the investment delivered to date and planned for 2020/21.

WwTW	Target Year For PPC Compliance	Completion Date	Compliance Status
Newry	No Capital Investment Required	01/04/2015	Compliant
Newtownbreda	No Capital Investment Required	01/04/2015	Compliant
Lisnaskea	No Capital Investment Required	01/04/2015	Compliant
Ballymoney	No Capital Investment Required	31/07/2017	Compliant
Downpatrick	No Capital Investment Required	31/07/2017	Compliant
Limavady	No Capital Investment Required	31/07/2017	Compliant
North Coast	No Capital Investment Required	31/07/2017	Compliant
Greenisland	No Capital Investment Required	30/05/2018	Compliant
Whitehouse	2017/2018	31/01/2018	Compliant
Ballyclare	2018/2019	30/05/2018	Compliant
Lisburn	2018/2019	31/03/2019	Compliant
Carrickfergus	2018/2019	31/03/2019	Compliant
Culmore	2018/2019	31/03/2019	Compliant
Cookstown	2018/2019	31/03/2019	Compliant
Antrim	2019/2020	31/10/2019	Compliant
Larne	2019/2020	31/10/2019	Compliant
Newcastle	2019/2020	31/03/2020	Compliant
Dunmurry	2019/2020	31/03/2020	Compliant
Enniskillen	2019/2020	31/03/2020	Compliant
Omagh	2019/2020	31/03/2020	Compliant
Banbridge	2019/2020		Decision to be made following deregulation study
Magherafelt	2020/2021	31/03/2021	Compliant
Strabane	2020/2021	31/03/2021	Compliant
Dungannon	PC21		Non-Compliant
Ballymena	2019/2020	31/03/2020	Compliant
Tandragee	PC21		Decision to be made following deregulation study
Waringstown	PC21		Decision to be made following deregulation study
Dromore	PC21		Decision to be made following deregulation study

Social and Environmental Guidance for Water and Sewerage Services (2015-21)

Drinking Water Quality

Priority	Drinking Water Directive	Update on Delivery (June 2021)
WQ1	Maintain existing water assets and infrastructure and complete any upgrades needed to sustain overall compliance levels.	NI Water maintain assets as a BAU action within our base maintenance programme. The total base maintenance funding being invested has been maintained in line with the PC15 FD to ensure customer service is maintained. This investment includes replacements and repairs to sustain water compliance levels. Whilst this was not a nominated output the UR had set aside funding within the FD for examples like this. Upgrades to achieve new compliance standards are prioritised from the 'Enhancement' investment programmes. This funding envelope has been reduced from the PC15 FD due to PE cuts and this is delaying investment at certain sites.
WQ2	Complete any water infrastructure and treatment upgrades necessary to address enforcement notices and other statutory obligations from the Water Supply (Water Quality) Regulations (NI) 2007 (as amended).	For the 2020 reporting year NI Water achieved its drinking water quality targets and is on profile to achieve its targets in 2021. Water infrastructure investment (water mains rehab) is prioritised using our WIIM model which includes for a range of issues including water quality. Any enforcement notices relating to water mains infra should they arise will be accommodated as must do investments within the water mains rehab programme which is a blend of Base Maintenance and Enhancement investments. PC15 has to date completed the GAC installations at Dorisland and Killyhelvin WTW's which achieved beneficial use in PC13. The PC15 programme also includes for investment at Derg WTW to fit out existing filters and ensure the chemical arrangements are available to treat the river intake from the Strule. This work at Derg is complete. There have been two PEOs ref MCPA at Derg and Ballinrees, and one referencing THMs at Rathlin which have has added projects not funded within the PC15 FD nominated outputs. Work at Rathlin WTW has been completed. The Derg Pilot Study has been completed and recommended the PAC dosing as the most economic solution. The associated capital project has just received A3 CIP approval to move to award of contract. The Ballinrees pilot plant was put into operation on the 10th May 2021 and will be operated until September 2021. The subsequent report will recommend the solution that represents best vfm to address the MCPA compliance and the taste & odour enforcement notice.
WQ3	Identify and program any infrastructure and treatment upgrades necessary to meet new or emerging drinking water quality issues or legislative changes (e.g. Radon).	As BAU we implement a prioritised investment programme to manage drinking water quality risks informed by Drinking Water Safety Plans. NI Water will continue to respond to emerging risk identified in the Drinking Water Safety plans and to respond to issued raised by the Drinking Water Inspectorate in its consideration of provisional enforcement orders or other enforcement action. Any resultant outputs will be agreed with stakeholders via change protocol to prioritise investment not currently funded in PC15 FD. DWI 2020 DWSPs Annual Return made on 31/03/2021.
Priority	**Water Fittings Regulations**	**Update on Delivery (June 2021)**
WQ4	Effectively monitor and regulate compliance with the Water Supply (Water Fittings) Regulations (Northern Ireland) 2009 and manage the risk of contamination or waste of public water supplies through defective water fittings.	NI Water monitor and regulate compliance with Water Supply Regulations as a BAU item. NI Water continues to proactive and reactively inspect customer premises for compliance with the water fittings regulations. NI Water is a fully participating and contributing member of the UK's water industry organisation known as the Water Regulation Advisory Service (WRAS). WRAS acts as one voice for the water industry on a national level and also assists water companies interpret the regulations on a consistent basis. Customers complying with their obligations contained within the regulations will significantly mitigate the risk of waste, undue consumption, waste and contamination of mains water supplies. Customer compliance with the Regulation 4 in the regulations and appropriate EU and BS standards as well as the Regulators (DfI) specification, will significantly reduce the risk of waste, misuse, undue consumption, erroneous measurement and contamination of water through non-compliant water fittings. This is a statutory obligation and as such will be an ongoing activity for NI Water. This activity will not end or change unless DfI amend the current regulations. Information on the companies obligations and powers, guidance to householders and notification forms are available on the companies website. The company supports the national schemes for licensed or approved plumbers.

Priority	Drinking Water Safety Plans and Drinking Water Protected Areas	Update on Delivery (June 2021)
WQ5	Continue raw water monitoring programme at abstraction sites to manage drinking water quality risks and work with NIEA to designate Drinking Water Protected Areas to help prevent future deterioration of drinking water sources in line with WFD principles.	Raw water monitoring is in place and ongoing. Sampling frequencies are reviewed in line with regulatory requirements and on risk assessment. The is managed as BAU. DWPAs have been assigned by NIEA for our drinking water catchments in line with WFD principles. NI Water worked with NIEA during this process. Catchment Management Studies have been completed for all 23 drinking water catchments in NI to identify issues and recommend actions for each catchment to enhance environment and to improve raw water quality at abstraction points. A water quality monitoring programme for sub-catchments is being implemented.
WQ6	Through the ongoing review of Drinking Water Safety Plans (DWSPs), develop and implement a prioritised programme of mitigation measures to build resilience against contamination risk for all aspects of the water supply chain (from catchment through to tap) to protect public health.	As BAU we implement a prioritised investment programme to manage drinking water quality risks informed by DWSPs. This is a Core Business activity.

Priority	Managing Raw Water Quality Risks	Update on Delivery (June 2021)
WQ7	Continue rolling out a prioritised SCAMP NI programme across all drinking water catchments to reduce raw water contaminants through interactive stakeholder working to improve or prevent deterioration of abstracted drinking water quality (e.g. natural organic matter, pesticides) and provide for more cost-effective treatment solutions in the future.	• Catchment Management Studies - Completed for all 23 drinking water catchments in NI to identify issues and recommend actions for each catchment to enhance environment and to improve raw water quality at abstraction points. • Mournes Holistic Land Management plan - A management plan prepared to address grazing, erosion control, riparian planting, invasive species control, recreation/access, wildfire requirements and other land management improvements. • Grazing in Mournes - Grazing contracts for east and west Mournes awarded. • Mournes Path/erosion control works – Remedial erosion control works ongoing. • Mournes Wildfire Group - Intervention work ongoing to progress Eastern Mournes Wildfire Plan, reducing wildfire risks. • Invasive Species control - Ongoing annually in Silent Valley catchment. Review completed to assess effectiveness and progress of NI Water's measures. • Seagahan, Glenhordial & Ballinrees Pesticide reduction projects – Successful weed-wiping projects ongoing, showing positive water quality results. Passive sampling project also ongoing to monitor results. • Water Catchment Partnership - Agricultural shows, farmer engagement, press engagement, etc. Ongoing engagement with partners in message and spring/summer press releases on weed control and water quality protection. • Rush Control Events - Farm events carried out in high risk priority areas. CAFRE/NIW video on best practice rush control planned for 2020, with corresponding engagement work with grassland BDGs planned to supplement the message on weed control. • DAERA/NI Water liaison on the future of agricultural policy and possible movement away from area-based subsidies. • Glenedra Riparian Planting project – A further 7ha towards Glenhedra source were planted with 9,000 trees in Nov-Mar 2020 bringing the total planted there to 21,245. This will stabilise river banks and prevent livestock encroachment, thus improving water quality for treatment at Caugh Hill WTW. • Faughan valley/Burntollet riparian tree planting project (Carmoney WTW) - 3 yr project including tree planting, recreation access, conservation measures and educational initiatives in a 45ha area. • Tree planting - Work ongoing to facilitate Forest Service FES funding to plant 4 large areas of NIW catchment land in Mournes to improve biodiversity, create firebreaks, reduce our carbon footprint and stabilise water quality. • Lough Neagh Partnership - Liaison ongoing to establish projects that will have water quality benefits, deliver shoreline management solutions reducing pesticides, colour and turbidity. • Lough Erne Landscape Partnership - Liaison ongoing to establish projects that will have water quality benefits. • 'CABB' INTEREGG VA Project - Work on Garron Plateau Bog Restoration project completed, bog demonstrating ongoing recovery. Water quality and biodiversity benefits being monitored. • 'Source To Tap' INTERREG VA Project - A major €4.9M cross-border project, to improve water quality in rivers and lakes in the Erne and Derg catchment areas.
WQ8	Implement the recommendation of the Inter-departmental Group on Wildfires to introduce Bye-laws on NI Water's land and work with the proposed Strategic Wildfire Forum and other stakeholders to manage the risk of wildfires within its catchments (and the risks to raw water quality).	Participation with the Inter-departmental Group on Wildfires is ongoing and implementation of recommendations to manage the risk of wildfires within catchments are being carried out on an annual basis as agreed at the group. Mournes Wildfire Group - The MWG was established with the aim of forwarding the recommendations from the Eastern Mourne Wildfire Plan and to mitigate against wildfire. The group includes Mourne Heritage Trust, NI Water, NIEA and NIFRS.

Priority	Managing Quality Risks from the Distribution System	Update on Delivery (June 2021)
WQ9	Continue a maintenance programme to ensure all service reservoirs are cleaned and checked for integrity on a regular basis. The company should also ensure that for the protection of human health microbiological	NI Water have a rolling programme of Potable water storage structures cleaning and inspection as a BAU item. The inspection programme informs the Base Maintenance investment at Potable Water storage structures which is progressing as per PC15 FD plans. All Water Quality parameters are monitored and managed within the water network as a BAU item.
WQ10	Work with DRD, DWI and stakeholders through the PC15 planning process to develop and agree a PC15 investment programme and targets to address iron exceedances & drinking water quality complaints, in particular colour, taste & odour.	**This action is complete.** Stakeholder engagement took place during the development of the plan to inform the PC15 plan. A) Drinking water quality targets are in place for iron and other significant parameters, designed to protect public health. Drinking water quality target for iron remains to be monitored. On track as of 31/03/20. B) Drinking Water Quality targets and / or Regulatory limits are in place. In particular targets for iron, and Regulatory limits for colour and taste & odour, relate to drinking water quality complaints and help to inform investment decisions, including prioritisation of water main rehabilitation.

Priority	Managing the Quality Risks from Lead Pipes	
WQ11	Continue implementing its strategic lead policy and lead pipe replacement programme focused on improving compliance with EU Lead standard (10µg/l).	A Prioritisation methodology is in place that identifies a programme of 6 years of work year on year in PC15 of pro-active water mains communication pipes replacement, focused on the aim of a planned ongoing process to remove all lead pipes from the public supply system and improving compliance with the EU Lead standard (10ug/l). The PC15 approach will continue into PC21.
WQ12	Work with DRD, DWI and stakeholders to develop and implement a strategic risk based approach for addressing lead compliance issues associated with private supply pipes and domestic distribution systems	NI Water have completed a pilot replacing both private and public elements of lead service pipes. The Lead Service Pilot Project Report was issued to Dfl for comment on the 25th April 2018. During 2020 NI Water have engaged with DFI who have sought develop an options paper on possible routes to resolve the longer term lead pipe issues with particular focus on private lead pipes for informing senior officials.

Drinking Water Supply		
Priority	**Water Framework Directive**	**Update on Delivery (June 2021)**
WS1	Develop, agree and implement water abstraction monitoring and management plans with NIEA.	Ongoing work with NIEA AIL team to review abstraction licences. Managed as BAU.
WS2	Implement any drinking water resource-related measures set out in the Executive's River Basin Management Plans.	Ongoing work with NIEA. Member of the WFD Strategic Planning and Resources Group (SPAR)
Priority	**Water Resource Management (& Drought) Plan**	**Update on Delivery (June 2021)**
WS3	Prepare a revised Water Resource Management Plan (WRMP) to identify the long-term water resource management and security of supply investment needs. The WRMP should incorporate drought planning requirements, identify adaption measures in response to climate change predictions and take account of the review of water abstraction and impoundment licences. DRD will provide Guidance on this to NI Water.	The Water Resource & Supply Resilience Plan has been developed following Dfl's Technical guidance including stakeholder engagement throughout the process. An initial draft of the plan was signed off by NI Water board in November 2017, however, it was agreed to reassess the draft plan against the summer 2018 high demand incident. This was completed and the Draft Plan was issued for consultation in July 2019 and following a review of consultee responses the final plan informing investment in the final PC15 years and PC21 was published in June 2020.
WS4	Develop and implement a water supply investment programme to ensure long-term security of supply (informed by revised WRMP).	This is included with WS3 above.
Priority	**Water Leakage Detection & Reduction**	**Update on Delivery (June 2021)**
WS5	Continue to focus on leakage detection and reduction with the aim of achieving and maintaining the Sustainable Economic Level of Leakage (SELL), and driving below this if recommended in the 2017 WRMP.	The leakage targets for the PC15 period are proving to be very challenging. It should be noted that the leakage target is cumulative which is unlike a number of other targets and KPIs. NI Water has undertaken the following: • NI Water has very much focussed its effort on seeking to reduce leakage through a variety of different means through better data management, leakage specific capital investment and find & fix. • Increased the number of specialist leakage detection resources. • In 19/20 we increased our external detection resources by 17% to 113. • Our contract detection expenditure increased from £2.4m in 18/19 to £3.5m in 19/20. • We have retained our complement of in-house NIW staff and increased overtime working for NIW specialist leakage detection staff. • Invested in CALM network training for all NIW and contract staff. • Investing in our in-house detection teams with a leakage development programme. • Increased the number of defects being found and repaired on the public side. • Our repair costs increased from £2.0m in 18/19 to £2.3m in 19/20. • Found additional numbers of defects on the private side and issued approximately 2,500 leakage notices in 19/20. • Continued with the PC15 leakage capital investment programme. • The natural rate of rise (NRR) has increased which is influenced by the pipe material, condition, age and climate. To counter this NIW has a targeted mains replacement programme which is related to adequate funding. • Not only have we continued with recognised leakage detection methods but we are also undertaking a number of innovative projects associated with satellite imagery, noise logging and drones.
WS6	Work with DRD and stakeholders to develop and implement policy on reducing private supply pipe leakage (e.g. in conjunction with lead supply replacement).	NI Water have limited powers to repair private supply pipe leakage. If a leak is identified a waste notice is issued which provide the customer a period of c4 weeks to complete a repair. The vast majority of repairs are carried out within this period and reducing the time period would have limited benefit. A draft report following the pilot lead replacement project has been completed and has been submitted to Dfl. The initial outputs of this report suggest there is limited benefit in replacing private communications pipe unless all internal lead within a property is removed.

Priority	Managing Water Consumption	Update on Delivery (June 2021)
WS7	Continue with a programme to install meters for non-domestic water and sewerage customers	NI Water was until December 2017 obligated to fit water meters at all newly connected premises under Article 81 of the Water and Sewerage Services Order (2006). In December 2016 the Minister made regulations removing the part of this obligation relating to Domestic premises. As such NI Water will limit the installation of water meters to non-domestic premises going forward.
WS8	Prepare and implement a Water Demand Management Strategy (WDMS) focussed on moving towards the proposed water strategy's long-term target of 130 l/h/day.	This is a long term water strategy action being led by DfI. NI Water will support the development of this strategy.
WS9	Work with DRD and other stakeholders to develop policies in respect of water efficiency measures in homes and businesses. This includes investigating opportunities to work with other government departments, utility providers or NGOs to find mutually beneficial projects in which water efficiency can be highlighted or implemented (e.g. water efficiency and lower energy bills)	An initial meeting held with DfI and other associated stakeholders on the 23rd May 2017 to discuss this measure in relation to the LTWS. Following this discussion it was agreed that NI Water would highlight the current Education campaigns to assess if there were further opportunities. Primary and Secondary schools are offered an education talk on our key Water Efficiency messages. Also we run an annual schools competition for Primary Schools - every 4th year the competition focuses on Water Efficiency. We attend Events/Exhibitions such as; Balmoral Show and local community events/talks. We communicate to the wider public audience using all available communication channels such as Facebook, Twitter, website, LinkedIn, YouTube, Print-Press and Radio/TV interviews. As part of the consultation on the Water Resource & Supply Resilience Plan NI Water have been engaging with Waterwise, an independent not-for-profit, non-governmental organisation promoting water efficiency, with regards to establishing pilot schemes. As a consequence as part of the PC21 submission £150k has been identified to trial and pilot a number of demand management activities in PC21. This is likely to focus on the benefits of household audits to inform the next Water Resource and Supply Resilience Plan. This is in addition to the recommendations from the current Water Resource and Supply Resilience Plan which will be actioned in PC21. • Targeted non-household water audits (key accounts) • Schools water audit and retrofit; • Hotel & Hospitals water audit and retrofit; • Farm Audits.

Environmental Protection & Improvement		
Priority	**Urban Waste Water Treatment Directive (UWWTD)**	**Update on Delivery (June 2021)**
WW1	Continue improving overall levels of compliance with Water Order Consents(including flow compliance from 2015), the PPC Regulations and the CSO spill requirements of the UWWTD, WFD (including Priority Substances &SWD), MSFD & BWD.	The PC15 plan and FD set targets to continue improving overall levels of compliance. Despite public expenditure cuts within the mid term review period, compliance has been maintained.
Priority	**Urgent Waste Water Priorities**	**Update on Delivery (June 2021)**
WW2	Develop and deliver a prioritised investment programme on wastewater treatment facilities, pumping stations and sewerage systems to meet:	The PC15 plan was developed with stakeholder engagement and all WWTW enhancement projects have been prioritised in conjunction with NIEA. The PC15 plan was constrained within the funding limits set for the plan and this has resulted in a significant number of WWTW's not receiving investment during PC15. PC15 was not fully funded, reducing NI Water's ability to deliver investment at WWTW's and as a result a number of new housing development planning permissions are receiving negative consultation responses from NI Water as the receiving WWTW and/or Wastewater network has no headroom capacity. The extent of this impact was detailed in the mid term review baseline document compared to the latest plan, illustrating the number of WWTW's where potential investment could have taken place in PC15. The impact of constrained funding particularly on wastewater has been demonstrated within the PC21 Business Plan submission and the Final Determination.
WW2a	- immediate development pressures (& address overloaded works)	Please see WW2 above
WW2b	- flow monitoring requirements (in support of the introduction of	Please see WW2 above
WW2c	- any outstanding spill monitoring requirements needed for	Please see WW2 above
WW2d	And deliver the highest priority schemes during PC15 within the	Please see WW2 above

Priority	Planning & Modelling	Update on Delivery (June 2021)
WW3	Work with DRD, NIEA and other statutory partners in response to the Committee for Regional Development's Inquiry into Unadopted Roads and commence a prioritised investment programme to address unsatisfactory private sewerage infrastructure and treatment facilities.	This action has not progressed as no funding was included with the PC15 business plan or FD to take this forward. NI Water continue to collaborate with TNI in respect of Article 11 Enforcement sites (pre 2007) where TNI hold a single bond. NI Water has also identified potential Enforcement sites (post 2007) where separate NIW/TNI bonds apply.
WW4	Collect accurate and reliable information on wastewater treatment facilities and sewerage infrastructure to inform development of robust holistic drainage area plans (DAPs).	NI Water has agreed with NIEA a prioritised list of Drainage Area Studies for delivery during PC15. The studies will involve a comprehensive model build and verification of catchment operation for various horizons and will be used to inform both DAP capital works and WwTW upgrades. Flow and Composition studies are selectively undertaken as part of WwTW appraisals.
WW5	Ensure storm separation and sewer infiltration reduction are considered through the DAPs and that these options are adequately explored and costed before being ruled out	As part of catchment model verification anomalies in hydraulic loading will initiate infiltration investigations. DAS catchment investigations, both reactively and proactively, target opportunities for storm water removal (separation & infiltration). Cost benefit analysis of potential capital works are examined through the Needs & Options report. NI Water has included a pilot programme in PC15. Based on the findings of this, NI Water will include an appropriate programme in PC21. 1. Application of SUDS Studio. Identifies initial locations for potential Storm Separation and priorities same. 2. Storm Separation included in all current/future Drainage Area plan work. NI Water has set in place a process for removing storm water from the sewer network on a prioritised bases taking into account large flows at WWTW or WWPS during rainfall events. This will give more capacity within these networks for growth and also reduce risk of flooding. NI Water has agreed to develop and enhanced DAP for Belfast to inform the LWWP. An enhanced DAP includes for the modelling of NI Water storm sewers which historically have not been modelled as part of the DAP process.
WW6	Work with DRD, NIEA and other statutory partners to develop and implement catchment-based solutions (from Simulated Catchment Management Modelling - SIMCAT) for wastewater collection and treatment.	In 2020/2021 the SWELL project successfully commissioned new wastewater infrastructure at Warrenpoint WwTW (£6.19m) and Newpoint WwPS (£3.31m) located in the Carlingford Lough, as well as at Strabane WwTW (£3.23m) and Donemana WwTW (£2.61M), within Lough Foyle drainage basin. Associated NIE networks upgrades (£84k between 3 sites) were also completed under the scheme.
WW7	Work with DRD, NIEA and other statutory partners to develop a programme and target for installing appropriate spill monitoring systems across the sewerage network.	For PC15 we are commencing a programme of flow measurement at CSO's. Given the time required to plan this type of solution it will not be possible to implement before PC21. For PC21 the intention is to focus investment on flow measurement at CSOs to understand the magnitude of the problem. No investment has been included in the plan for sustainable treatment at overflows.

Priority	Planning & Modelling	Update on Delivery (June 2021)
WW8	Undertake work to develop a sustainable economic level of infiltration (SELI) to inform sewerage investment decisions and deliver infiltration reduction works where this is assessed to be cost effective in addressing issues	NI Water has set in place a process for removing infiltration from the sewer network on a prioritised basis taking into account large flows at WWTW or WWPS during dry weather and tidal infiltration. This will give more capacity within these networks for growth and also reduce risk of flooding. Examples where NI Water have reduced infiltration in PC15 include: • Moneyreagh (avoiding capital investment at the WwTW) • Saintfield repair of DfI Roads culverts previously discharging into combined sewer • Ballykelly to remove storm water from the combined network
WW9	Develop and maintain a long-term investment programme for the implementation of the PPC requirements for Odour Management. In the first part of PC15 NI Water should:	The PPC Compliance Group, a collaborative working group between NIEA and NIW has been established and Odour Modelling prioritisation for 23 WWTWs has been established in addition to a schedule of inspections.
WW9a	- assess the cost of complying with the PPC Regulations for all sites that are determined to be 'qualifying sites' under proposed NIEA guidance.	Project Identifier KI583 - PC15 Implementation of Odour & PPC Strategy has identified a spend of £4.4 to rectify deficiencies as identified by the joint inspections.
WW9b	- develop and agree with NIEA a prioritised programme with the aim of achieving full compliance by the end of the PC15 period (subject to priority & funding constraints).	A prioritised programme has been agreed and this is reviewed quarterly by the PPC Compliance group.
WW9c	In the second part of PC15 NI Water shall commence the delivery of this programme, with the pace determined by the relative priority of this programme, as guided by the WICG.	The delivery of the programme has commenced as per the prioritised programme agreed with the PPC compliance group.

Priority	Longer Term Investment Priorities	Update on Delivery (June 2021)
WW10	Continue a prioritised long-term maintenance and enhancement programme on wastewater treatment facilities & pumping stations to maintain serviceability and meet:	The PC15 plan was developed with stakeholder engagement and all WWTW enhancement projects have been prioritised in conjunction with NIEA. The PC15 plan was constrained within the funding limits set for the plan and while this has effectively limited the immediate number of sites for capital intervention it has provided for an extended list of wastewater sites for longer term prioritisation with the option of promoting additional outputs as circumstances prevail. Please see WW2 for additional information.
WW10a	- development pressures (& address overloaded works) and compliance with Water Order Consents (WOCs);	Please see WW10 above
WW10b	- reduce pollution incidents;	Please see WW10 above
WW10c	- comply with existing/revised Water Order Consents; and	Please see WW10 above
WW10d	- meet the PPC requirements.	Please see WW10 above
WW11	Continue to implement a long-term investment programme focused on providing appropriate treatment at small (>250) waste water treatment works	This RWWIP programme is progressing and is planned to achieve the upgrades during PC15 as per the plan targets. During PC15 ICWs have been constructed at Castlearchdale, Stoneyford and Ballykelly. An upward flow reed bed has been constructed at Clabby.
WW12	Continue to implement a prioritised investment programme on sewage sludge treatment facilities focused on providing appropriate pollution containment and odour abatement.	Capital Maintenance Planning is ongoing at sludge treatment facilities identifying appropriate Base Maintenance on PPC and odour control. For additional information see WW9.
WW13	Develop and implement a programme to bring existing wastewater pumping stations and treatment works in to compliance with the Water Supply (Water Fitting) Regulations (Northern Ireland) 2009.	NI Water implemented a programme of work for PC15 - 'KI487 Backsyphonage Risks at NIW Sites'. The initial desktop study for the project estimated the cost of meeting the compliance at approximately £16.2 million and this figure was included in the unconstrained PC15 budget but following the identification of a constrained budget, funding for this element of work was reduced to £1.8m, and subsequently included at this funding level with the Final Determination (FD). As a consequence on a limited number of sites were addressed in PC15. In addition two other PC15 projects contained funding for backsyphonage issues:- KI514 – WwTWs - Water Regulation Compliance & Energy Efficiency Programme' for which £558k was allocated for backflow prevention at 15 large WWTWs & JI032 Water Treatment Sites - Water Regulation Compliance & Energy Efficiency Programme for which £1.12m was allocated for backflow prevention at WTWs. Funding has been sought in PC21 to continue this programme of work.
WW14	Continue a prioritised long-term programme of Drainage Area Plan work	For the PC21 Business Plan, NI Water have proposed that enhanced Drainage Area Plans are completed in Areas of Potential Significant Flood Risk (APSFR). The enhanced DAP includes the modelling of surface water sewers.
WW14a	- maintain the serviceability of the sewerage system;	
WW14b	- meet development pressures (& address capacity issues);	
WW14c	- reduce sewer related flooding; and	
WW14d	- reduce UIDs and pollution incidents in line with UWWTD, MSFD, BWD & SWD.	
WW15	Work with DRD and NIEA to develop and implement a policy for addressing crossed connections to storm sewers focussed on the WFD's 'the polluter pays' principle.	A strategy has been put in place to address the misconnections in conjunction with NIEA/DFI. A misconnections leaflet was produced to publicise the issue of misconnections to wherever appropriate.
WW16	Implement any sewerage or potable water related measures set out in the Executive's River Basin Management Plans (RBMPs).	Please see details WS2 for further information
WW17	Continue to reduce the number of pollution incidents through effective investment and operation of the water and sewerage assets.	NI Water has developed some additional management tools now being used in PC15, which will reduce the potential number of pollution incidents. An example is the hotspotting tool which identifies areas where repeat blockages occur enabling full route cause analysis to be completed, allow for corrective action and remove the potential for future events. In addition to ongoing targeted capital maintenance and DAP works NI Water has introduced some supporting management tools which will reduce the potential number of pollution incidents. An example is the sewer hotspotting tool which identifies areas where repeat blockages occur enabling full root cause analysis to be completed, allow for corrective action and remove the potential for future events. Work in progress also includes the development of a DWF capacity mapping tool which will provide an alert of capacity exceedance from new development proposals.

Flood Risk Management & Drainage

Priority	The European Floods Directive	Update on Delivery (June 2021)
FRM1	Develop & implement individual sewerage and drainage measures applicable to NI Water as set out in the Executive's FRMPs (2015-21).	Ongoing meetings take place with DfI Rivers when required. Within the new Risk Base approach to Needs and Options and MBVs specification part of this new specification is meetings with DfI Rivers regarding flooding and solution to address this flooding with a joint approach where possible. NI Water are members of the Technical Flood Risk Steering Group contributing to the development of the next FRMP.
FRM2	Implement the inspection and maintenance requirements of the Executive's proposed Reservoirs Bill for controlled reservoirs.	NI Water have historically completed panel engineers inspections and subsequent required investment at our impounding reservoirs, without legislation being in place. The latest round of Section 10 inspections to inform PC21 has been completed. NI Water will continue to implement the other elements of the Reservoirs Act as the commencement orders are enacted, in particular in relation to potable water storage structures larger than 10ML. NI Water have appointed external supervising engineers in order to obtain responsible reservoir management status to ensure compliance with planning policy from the absence of full commencement of the Reservoirs Act NI. NI Water have commenced inspections of potential controlled service reservoirs aligned with our cleaning programme. This has been delayed during 2020 due to COVID impacting the cleaning programme.
Priority	**Drainage Planning & Modelling**	**Update on Delivery (June 2021)**
FRM3	Contribute to the development of integrated drainage models and plans to manage flood risk in urban areas including completing any necessary Pilot Projects (e.g. Ballyclare).	An Integrated Environmental Modelling Steering Group is now established for the development of environmental models alongside drainage area models to inform optimal sustainable options for both wastewater networks and treatment works and to facilitate the delivery of overall water quality objectives.
FRM4	Work with DRD, NIEA and Rivers Agency through the Stormwater Management Group (and through implementation of PPS 15 – Planning and Flood Risk) to progress and implement the utilisation of SuDS NI, design for exceedance and other policies for sustainable storm water management.	NI Water continue to attend and contribute to the Storm Water Management group to develop approaches to extend the utilisation of SuDS NI. NI Water are finalising a new 'Sewers for Adoption' manual for developers which will include for SuDs design. Sewers for adoption NI 2nd Edition under final internal review by Developer Services before final issue to WRc for publication. There has been additional internal challenge on the draft document. Expected completion Summer 2020.
Priority	**Urban Drainage Provision**	**Update on Delivery (June 2021)**
FRM5	Consider the costs and benefits of widening the scope of Drainage Area Studies Plans to include 'design for exceedance' in high flood risk areas and include an emphasis on improving sewerage records held on the Corporate Asset Register (CAR).	DFI led Storm Water Management Group are progressing a range of initiatives to promote flood mitigation in high risk areas. NI water continue to assess Design for Exceedance within new development drainage proposals. Design for Exceedance will be included within Sewers for Adoption 2nd Edition. Expected completion Summer 2021.
FRM6	Contribute to the development and implementation of a prioritised Government programme of integrated drainage schemes to manage surface water flooding in urban areas (incorporating storm drains, sewers and watercourses). This includes assisting in the development of integrated flood modelling in specific locations on a case by case basis, where Stakeholders agree that this is necessary, and the apportionment of appraisal, modelling, and survey costs can be agreed in advance.	NI Water is exploring opportunities for integrated / shared solutions for the management of stormwater. Additionally, via the Living With Water Programme a work package is to progress on integrated catchment modelling combining drainage area and receiving waters.
Priority	**Sewer Flooding (DG5)**	**Update on Delivery (June 2021)**
FRM7	Continue to address out-of-sewer flooding problems attributed to NI Water's sewerage and drainage networks	NI Water are continuing to invest in providing engineering solutions to remove internal flooding of properties attributed to NI Water's sewerage network. DG5 removal funded in PC15/21 for internal flooding only. External flooding of property is not currently funded and policy is required for the longer term.

Priority	Combined Sewer Separation and Infiltration Reduction	Update on Delivery (June 2021)
FRM8	Work with DRD, NIEA, Rivers Agency and other stakeholders to develop and commence a long-term storm water separation and infiltration reduction programme focussed on addressing UIDs, pollution incidents, sewer flooding, surface water flooding and providing capacity for development.	NI Water is developing a programme of storm separation projects using bespoke software to identify opportunities. The objective is to complete a range of projects e.g. urban housing, large commercial, educational campus etc. An examination of cost/benefit relationship will be used to inform a more focussed business case for PC21 projects. NI Water are continuing to remove storm water from are combined system when this can be achieved. NI Water take all opportunities to remove storm water as part of projects or network upgrade or new development.

Priority	Emergency Flood Response	Update on Delivery (June 2021)
FRM9	Contribute to the delivery of an efficient and effective coordinated response from Government during flooding incidents (in line with PEDU).	NI Water has a well-developed Major Incident Plan that provides a fully planned reactive response to all types of emergency incident including out-of-sewer flooding. An audit of N Water's emergency planning arrangements is completed by an independent Certifier annually and an Audit Report submitted to the Department for Infrastructure's Water & Drainage Policy Division. NI Water continues to contribute to several multi-agency flooding and severe weather planning groups (along with the other main drainage agencies, DfI Roads and DfI River) including: • The Flood Strategy Steering Group (FSSG) (led by DfI Rivers); • The Flood Investigation Planning Group (FIPG) • The 'Regional Community Resilience Group' (RCRG); • Three, sub-regional, Emergency Preparedness Groups (EPGs) (North, South and Belfast); • The three EPG Flooding and Severe Weather Planning Groups and; • The EPG Communications' working group. The Company is represented on the principal strategic emergency preparedness body for the public sector in Northern Ireland, the 'Civil Contingencies Group (NI)', and continues to keep pace with wider developments through involvement with UK water industry emergency planning groups.

Service Delivery, Improvement and Affordability

Priority	Customer Priorities for Customer Service, Information & Communication	Update on Delivery (June 2021)
CS1	Continue to review and improve performance in customer service quality and effectiveness through the development of better data and information systems and customer focussed processes and policies	With regard to customer data, there is a programme of projects being progressed in respect of data accuracy and data validation. In addition, there are data accuracy obligations imposed on the service provider under the CBC contract.
CS3	Adopt any proven technology or systems that provide tangible benefits in terms of improving service performance or reducing operational costs, whilst ensuring the resilience and security of essential control and monitoring networks. (e.g. ICAT programme)	During the current PC15 Price Control period (2015-21), NI Water commenced implementation of its Instrumentation, Automation and Telemetry (ICAT) Strategy. During 2019/20, new technology was installed at 8 service reservoir (potable water storage) sites. The PC15 total of ICAT SRs to date is 150 (Project began September 2016). During 19/20 the first prototype iCAT WPS was completed at Ballyhome (Portrush) in advance of The Open. It is now the objective of the ICAT Team to complete the Gravity Service Reservoir ICAT Programme through PC21 (approximately 35 remaining) before commencing with signature designs for iWPS, Booster Stations and DMAs. The ICAT programme is demonstrating benefits including 1) Introducing automation to the control of reservoir inlet flows 2) Eliminating SR overflows 3) Reducing the number of manual site visits 4) Facilitating the remote intervention for emergency situations 5) Standardisation of approach to control
CS4	Continue improvements in handling customer queries, complaints and billing (DG6-9).	Customers who contact us by telephone are offered a Voice of the Customer survey, post contact. We use the feedback provided to gain insight and drive improvement where required, with our colleagues across the business. Billing enquiries and written complaints are closely monitored through weekly reporting so trends / deviations are quickly identified and appropriate action taken if necessary.
CS5	Work with stakeholders through the Customer Measures and Satisfaction	The following new Customer Measures have been confirmed with the Utility Regulator for PC21 and challenging targets have been set for each year: 1) Unwanted Contacts – number of telephone calls reporting some form of failure in service delivery. 2) First Point of Contact Resolution (FPOCR) - % of contacts that are resolved within a specific time period. 3) Net Promoter Score (NPS) – a customer advocacy score, obtained from our Voice of the Customer daily surveys.
CS5a	i) New consumer satisfaction (CSAT) Key Performance Indicator	
CS5b	ii) Adoption of industry best practice measures for performance on	
CS5bi	- customer contact levels (through all communication channels);	
CS5bii	- first point of contact solutions; and	
CS5biii	- repeat contacts	

Priority	Customer Priorities for Water Service Levels	Update on Delivery (June 2021)
CS6	Develop quality drivers and measures for the water mains rehabilitation programme informed by drinking water quality monitoring and customer complaints (iro colour, taste & odour).	The WIIM methodology for prioritising replacement pipelines in the distribution network, includes WQ failures as drivers for pipeline replacement. This a Core Business Activity. For the 2020 reporting year NI Water achieved its drinking water quality targets and is on profile to achieve its targets in 2021. For the development of the PC21 Plan Deterioration and Risk & Reliability Models (DRRM) were developed. The deterioration models are used to predict when asset failures are expected to occur in the future and therefore form the basis for assessing the level of repair and replacement activity required throughout the planning period and beyond. The service impact models inform the probability of the asset failure leading to a service failure and also the type and scale of any consequences of asset failure. This enables the development of a more customer focused rather than asset focused approach to CMP. These include measures on drinking water quality and associated customer complaints.

CS7	Continue to reduce the number of properties that experience unplanned and unwarned interruptions to drinking water supply in excess of 3/6/12/24 hrs (DG3).	1) WIIM process already in place as developed for PC15 but will continue to be refined. Latest WIIM review of the methodology (WIIM3) now includes better informed DG3 analysis. This is one element of the overall Capital Maintenance Planning process. 2) The Water Resource & Supply Resilience Plan includes a number of resilience project proposals. 3) NI Water has developed an Interruptions to Supply (ITS) Strategy that sets out what NI Water needs to focus upon to improve our supply interruption performance and achieve better service for our customers. The implementation of the strategy has commenced in PC15 and will continue in PC21.
CS8	Target areas of low pressure to increase the number of customers who benefit from at least the minimum levels of supply.	NI Water continues to invest in water mains rehab and within this sub prog properties on the DG2 register are targeted to ensure that post investment they receive the minimum levels of supply. The register will be refreshed during PC21.

Priority	Customer Priorities for Water Service Levels	Update on Delivery (June 2021)
CS9	Continue to maintain a Register (DG2) of properties at risk of receiving low pressure and reduce the number of properties on the register over the PC15 period	The PC21 business plan confirms that the DG2 register requires a refresh as the current register is incomplete. This will be carried out in year 1 of PC21.
Priority	**Customer Priorities for Sewerage Service Levels**	**Update on Delivery (June 2021)**
CS10	Establish and maintain a Register (DG5) of properties at risk from internal & external sewer flooding and reduce the number of properties on the register over the PC15 period.	Since PC10, NI Water has maintained a register of properties at risk of internal (DG5) and external flooding. The register has developed in confidence in the intervening time with an established system of additions, investigation of root cause and removal by company action or other means now in place and informing the PC15 investment. Other corporate tools are being introduced to complement this work including sewer risk model and capacity mapping. During 2020/21, 11 properties were removed from the DG5 register. Other major DG5 schemes have commenced such as Ravenhill Avenue.
CS11	Work with Roads Service, Rivers Agency and other relevant drainage providers to develop a register of properties at risk of surface water flooding to be actioned 'jointly' during PC15 and beyond. NI Water should provide the information on out-of-sewer flooding from sewerage and relevant drainage assets.	NI Water maintain its DG5 register of properties at risk of internal flooding. PC15 & FD include targets for the removal of properties from this list. Additionally, NI Water hold information on properties at risk of external flooding.

Priority	Customer Priorities for Affordability & Efficiency	Update on Delivery (June 2021)
CS12	Explore opportunities to reduce the cost of its existing Public Private Partnership contracts to reduce their long-term running costs.	Project Alpha: The 12 month reduction in the contract level water treatment standards to establish if savings can be generated has proven inconclusive. There are no clear financial benefits to the NI Water Group in lowering contracted standards down to minimum regulatory standards. Project Omega: The ongoing Facilitation process, designed to reduce increased costs/claims exposure to NI Water as well as generate a reduction in NI Water electricity costs associated with Duncrue St Sludge, is anticipated to be complete by August 2021. Kinnegar: The parties are looking at options around handback conditions in 2024 which might be for mutual benefit, with a potential negotiation on contract terms in Q3 20/21.
CS13	Reduce costs by setting targets and developing and implementing action plans to deliver operational efficiencies.	BAU/Core Business. Significant input was completed during PC13 and this will be continually reviewed as part of BAU to ensure the most efficient operational regime is maintained as the supply network changes during periods of normal operation, drought and winter critical periods. PC15 is implementing the first phase of ICAT on the SR asset base. Dedicated energy efficiency team has been established and is pursuing as BAU. Short and medium term energy efficiency targets for NI Water have been developed for the PC15 period. These are under review as challenges such as grid connections, and closure of incentive schemes, are considered. RDI Strategy has and continues to support the identification and implementation of improved performance and efficiencies through collaborative RDI. Continued membership and participation in UKWIR projects and other water industry focused collaborative projects. NI Water have deployed a modern meter data management system to collect record meter reads on site and return to the corporate billing system in real-time. We are deploying automatic meter reading equipment and utilising mobile telephone technology to remotely read key meters. Within our Wastewater sites we have rolled out Real Time Control (RTC) technology to 13 No sites and Process Improvement work at a further 7 No. Wastewater sites. This has been possible as a result of the input of the Wastewater Team in conjunction with the Energy Programme Delivery Team. This work has significantly contributed to realisation of Energy Benefits in the PC15 period of c£4.8m. We have also rolled out Best Efficiency Point (BEP) pumping control at 15 No WwPS - this has improved the pumping performance of our large wastewater pumping assets. Our next key area of focus within the Wastewater Production Line (PL) is on Odour Control and reducing the energy utilised with this activity. A PoC trial is progressing at the North Coast in relation to this and the outcome of this trial will inform future rollout at further wastewater sites. Within the Water PL a key area of Energy Efficiency focus has been on Source Optimisation (utilising upland sources and reducing pumping costs (and hence energy) at our WTW. We are also focussing on pump efficiency within our raw water and treated water systems to ensure the most efficient pumping solution is installed for their specific duty whilst also ensuring the control of the pumps are optimised to ensure efficient delivery. Working with our Data Analytics colleagues we are in the process of developing a pump performance insights dashboard at our key Water & Wastewater sites to help identify inefficient operation and introduce a programme of work to optimise performance at these sites.

Sustainability, Climate Change and Resilience

Priority	Project Appraisals	Update on Delivery (June 2021)
SSR1	Revise the project appraisal process to ensure that investment decisions take account of 'whole-life' costs (including the cost of the CRC Energy Efficiency Scheme) and benefits of proposed solutions. Whole life carbon costs should be factored into appraisals for projects costing over £500k (and any other projects where carbon is likely to be a material consideration). Where there is a marginal NPC difference between a solution with the lowest NPC and a solution that offers significantly lower whole life emissions, the lower emission solution should be selected.	NI Waters Project Appraisal Process takes into account 'whole-life' energy and carbon costs for all projects assessed including drinking water investment decisions. As part of the appraisal process Net Present Cost Analysis with Whole life Carbon assessments are carried out to ensure the correct options are selected to go forward for implementation.
SSR2	Long-term social, economic & environmental sustainability should be considered in all project appraisals.	NI Water are reviewing the Appraisal Report and Business Case Templates ensuring they align with the NIGEAE 10 Step approach including Step 7 – 'Weigh up non-monetary costs and benefits'
SSR3	Explore opportunities with Forest Service and other partners to offset existing and future energy demands (e.g. carbon offsetting through forestry, green energy production through wind turbines or wood chipping).	NI Water continue to work with Forest Service NI to establish areas of previous conifer forestry which can be left aside or released back to NI Water for restoration to peatland or otherwise, in the drinking water sub-catchments we own and in those we do not. NI Water Regreening Group continue to work with Woodland Trust and Forest Service NI to avail of Forestry Expansion Scheme funding to contribute to our corporate '1 million trees' pledge on our landholding.
SSR4	For every WWTW site on which NI Water needs to carry out an appraisal to inform capital investment, due to base maintenance or enhancement drivers (quality, growth or service levels), the project appraisal shall assess if a more sustainable solution option is feasible, and determine any land acquisition requirements.	PC15 FD includes for sustainable solution targets. Each WWTW appraisal now examines potential sustainable solutions with examples including ICW's, Reed beds and similar technology. During PC15 ICWs have been constructed at Castlearchdale, Stoneyford and Ballykelly. An upward flow reed bed has been constructed at Clabby.
Priority	**Project Planning and Risk**	**Update on Delivery (June 2021)**
SSR5	NI Water should carefully plan the early stages of project development and consider risks to project delivery, which may include progressing trial projects and working with other stakeholders to identify solutions and secure support that these risks be accepted and managed.	Project planning and risk is managed as a BAU item on all projects. Stakeholder engagement is important on key projects and examples demonstrating this in action include the WR&SR plan (see WS3) where a steering group has met circa every 6 weeks during the project development. For WWTW NI uses a process selection matrix, including processes that are endorsed by stakeholders. For new processes e.g. ICW's NI Water engage with stakeholders to ensure acceptance in principle of the process. NI Water have introduced an OPs Risk Affordability Assessment to ensure the correct solutions are being taken forward to business case development.
Priority	**Research Development and Innovation**	**Update on Delivery (June 2021)**
SSR6	Maintain and implement a Research Development and Innovation (RDI) strategy.	NI Water continuing to develop, maintain and implement a Research, Development and Innovation (RDI) strategy with the aim that this will assist improved performance and the delivery of further efficiencies. Where possible full use should be made of opportunities for sharing RDI costs with other organisations. Highlighted as a target area within PC21.

Priority	Renewable Energy	Update on Delivery (June 2021)
SSR7	Explore opportunities to invest in renewable energy generation to reduce running costs at existing high-energy facilities.	Opportunities are being progressed to increase solar generating capacity, wind generation and energy storage throughout the PC21 period
SSR8	Explore opportunities to generate renewable electricity through innovative management of existing water and sewerage assets such as: generating hydro-power from excess water mains pressure and installing solar panels at facilities.	NI Water are considering the viability of hydro and pumped hydro across a number of assets.
SSR9	NI Water shall seek to maintain the level of energy purchased from external renewable sources to that achieved in the PC13 period, whilst increasing the percentage of renewable energy generated by use of its own assets and lands and contribute to achieving the Executive's greenhouse gas emissions reduction target.	Short and medium term energy efficiency targets for NI Water have been developed for the PC15 period. These are under review as challenges associated with grid connections, and closure of incentive schemes, are considered. The percentage of NI Water's power usage derived from renewable sources was 36.9% in 2017/18, 39.4 % in 2018/19, 44.6% in 2019/20 and 47% in 2020/21.

Priority	Sustainable Treatment & Regulation	Update on Delivery (June 2021)
SSR10	Where NI Water believes that a license, consent, or permit proposed or set by NIEA is unnecessarily stringent or does not adequately consider a catchment based approach, NI Water should seek to challenge and resolve this with NIEA initially, and then if not resolved, by escalating this to the WICG for wider consideration and direction by stakeholders. The objective should be to develop more sustainable treatment solutions	This action is actively challenged for all design standards offered by NIEA under BAU. NIEA are supportive of sustainable solutions, where appropriate, and have supported a deviation from the full RBC approach for small works, below 20pe. Moneyreagh WwTW identification of infiltration and removal from the system is another example where we are working with NIEA to reassess the standards of the discharge from this site, in conjunction with hydrology team in NIEA reassessing the river flows, following rerouting of infiltration directly to the adjacent watercourse, giving a better flow in the watercourse, hence better dilution.
SSR11	Complete a number of sustainable wastewater treatment 'pilots' early in PC15 to compare the costs and performance of various options. Develop & commence a long-term investment programme of sustainable wastewater treatment schemes (including the land requirements) with the core aim that this reduces NI Water's long-term operating costs and emissions.	Within PC15 NI Water has commissioned a number of novel sustainable treatment technologies and continues to evaluate the benefits of these. For instance, following the installation and performance of Constructed Wetlands for wastewater treatment at two small-to-medium sized pilot sites, NI Water has targeted best application of this technology for a larger site. A similar approach is informing wider uptake of the Nereda treatment process. Performance review will continue as other pilot works mature.
SSR12	Identify and secure sufficient land early in the project phase to give the option of the selection of larger footprint process solutions that typically result in lower operating costs. Consider the advanced purchase of land to accommodate future expansion of works using more sustainable solutions.	The project business case will proactively identify land purchase requirements as developed for each Price Control.
SSR13	Aim to gradually deliver year on year increases in the percentage of new WWTW investment (assessed by Population Equivalent served) delivered by 'more sustainable solutions' so that: By 2020/21 33% of all WWTW upgrades to works serving a PE of <2,000 are delivered by more sustainable solutions. Where viable, more sustainable WWTW solutions should also be used for works serving a PE > 2,000	NI Water continues to expand its exploration of sustainable wastewater treatment. Trials planned or underway to date include; Integrated Constructed Wetlands, Phragmafiltre (aerated reed bed), Nereda, 5000PE ICW and Aerofac (naturally aerated lagoon). Castle Archdale Integrated Constructed Wetland has come into operation and along with Stoneyford and Ballykelly ICWs. Further sustainable treatment pilot is complete at Clabby WwTW, Co Fermanagh using a Phragmifilter Reed Bed System. Within the 19/20 financial year the first Nereda plant in Northern Ireland was commissioned at Dungannon WwTW as phase 1 of the overall plant upgrade.

Priority	Education & Public Awareness	Update on Delivery (June 2021)
SSR14	NI Water should continue to invest in education and campaigns to promote prioritised key messages such as the importance of insulating (freeze-thaw), using water wisely (water efficiency), bag it and bin it (preventing pollution) and measures to prevent flooding due to other causes through continued work of the water bus and school visits, and other educational means. NI Water should learn from the impact of previous campaigns and demonstrate how future campaigns will reach consumers more effectively.	During 2020/21 financial year, the NI Water education team delivered 272 live and pre-recorded virtual education talks on our key Water Efficiency messages to primary schools and created online video lessons for primary schools on the topic of saving water. To complement the virtual lessons we offered 53 waterbutts to all primary and secondary schools. We also organised an annual schools competition for KS2 and special needs pupils with a focus on Water Efficiency. A new online water audit was developed within the GetWaterFit platform enabling customers to discover their personal and household water consumption and associated carbon use, offering tailored water efficiency advice and efficiency items such as 4 minute shower timers, toothy timers, save a flush bags and leaky loo strips delivered free directly to customers homes. An extensive advertising campaign including radio, outdoor and social media was also carried out during March, concentrating on water efficiency in the home. A competition was held asking the public to send in photos of saving water in the home.
SSR15	NI Water should seek to develop effective partnerships with other organisations where there are shared benefits of the campaign (such as with DSD on Lead).	The Catchment Team have formed or are involved in a wide range of partnerships to protect or improve water quality: • **The Water Catchment Partnership** - The WCP was established to help tackle the problem of pesticides in the water environment, particularly in Drinking Water areas in Northern Ireland. This involves representatives from UFU, NI Water, NIEA, CAFRE, DAERA and the Voluntary Initiative. Our aim is to proactively work together to promote and raise awareness of best practice when using pesticides in the garden or on the farm, through a voluntary approach to improve water quality in the catchment. • **Source To Tap** - A major €4.9M cross-border project, to improve water quality in rivers and lakes in the Erne and Derg catchment areas. NI Water is the lead Partner working in collaboration with Irish Water, AFBI, East Border Region, Ulster University and The Rivers Trust, to explore measures to improve local water quality. • **Cooperation across Borders for Biodiversity** - CABB is a €4.9m five-year partnership involving RSPB, Birdwatch Ireland, Butterfly Conservation, Moors for the Future and NI Water. The Garron Plateau bog restoration project benefitted from this partnership after obtaining funding where 493 hectares of globally rare blanket bog was restored. • **Mournes Wildfire Group** - The MWG was established with the aim of forwarding the recommendations from the Eastern Mourne Wildfire Plan and to mitigate against wildfire. The group includes Mourne Heritage Trust, NI Water, NIEA and NIFRS. • **Lough Neagh Partnership** - A partnership with a wide range of stakeholders with the aim of improving water quality and wildlife habitats in Lough Neagh area. • **Lough Erne Landscape Partnership** - A partnership with a wide range of stakeholders with the aim of improving water quality and wildlife habitats in Lough Erne area. • **Wild Strangford Group** - is a partnership with a wide range of stakeholders with the aim of improving water quality and wildlife habitats in Strangford Lough area. • **SCAMP Steering Group** - This group is chaired by NI Water and involves environmental NGO's, govt agencies and academics. The aim is to oversee the direction of SCAMP projects.

Priority	Preservation of Services	Update on Delivery (June 2021)
SSR16	Comply with the requirements of the Preservation of Services and Civil Emergency Measures (Relevant Undertaker) (Northern Ireland) Direction 2010 and any supplementary Guidance issued by DRD. • Provide DRD with an annual audit laying out the requirements in the Direction.	NI Water have a responsibility under Article 295 of the Water and Sewerage Services Order 2006 to meet the requirements of 'The Preservation of Services and Civil Emergency Measures (Relevant Undertaker) (Northern Ireland) Direction 2010' (PSCEMD). The Department requires NI Water to confirm that all requirements of the Direction are being met by annually submitting the following to DfI: - An Audit Report covering all aspects of emergency planning required under PSCEMD. - An Independent Certifiers Statement from a Defra approved Certifier. - An Assurance Statement signed by the CEO. These are complete and passed to DfI. Due to COVID19 working and travel restrictions the PSCEMD independent auditor and certifier was unable to travel from England. DfI have confirmed an extension to the 1st April submission date. Audits will be carried out and report submitted to DfI as soon as COVID19 restrictions allow.
SSR17	Ensure:	Please see SSR16 above for information
SSR17a	• All CNI sites continue to meet latest security advice; and	Please see SSR16 above for information
SSR17b	• Implementation of a prioritised plan for securing other identified sites to required standards.	Please see SSR16 above for information

Priority	Resilience	Update on Delivery (June 2021)
SSR19	Commence a programme of investment to improve and maintain the resilience of the wider water and sewerage asset base and systems prioritised as follows:	There have been a number of projects across the asset base to assess resilience in relation to Freeze/Thaw, Drought and Flooding events and this includes the Water Resource and Supply Resilience Plan which includes critical period plans for both Freeze/Thaw and Drought events. WTWs and WwTWs being upgraded during PC15 to insulate key components against extreme cold. There is also programme of investment in PC15 for DG5 (Internal Flooding) & UIDs (Prevention of pollution).
SSR19a	1) Water supply	Please see SSR19 above for information
SSR19b	2) Prevention of internal flooding (e.g. due to a sewer pumping	Please see SSR19 above for information
SSR19c	3) Prevention of pollution (e.g. due to WWTWs or SPS being	Please see SSR19 above for information

Tourism, Recreation & Biodiversity

Priority	Estate Management	Update on Delivery (June 2021)
TRB1	Contribute to the development and implementation of the NI Biodiversity Plan.	NI Water have contributed to and and helped develop the NI Biodiversity Plan. This is currently being implemented, complied with and reported on to NIEA. NI Water work with the Newry, Mourne and Down Council, MHT and Tourism NI to promote recreation, biodiversity and cultural heritage. Cooperation across Borders for Biodiversity - CABB is a €4.9m five-year partnership involving RSPB, Birdwatch Ireland, Butterfly Conservation, Moors for the Future and NI Water. The Garron Plateau bog restoration project benefitted from this partnership after obtaining funding where 493 hectares of globally rare blanket bog was restored.
TRB2	Develop & implement an estate management strategy to take account of: the primary water and sewerage functions; protected areas; the need to enhance biodiversity; the need to permit public access to support tourism and healthy lifestyles; and the need to increase opportunities for providing recreational amenities for interest groups.	Project created to improve site security; public safety; and enjoyment of permitted recreational activities at several locations. Work includes construction of steps and handrails; accessible fishing stands; construction of paths and walkways; construction of boardwalks; extension and repair of car parks; construction of slipway; erection of fencing and gates; installation of benches, picnic tables and bins; provision of signage; and provision of life saving equipment. Project was completed April 2019.
TRB3	Continue to develop partnerships (e.g. SCAMP NI) with other public, community & voluntary sector organisations to deliver sustainable catchment initiatives.	SCAMP and Source to Tap projects progressing as planned. Reduction in raw water MCPA levels evidenced with the SCAMP weed wiping trials. Data gathering still ongoing for the Source to Tap project with the first weed wiping season to be carried out in 2020. Catchment Management Plans are in place and ongoing for all drinking water catchments. Plans are in place to engage with two more official SCAMPNI partners in 2020.
TRB4	Explore opportunities for leasing NI Water land and assets for leisure, tourism and income generation where appropriate.	No locations identified as suitable.
TRB5	Adopt and implement the 'Protocol for the Care of the Government Historic Estate'. Develop a long term plan to bring assets covered by this, where necessary, up to a suitable standard and maintain them going forward.	Condition Assessment Reports have been completed and approval for early contractor involvement has been given. The contractor will supply accurate costs and a programme of work based on the condition assessments to enable the business case for submission to be refined. The main proposal within the business case will be to complete the urgent and desirable work identified. If the business case is approved construction will be progressed in PC21.
TRB6	Explore opportunities to celebrate the local water industries influence on the social, cultural, industrial & natural heritage of Northern Ireland.	NI Water work with a range of stakeholders to promote and celebrate the local water industry's influence on both the natural and built heritage, we do this through a joined-up approach with like minded organisations, such as the MHT, Newry, Mourne and Down Council as well as local 'user groups' . NI Water participate in special designated events to promote the important relationship between Water, Heritage, Social and Culture. These events include-EHOD, WED, WWD, Open Days, Specialised Lecturers etc.
Priority	**Bathing Waters & Clean Beaches**	**Update on Delivery (June 2021)**
TRB7	Contribute to the implementation of the NI Marine Litter Strategy and the protection of Bathing Waters and Shellfish Waters from pollution.	NI Water continues to deliver wastewater education campaigns to highlight education and awareness for appropriate use of sewerage systems. Community engagement projects have been delivered to extend education and awareness for fats, oils and grease and sewage related debris. Compliance with water order standards at coastal works has assisted with protection of protected waters. Ballycastle WwTW being progressed, with provision of secondary treatment. LWWP will contribute to delivery of water quality improvements in Belfast Lough, whilst a capital works upgrade in Dundrum and Carrigs River investigations will contribute to identifying actions and hence assist with driving water quality improvements in Dundrum Bay.
TRB8	Put a programme in place to reduce the risk of pollution from the sewerage system during PC15, informed by the Marine Conservation Society Pollution Policy and Position Statement on CSOs	Monitoring programme for CSOs/EOs, which have been prioritised initially on designated bathing and shellfish waters, is being taken forward within PC15. To date 149 have been completed. The second phase of this is being taken forward within the PC21 Business Plan.

Priority	Reservoirs	Update on Delivery (June 2021)
TRB9	Progress the assessment of 'unused' reservoirs to determine the approach to disposal.	NI Water has recently changed its strategy with regards Out of Service Impounding Reservoirs as summarised below:- • NI Water has determined that they do not sell category 'A' reservoirs. • For other reservoirs if the sale falls within 3 years of the end of the period for the next schedule Section 10 inspection, NI Water will instruct an inspection and advise the purchaser of the necessary work to be carried out. • When assessing the options for Disposal of a reservoir, NI Water will consider the environmental sensitives of the site, statutory requirements and the stakeholders involved such as those who may benefit from flood protection provided by the reservoir. • When selling a reservoir, NI Water will conduct due diligence assessment of the capability of the new owner to maintain safely the reservoir and comply with the statutory requirements of the reservoir act. A full certificate of information transfer will be provided and information concerning the safe running of the reservoir, including the existing emergency response plan. As a consequence of the change only 8 of the 20 Out Of Service Impounding Reservoirs are now available for sale. There are five sites that may be suitable for abandonment subject to planning permission.

Annual Information Return 2021

Section 3

Level of Service Methodologies

Northern Ireland Water

Level of Service Methodology

DG2 - Pressure of Mains Water

This document has been laid out in accordance with the guidance provided by the Utility Regulator in the Annual Information Return Reporting Requirements 2018: Section 7 – Levels of Service Methodology Appendix

DG2 – Pressure of mains water

1. **Methods and procedures**
2. **Extract from DG2 register**
   - provide an extract from DG2 register
3. **Sources of information**
4. **Scope and coverage**
5. **Assumptions and exclusions**
   - including any assumptions made for surrogate for the reference level.
6. **Other issues**
   - provide any further information on issues that have arisen in the report year that impact on your methodology for reporting in the Annual Information return.

The procedure for the investigation and recommendation for removal and addition of properties to the DG2 Register is based on the 'DG2 NIWL Procedures April 2010' document produced by the Leakage Data Management Unit. The objectives of the investigation are as follows:

i. Removal/Addition of DG2 entries on the register as a result of more robust data being available (Better Information).
ii. Removal/Addition of DG2 entries resulting from capital works and networks improvements (Company Action).
iii. Investigation of customer 'Low Pressure' complaints.

1. Methods and Procedures

DG2 Investigations (excluding Rehab modelling)

The objective of a DG2 site investigation is to acquire the necessary data to allow a more detailed assessment to be carried out. The 2 key elements of this investigation are the logging of the water pressure and the gathering of accurate height data for both the logging point and DG2 property connection point. In keeping with 'DG2 NIWL Procedures April 2010' the following procedures are followed:

- Logging points are identified within the network, which do not exceed 250m in distance from the DG2 stopcock.
- The logging points are within the same DMA/PMA as the DG2 property.
- A unique logger ID is clearly assigned to the logging point.
- An accurate elevation of each logging point is provided using Real Time Kinematics (RTK) GPS. A value of 450mm is subtracted from this elevation to allow for the depth of the FH spindle.
- Logging point boundary polygons around the hydrants are digitised onto MapInfo to allow the associated properties to be assigned to the relevant logger.
- A pressure log and elevation may be taken in adjoining DMAs. This is to assist in identifying any potential for a BV change to improve the pressure at the DG2 property.
- A new ferrule elevation is produced for each property using Digital Elevation Model (DEM) 2008 data. The ferrule point value associated to each property is used to determine the height used for that property within the Total Head calculation.

To assist with the site investigation, a detailed map is produced showing the following information:

- Pointer Property data showing elevation at each property (NIW receives biannual updates from Ordnance Survey Northern Ireland).
- Water pipes, fittings i.e. SVs, Fire Hydrants (FHs) terminating nodes etc.
- DMAs and PMAs (where applicable).
- Background Vector maps.
- Required pressure logging points.

Reporting

Following field testing and site investigation routines, all data is analysed and the findings are included within a Recommendation for Removal Report or alternatively a Recommendation for Inclusion Report.

1. The removal of entries due to robust data being available.
2. The removal of genuine entries resulting from infrastructure changes.
3. The provision of detailed information to support the inclusion of properties in the DG2 Register.

If the data collected verifies that properties that are in receipt of a pressure >15m, then the DG2 properties are recommended to NIW for removal. Properties removed are supported by a brief technical assessment based on pressure loggings, RTK GPS height data and other relevant factors including the required pressure logging trace/print out.

Where properties are discovered to have been positioned incorrectly within NIW GIS resulting in their inclusion in the original register, and repositioning indicated that these properties were in receipt of pressure > 15m, these DG2 properties are recommended for removal.

Those properties identified as being in receipt of a pressure <15m remain on the Register and a brief technical assessment based on pressure loggings, RTK GPS height data and other relevant factors, including the required pressure logging trace/print out, is provided. Prior to this information being provided a brief assessment is undertaken to determine if the properties could be transferred onto an adjoining DMA/PMA. This information is included within the assessment where deemed viable.

Additional properties within logging areas determined to be in receipt of pressure <15m are recommended for inclusion on the register. As above a brief technical assessment based on pressure loggings, RTK GPS height data and other relevant factors, including the required pressure logging trace/ print out, is provided. Prior to this information being provided a brief assessment is undertaken to determine if the properties could be transferred onto an adjoining DMA/ PMA. This information is included within the assessment where deemed viable.

The potential removal of properties due to networks improvements is investigated via rationalising adjacent DMA boundaries following pressure loggings as per guidelines set out in the method statement above. All networks amendments follow the removal process and the submission of final reports leads to an update of the DG2 register.

DG2 Investigations by Rehab modelling

In the case of Rehabilitation schemes, PPRA reports associated with the various work packages are submitted to Asset Management Directorate for sign off and Leakage Function for processing in relation to the update of the DG2 Register. Leakage Data Management Unit on receipt of the suite of information including logger positioning site maps, accompanying logged data, PPRA reports and DG2 Investigation Reports align this data to

the existing register. Checks are conducted on logged information to ensure compliance in terms that each logger site is within 250m of actual properties highlighted and that minimum pressures provided correlate to expected total head values. Hyperlinks are created for each set of logged data, map and report. The DG2 register is updated accordingly.

Investigation of customer 'Low Pressure' complaints

Where low pressure complaints have been identified through the contact centre, the process of action is as follows:

- Contact Centre informs customer of known network planned or unplanned events in the area or determines if problem may be with customer supply only.
- Networks' first responder visits property to determine if pressure is a legitimate complaint. If pressure at property is assessed as being a potential DG2 issue, the complaint is passed to Leakage DMU for investigation.

Leakage DMU undertakes an investigation in accordance with 'Methods and Procedures' above. Additions and removals are processed accordingly. The facility has been developed for regular monthly updates of all DG2 properties to be uploaded onto the CARtoMAP system which is utilised by the Contact Centre in relation to low pressure complaints from customers.

UPRN	Status Date	Status	Building Nr	Primary_Thorfare	Town	Postcode	County	DMA	Pressure
187100513	30-Nov-12	In Register	[redacted]	Crew Road	Ardglass	BT30 7HD	Down	Sentry Hill	13.47
185292371	30-Sep-12	In Register	[redacted]	The Ward	Ardglass	BT30 7UP	Down	Loughrans Tower	14.97
185292234	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	13.87
185292230	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	14.12
185290343	30-Sep-12	In Register	[redacted]	Crew Road	Ardglass	BT30 7HD	Down	Sentry Hill	13.07
185778557	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	14.79
185292251	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	13.90
185292239	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	14.01
185292245	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	13.82
185292368	30-Sep-12	In Register	[redacted]	The Ward	Ardglass	BT30 7UP	Down	Loughrans Tower	14.71
185292366	30-Sep-12	In Register	[redacted]	The Ward	Ardglass	BT30 7UP	Down	Loughrans Tower	14.86
185292364	30-Sep-12	In Register	[redacted]	The Ward	Ardglass	BT30 7UP	Down	Loughrans Tower	14.89
185292362	30-Sep-12	In Register	[redacted]	The Ward	Ardglass	BT30 7UP	Down	Loughrans Tower	14.95
185292259	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	14.06
185292258	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	13.82
185292257	30-Sep-12	In Register	[redacted]	Hill Street	Ardglass	BT30 7TX	Down	Loughrans Tower	13.89
185207712	31-Aug-12	In Register	[redacted]	Killaughey Road	Donaghadee	BT21 0BQ	Down	Portavoe Donaghadee	7.94
185207711	31-Aug-12	In Register	[redacted]	Killaughey Road	Donaghadee	BT21 0BQ	Down	Portavoe Donaghadee	8.07
185207710	31-Aug-12	In Register	[redacted]	Killaughey Road	Donaghadee	BT21 0BQ	Down	Portavoe Donaghadee	8.44
185207709	31-Aug-12	In Register	[redacted]	Killaughey Road	Donaghadee	BT21 0BQ	Down	Portavoe Donaghadee	8.65
185207714	31-Aug-12	In Register	[redacted]	Killaughey Road	Donaghadee	BT21 0BQ	Down	Portavoe Donaghadee	7.51
185207715	31-Aug-12	In Register	[redacted]	Killaughey Road	Donaghadee	BT21 0BQ	Down	Portavoe Donaghadee	7.43

3. Sources of information

For AIR20 the following information was used

- Post Project Rehabilitation Assessment reports (PPRAs) and their associated DG2 Investigative Reports (DIRs) are submitted when specific watermain rehabilitation schemes are completed and include the relevant data and reports to merit alterations to the DG2 register.
- Recommendation for Removal reports are produced on conclusion of networks improvements to merit deductions from the DG2 register.
- Recommendation for Inclusion reports are produced to substantiate the addition of properties to the DG2 register based on better information.

4. Scope and coverage

The ongoing maintenance of the existing DG2 register through the removal of properties due to company action via the processing of PPRA reports submitted during the reporting year. These are the direct result of work the majority of which were completed in the previous year. Similarly, additions to the company register were processed where better information became available.

5. Assumptions and exclusions

NI Water does not currently have in place a permanent pressure monitoring network and is not in a position to identify exclusions arising from intermittent network incidents or infrastructure changes. Assumptions for AIR are identified in the methodologies described above. A surrogate pressure of 15m has been used to identify DG2 properties.

Deviation from the conditions laid out by NIW for DG2 property investigations.

Due to the rural nature of some DMAs it is not possible in some exceptional cases, i.e. groups of DG2 entries within individual DMAs, to undertake logging within 250m of the DG2 property as set out in the NIW methodology. In these instances a number of Fire Hydrants are logged to enable an accurate pressure profile of the DMA to be established.

The following alternative procedure is used:

- A desktop study of the DMA containing DG2 entries is undertaken.
- A series of FHs are identified for pressure logging. The locations are selected to ensure that an accurate pressure profile of the DMA is established.
- Data loggers are fitted to log the pressures over a seven day period.
- All logging points are surveyed using RTK GPS; this provides accurate height data for Total Head calculations. A value of 450mm is subtracted from the elevation to allow for the depth of the hydrant spindle.

On compilation of this data, a revised analysis is undertaken to determine the nature of supply and create a pressure profile within the DMA/PMA to determine potential DG2 entries. If the pressure profile shows that the Total Head within the DMA/PMA is sufficient to provide adequate pressure, the results from the field testing and analysis are presented as evidence for removal of the DG2 entries and a Recommendation for Removal Report is issued.

In line with previous procedures, where analysis identifies properties that are in receipt of a surrogate pressure <15m, they will remain, or be added to the Register in accordance with NIW procedure.

Northern Ireland Water

Levels of Service Methodology

DG3 Supply Interruptions

This document has been laid out as follows:

1.0 OBJECTIVE & AIM

To identify the number of properties affected by planned and unplanned supply interruptions lasting longer than 3 hours, 6 hours, 12 hours and 24 hours.

The aim of the register is to allow verification and audit of the reported information for DG3 and to enable the identification of the properties affected. It should contain information on the timing, duration and cause of each interruption and sufficient information to enable all properties affected by interruptions lasting more than three hours to be identified. Therefore, the register should include:

- properties affected (by name and location or number and street);
- date and time of interruption;
- duration of interruption and time supply restored;
- cause of interruption;
- notice given; and
- the name of person responsible for entering records in the system.

The DG3 Interruptions to Supply Register is compiled and held by CSD Services in Westland House.

2.0 REPORTING REQUIREMENTS

The information to be reported within Table 2 of the Annual Information Return (AIR) is as follows:

2.1 Line Descriptions

Line	Description
5	More than 3 hours unplanned
6	More than 6 hours unplanned
7	More than 12 hours unplanned
8	More than 24 hours unplanned
9	More than 3 hours planned and warned
10	More than 6 hours planned and warned
11	More than 12 hours planned and warned
12	More than 24 hours planned and warned
13	More than 3 hours unplanned caused by third parties
14	More than 6 hours unplanned caused by third parties
15	More than 12 hours unplanned caused by third parties
16	More than 24 hours unplanned caused by third parties
17	More than 6 hours unplanned due to overrun of planned and warned
18	More than 12 hours unplanned due to overrun of planned and warned
19	More than 24 hours unplanned due to overrun of planned and warned

Note: Interruptions should be reported under each relevant time band so that the category for interruptions exceeding:

- 3 hours also includes all interruptions lasting more than 6 hours;
- 6 hours also includes all interruptions lasting more than 12 hours; and
- 12 hours also includes all interruptions lasting more than 24 hours.

Each interruption should be classed as a single interruption event, and should be recorded under only one of the four categories of: unplanned or unwarned, planned and warned, unplanned caused by third parties and, unplanned or unwarned due to overruns of planned and warned interruptions. If there are a significant number of overruns between 3 and 6 hours, the number should be reported in the commentary.

Further guidance, if required may be found in the Annual Information Return Reporting Requirements & Definitions Manual 2015, Issue 1.0 – March 2015.

3.0 DEFINITIONS

3.1 Interruption

Supply interruptions are defined as when properties are without a continuous supply of water, whether planned or unplanned, warned or unwarned. A property shall be considered as without a supply when water is lost from the first cold water tap – taken as being **operationally equivalent to ≤3m pressure at the main (adjusted for any difference in ground or property level)**. This can be inferred from local logging, network modelling or a customer contact indicating a loss of supply which was caused by the company operation and has not been demonstrably restored. Multiple-storey buildings shall be considered on a case-by-case and floor by floor basis, with properties on a particular floor being considered as receiving the same pressure.

Supplies may be affected by other factors, for example, lower pressure through the flushing of mains, or restrictions on use. These are covered under the DG2 and DG4 procedures.

3.2 Duration

Duration is defined as the length of time for which properties are without a continuous supply of water.

3.3 Start Time Determination

Start time is when water is lost from the first cold water tap at a property – taken as being **operationally equivalent to ≤3m pressure at the main (adjusted for any difference in ground or property level)**.

In the event of applicable telemetry data or logging being unavailable, the time should be determined from the earliest of:

- As advised by “no water” contact from customer (where not due to a customer side issue);
- Indications from flow or pressure monitoring to infer a change in supply; or
- Verified modelled data (calibrated, maintained, reflective of the network at the time of the incident and validated with contemporaneous flow and/or pressure data).

The company shall gain confirmation by consulting complainants (if any) and/or customers at high points on the system.

3.4 End Time Determination

End time is when water is restored to the first cold water tap at a property – taken as being **operational equivalent to >3m head of pressure at the main**.

In the event of pressure logging being unavailable, the time should be determined from the latest of:

- As advised by notification from customer;
- Indications from flow or pressure monitoring to indicate return to normal supply conditions; or
- Verified modelled data (calibrated, maintained, reflective of the network at the time of the incident and validated with contemporaneous flow and/or pressure data).

It is the responsibility of the company to demonstrate that supply conditions have been restored and available to all previously affected customers from the time determined from the above. In the absence of physical evidence, the company shall gain confirmation by consulting complainants (if any) and/or customers at high points on the system.

The company shall apply the precautionary principle, using the start and finish times and the properties affected that will give the highest supply interruption value in the event of uncorroborated or conflicting data.

Note: The time on the customer's warning card is used to determine whether or not a planned and warned interruption overruns. It is not used to determine the End Time.

3.5 Event

Event is the term used by NI Water to describe its involvement in an abnormal occurrence in its services to customers.

3.6 Planned & Warned Interruption

This is where notice of an interruption (> 3 Hours) is provided to properties affected at least 48 hours in advance of the beginning of the interruption.

- If a planned and warned interruption commences before the Planned Start Time, the interruption is re-categorised as an unplanned interruption.
- If a planned and warned interruption commences after the Planned Start Time, the time between the planned start and actual start is not included in the duration.
- If a planned and warned interruption finishes before the Planned End Time, the time between the actual end and planned end is not included in the duration.
- If a planned and warned interruption finishes after the Planned End Time, the interruption is re-categorised as an unplanned interruption (overrun of a planned interruption).

3.7 Unplanned/Unwarned Interruption

This is when an unplanned or a planned and unwarned interruption to supply occurs. Properties receiving less than 48 hours' notice of a planned interruption (> 3hrs) are to be counted as 'unplanned' and reported under this category. Any planned interruption that is started before the planned date and time contained in the warning notice, whether this occurs within a 48 hour warning period or not, is also to be re-categorised as 'unplanned'.

3.8 Overruns

When a planned and warned interruption continues beyond the end of the warned time, for whatever reason and whether or not a customer has been advised during the shutdown that an overrun is going to occur, the interruption is described as an overrun and is reported separately.

3.9 Third party interruption

A third party is defined as anyone who does not act for, or on behalf of NI Water. This category is intended to cover damage to NI Water's mains or other equipment that directly or indirectly results in an unplanned loss of supply to enable the damage to be repaired. Where a third party interruption is not caused by a third party, but repair may be delayed by a third party, for example when a gas main runs close to a water main and needs to be isolated, the whole of the duration on the interruption must be reported as an unplanned interruption. Companies can describe this event in their commentary.

3.10 Electrical Failures

Interruptions to supply caused by electricity supply failures must be reported as unplanned, unwarned interruptions, and identified in the records as caused by electrical failure to enable the details to be included in the NIAUR Return commentary.

3.11 Properties affected by more than one interruption during report year

Properties, which are affected by more than one interruption during the report year, should be reported separately for each interruption. This means, for example, that a property affected by three supply interruptions would be reported three times, once for each interruption. Where properties are affected by repeat interruptions on the same day, these should only be counted separately where there is a minimum of one hour between the interruptions for the supply to be available (e.g. to refill storage tanks). When shorter gaps occur, the duration is counted from the start of the first interruption until the last restoration of supply.

4.0 PROCEDURE

It should be established before any work is carried out on site, which function is responsible for the collection of information for the interruption record. In general, whichever function operates the valves to cut off supply at the site of an interruption is also responsible for the collection and ownership of the information.

4.1 Planned Interruptions (lasting > 3 Hours)

Planned interruptions to supply arise as a result of work being carried out by different teams within the Customer Service Delivery Directorate or by functions within other NI Water Directorates. These have been identified as follows:

- Planned interruptions carried out by Networks Water (Distribution and Leakage),
- Planned interruptions carried out by Capital Asset Delivery and,
- Planned interruptions carried out by Customer Field Services.

Regardless of the source of the interruption to supply, all planned interruptions must follow the procedures for giving the appropriate warnings. Each team/function is responsible for collecting and recording all appropriate information to be included in the DG3 Interruptions to Supply Register.

All affected properties must be notified by letter, or card drop, at least 48 hours before the shutdown, notifying them of the planned times and dates of shutdown and the restoration of supply. A minimum of 48 hours warning must be given for planned interruptions greater than 3 hours. The start of the warning occurs when the last card has been delivered or the last letter sent to the properties affected.

If for example, there is estimated to be 500 properties to be warned, the card drop operation starts at 9.00am on 2nd July and finishes at say 2.00pm, then the warning period starts at 2.00pm for 48 hours and work should not start on site on the planned interruption until 2.00pm on the 4th July.

A copy of the letter of notification or the information contained on the card used in the card drop should be sent to the following for information – Customer Relations Centre Front Desk, Work Planning Unit, Telemetry Control Centre, Functional Manager and relevant Northern Ireland Fire and Rescue Service. For contact details see Appendix A.

The number of properties affected by a planned interruption should be determined by the most accurate means available at the time of:

a) planning activity;
b) the interruption; or
c) any subsequent more detailed investigation.

At the time of the initial assessment this is likely to be by property count or an estimate based on local knowledge. For recommendation for estimating numbers of properties, see paragraph 5.3.

4.2 Planned interruptions carried out by Networks Water

Field staff on site are to record all information on a paper pro forma, known as an Interruption Record Sheet (see Appendix D). The pro forma contains the raw data associated with the interruption and is retained for audit purposes. The information is also communicated to the Work Control Centre (during normal working hours) and the Telemetry Control Centre (outside normal working hours) where staff will already have opened an event on iNform - the Company's Incident Management System (IMS) and will use the information to update/populate the remaining fields associated with the event.

During the course of an interruption, field staff will continue to provide the WCC or TCC with regular updates on progress and the IMS event details will be updated accordingly. When the interruption has ended, the IMS event record will be closed with a status of 'Closed – DG3 Record Required' and the Field Manager responsible will review the details with the Field Technician and amend the information as necessary.

The following fields of information are required to enable a IMS Planned Interruption Event to be created:

- Cause
- Warning details
- Planned start / finish
- Public narrative
- Incident location / areas affected

The following IMS fields should be updated during the course of a planned interruption event:

- Estimated restoration time / date
- Actual restoration time / date
- Water sampler contacted
- Public narrative

4.3 Planned interruptions carried out by Capital Asset Delivery or Customer Field Services

Capital Asset Delivery and Customer Field Services use a combination of a paper pro forma (Appendix D) and an MS Excel spreadsheet template, known as a Contractor Return Sheet, to record the details of interruptions as the contractors that carry out the work for these departments do not have access to IMS. Each month, an appropriate member of Capital Asset Delivery or Customer Field Services will sign off the information to be recorded retrospectively on IMS. Details of the spreadsheet template can currently be obtained from CSD Services in Westland House.

IMS planned interruption events relating to Capital Asset Delivery should be created by Capital Asset Delivery staff in advance of planned interruptions taking place on site. The Warning Issued Date and Time, Planned Start Date and Time, Planned Restoration Date and Time, cause of interruption and properties affected are the only details that can be input in advance. This information will be used by staff in the CRC when providing updates to customers.

During the interruption, the contractor will record the details of the interruption, including the Actual Start Date and Time and Actual Restoration Date and Time, on an Interruption Record Sheet. The contractor will also summarise the information from the Interruption Record Sheets for each month in a Contractor Return Sheet. Contractor Return Sheets will be forwarded to Capital Asset Delivery staff who will use the details to update the IMS interruption event records. This task will be completed both monthly and retrospectively. A copy of the Contractor Return Sheets is also to be forwarded to CSD Services for incorporation in the monthly DG3 Composite Report.

4.4 Procedure for Ensuring that Customers Receive Adequate Notification in the Event of Planned and Warned Interruptions

Reference: The Water Mains Rehabilitation Framework Northern Ireland Guidance Note (GN07) - DG3 Interruptions Reporting for IMS October 2016

For a planned interruption to be classed as planned and warned, customers must be provided with at least 48 hours' notice in advance of the interruption to the water supply at their property. Therefore, if it is the Company's intention to interrupt the supply at 12 Main Street from 8am to 6pm on 8th June, the warning must be communicated no later than 8am on 6th June.

Contractors have a contractual requirement to provide customers with 48 hours' notice in advance of supply interruptions.

Guidance Note *GN7* provides detailed and comprehensive guidance on the required action to be taken by contractors in relation to the notification of customers of the planned intent to interrupt the water supply. The guidance note defines the roles, responsibilities, notification periods and procedures for planned and unplanned interruptions during and after normal working hours.

Contractors should ensure familiarity and compliance with the guidance note at all times.

Formal on-site verification process to ensure customers are receiving the minimum 48 hour notification

Each month, NI Water's WMRF Clerk of Works (CoW) will attend two notification card drops for each contractor, to witness the start of the notification period, i.e. when the last card/letter has been delivered.

The CoW will provide formal confirmation to NI Water's Asset Delivery DG3 Compliance Team of when the last notification was delivered prior to the start of the planned interruption.

The monthly audits carried out by the CoW will be collated into a report to be reviewed at quarterly WMRF Project Board meetings.

Any instances of failure to provide the minimum 48 hours' written notification will result in the following:

- the interruption will be designated and reported as 'unplanned'
- the contractor concerned will receive a formal written warning and a non-conformance report (NCR) will be issued which could impact on reduced work allocation going forward
- NI Water's Executive Committee will be advised of any failures.

4.5 Unplanned Interruptions carried out by Networks Water

The event trigger for a IMS unplanned interruption event to be created is 4 'no water' complaints in a single DMA within an hour, or when the WCC/TCC is informed by the Field Technician that the water is being turned off.

As defined above, unpredicted events such as mains bursts, or interruptions that are planned but where customers are not warned at least 48 hours in advance, are classified as unplanned interruptions.

Unplanned interruptions are mainly the responsibility of Networks Water and information should be recorded using IMS.

Following receipt of a 'No water/Burst main' complaint the Field Manager will investigate as soon as possible and provide 'status updates' to the Work Control Centre on the progress of remedial works. The Field Technicians on site will record all information on a paper pro forma (Appendix D) and the pro forma will be retained for audit purposes. The Field Technicians will also provide regular timely updates on the progress of such events to the Work Controllers, Duty Managers and Telemetry Operators. Details including the cause of interruption, the time the repair is commenced, the estimated restoration time and the time the repair is complete are to be recorded on IMS.

Area Managers may be made aware of interruptions other than as a result of customer calls. In such cases, the Field Managers should ensure that relevant details are passed to the WCC for processing.

Details input to IMS are to include the Interruption Start Time, as noted by the first affected customer, the time at which the supply was restored and whether or not a third party or an electrical supply failure was the cause.

The following fields of information are required to enable a IMS Unplanned Interruption Event to be created:

- Time of first call
- Estimated restoration time
- Public narrative
- Incident location / areas affected

The following IMS fields should be updated during the course of an unplanned interruption event:

- Public narrative
- Cause
- Mains type / material
- Repair commenced date / time
- Supply restored date / time
- All properties restored date / time
- Water sampler

Note: A record should be created for every burst main, even if the properties affected are zero as there is a requirement to record all bursts on DG3.

4.6 Unplanned interruptions carried out by Capital Asset Delivery or Customer Field Services

IMS unplanned interruption events relating to Capital Asset Delivery are created by WCC and TCC staff in the same way that other IMS unplanned interruption events are created. Sometimes, the contractor may be unaware that an unplanned interruption has occurred, for example, if the contractor forgets to open a valve. The IMS process ensures that such interruptions are captured by the Company. In cases where the contractor is aware of having caused an unplanned interruption, for example, a burst main, the contractor will provide details of the interruption in the Contractor Return Sheet.

4.7 Number of properties affected

An estimation using practical evaluation and contouring from NIW's GIS system will be used to give a more accurate estimate of drawdown of the system.

5.0 RECORDS

Overall responsibility for DG3 records lies with the Head of Water. However, the DG3 Register is compiled and held by CSD Services in Westland House.

Interruption records relating to Networks Water (Distribution and Leakage) are recorded on IMS. Interruption records relating to Capital Asset Delivery and Customer Field Services are also recorded on IMS but on a retrospective basis. As Capital Asset Delivery and CFS contractors do not have access to IMS, their details are initially recorded on an MS Excel spreadsheet template before being entered onto IMS by NI Water staff.

5.1 Interruption Recording using IMS

When an event is created on IMS, the event can be one of the following:

- Unplanned Interruption
- Planned Interruption
- Flooding
- Water Quality

IMS can be used to specify whether or not:

- an Unplanned Interruption event was caused by a third party
- a warning was issued for a Planned Interruption event
- the amount of warning was sufficient for a Planned Interruption event
- a Planned interruption event occurred during the planned time

In this way, IMS can be used to report on all four regulatory categories of interruption.

When all information has been entered onto IMS, the information is then extracted in the form of a report. A number of reports are available for selection including:

- RPT1151 – Historical DG3 Event Records Report,
- RPT1152 – Historical DG3 Property Records Report,
- RPT1155 – 'Live' DG3 Unplanned Interruption Records Report,
- RPT1156 – 'Live' DG3 Planned Interruption Records Report,
- RPT1183 – 'Live' DG3 Property Records Report,
- RPT1184 – 'Live' DG3 Event Records Report.

When a IMS interruption event record has been created and closed with the status of 'Closed – DG3 Record Required', it is then the responsibility of the Field Manager to review the record and to amend the details according to the information provided by the Field Technician and information obtained through the GIS polygon process. Once the Field Manager is satisfied that all amendments have been made, the record should be approved and passed to the Area Manager for review and approval and to the DG3 Customer Services Coordinator for review and approval. If the AM or DG3 CS Coordinator find any issues with the information, they have the option to reject the record.

Most of the information required will be able to be input directly onto the input screen and will probably not be altered. Some information e.g. house numbers and addresses will be initially estimated by the Field Technicians or the Field Manager. However more investigative work may be required to give an accurate number of houses. The interruption record can then be updated when this information becomes available. For procedures for obtaining house numbers and address see paragraph 5.3 below.

Area Managers and Field Managers are to ensure that all relevant details are recorded and input to the system as soon as possible, and any paper records or notification cards are retained for general audit purposes.
On-call staff are to gather all relevant information and report to the Networks Water Area Manager as soon as possible the next working day.

The following Audit Process is aimed at ensuring the timely completion of audit tasks and approval ahead of monthly reporting on DG3 to the Board.

DG3 / IMS Reporting / Audit Process

Action No.	Action	Date
IMS Report from the Field		
1	• WC opens a New Event in IMS when an event trigger is reached. • The IMS Event is updated by WC throughout the incident with information from Field Staff. • WC saves the event when the incident is closed in the field.	
2	• DG3 CS Coordinator sends the ***MTD Rapid No Water Complaints Report*** to the FM's on a Monday, Wednesday and Friday morning.	Every Monday, Wednesday and Friday morning.
3	• The ***MTD Rapid No Water Complaints Report*** lists all NIW No Water calls. • FM filters the report for his own area, sorts by date and DMA which then group calls. • The FM opens the IMS Report ***RPT1184 – Historical Report – DG3 Interruption Records.*** o Enter Start Date. o Remove tick from Null box. o Enter End Date o View Report. o Click Export Drop Down Menu o Export to Excel o Filter Report to own area. • The call groups are then checked against an ***appropriate DG3 Interruption Record*** and the Technicians, ***Interruption to Supply – Site Record***. • From the three reports the FM then adjusts, if required, and **Save** the IMS Report. • At this stage **don't Approve** to allow the event to remain with the FM until all audit checks are completed at the end of the month.	Ongoing throughout the week/month.
4	• The above process will be completed for each week of the month. • L4 will also check the IMS Event Report throughout the Month and raise queries as appropriate.	Ongoing throughout the week/month.
DG3 Reporting and Audit Process		
5	• DG3 CS Coordinator produces Draft DG3 KIP Report, ***DG3 Reporting – 081014.*** • Two tabs; o ***Unplanned >6hr Summary*** o ***AIR & KPI Reporting***	By 1st working day of the new month.

DG3 Reporting and Audit Process		
6	• Level 4 uses the above monthly ***Unplanned >6hrs Summary*** Report to identify a number of L4 Monthly Audit checks. • L4 meets with the Field Managers to arrange the Audit Checks.	1st working day + 1 day. 1st working day + 1 day
7	• Level 5 checks the monthly ***Unplanned >6hr Summary*** report for his area against IMS Events and adjusts as necessary.	1st working day + 1 day
8	• FM reports back to Level 4. • L4 approves/saves the audited Events in the IMS system.	1st working day + 5 days
Monthly Sign Off		
9	• L4 emails DG3 CS Coordinator that Monthly Audit checks have been completed.	1st working day + 7 days
10	• DG3 CS Coordinator produces ***DG3/Rapid Comparison Checks*** report. • This Zip file contains a number of reports; o Individual FM folders with DG3 ID Event files. o Comparison Checks Summary. ▪ Red/Amber/Green against start/finish/No. props o Properties not recorded on IMS. ▪ Used to check No. of prop queries.	1st working day + 8 days
11	• L4 discusses above report with FM's. • L4/FM's report back to DG3 CS Coordinator.	1st working day + 10 days

5.2 MS Excel Spreadsheet Template – Contractor Return Sheet

Planned interruptions undertaken by Capital Asset Delivery and Customer Field Services will most likely be carried out by a number of contractors. The Contractor's Representative should gather all appropriate information on a paper pro forma (Appendix D) and then transfer this information to the Contractor Return Sheet. The Contractor Return Sheets should be collated at the end of each week/month and signed off by an appropriate member of Capital Asset Delivery or Customer Field Services staff and sent to CSD Services for inclusion into the DG3 Register. All pro forma should be stored by Capital Asset Delivery and Customer Field Services for Audit purposes.

Details of the Contractor Return Sheet can currently be obtained from CSD Services in Westland House.

5.3 Property numbers and Addresses

It is a requirement of NIAUR that the numbers of properties and address details of properties affected by interruptions to supply exceeding 3 hours are recorded. The numbers of properties and address details should be determined by the most accurate means available at the time. This is likely to be by one of two methods.

a. Visual Property Counts

In the case of small-scale interruptions, a Field Technician may have sufficient knowledge to determine the number of properties affected by carrying out a visual property count. Details should initially be recorded by hand on a paper pro forma including location, type and cause of interruption, and 'valve off'/'valve on' times. Each week, the Field Manager should review the Interruption Record Sheets with his Field Technicians and the details provided should be used to update the IMS records.

b. GIS Polygons

In the case of large-scale interruptions, the number of properties affected by an interruption should be determined using a GIS polygon. A Map Redline Request should be submitted using the IMS DG3 Interruption Details page. Then in CARtomap (the Company's Corporate Asset Register/GIS intranet facility), a redline polygon should be drawn around the affected area and assigned to the IMS request which should appear in the dropdown list associated with the DG3 Areas Layer of the Water workspace (see Editing Menu). Back in IMS, the Map Redline Request should be updated to retrieve the address details of the properties within the polygon and hence, the number of properties affected.

Field Managers should base the redline polygons on the details provided by the Field Technicians. In the case of interruptions where rezoning is carried out, it may be necessary to obtain address details from within more than one polygon.

5.4 Records of Interruptions

In general all interruptions to supply should be recorded. However there are large numbers of very short interruptions to supply associated with Leakage related activities and Customer Field Services. These interruptions are routine, inconsequential and last no longer than 30 minutes. Information about these interruptions is held by managers in Networks Water (Leakage) and Customer Field Services and is therefore not required for the DG3 Interruptions to Supply Register. Discretion should however be used in all cases. If difficulties arise or there happens to be an exception to the type of routine interruption referred to above that gives rise to an interruption that lasts for more than 1 hour then, this interruption should be recorded. Guidance on which interruptions should be recorded is to be given by Networks Water (Leakage) and Customer Field Services managers.

In general: Routine interruptions lasting less than 1 hour need not be recorded as part of the DG3 Interruptions to Supply Register except at the discretion of the Field Technician or Field Manager.

All interruption records entered onto IMS are to be approved by at least the Area Manager responsible by the 1st working day + 5 days, as per the Audit Process described earlier in the document. Interruption records belonging to Capital Asset Delivery and Customer Field Services should be sent to CSD Services by the same date.

- When a Field Manager approves a IMS DG3 record, an e-mail reminder is automatically forwarded to the Area Manager.
- When an Area Manager approves a IMS DG3 record, an e-mail reminder is automatically forwarded to the DG3 Customer Services Coordinator.

Automatic e-mail reminders to approve the DG3 records are sent to the DG3 Customer Services Coordinator on a monthly basis.

5.5 Historical records

All associated documentation is to be kept for seven years.

5.6 Audit Trail

The maintenance of audit trails is very important. During AIR audits the Reporter would more than likely want to investigate several interruptions and the associated documentation. It is therefore imperative that all records corresponding to individual interruption records, including pro forma, are stored locally for audit purposes.

5.7 Amendments to Information

It is recognised that the details entered at the time a IMS event record is created are estimates and that it may be necessary to update the details following the GIS polygon process. The IMS Internal Narrative should be used to record the details of any amendments, over and above those that occur as a result of the normal process of updating records. All amendments to the base data contained in IMS or information changed during the course of the development of the DG3 Composite Report File, must be supported by a detailed explanation.

6.0 REPORTING

6.1 NI Water Reports

IMS can be updated on a continuous basis, as and when interruption events occur, throughout the life of an ‘Active’ event, and after an event has been closed on the system and a corresponding DG3 interruption record has been registered. Monthly reports can be generated following the completion of quality assurance checks carried out by Area Managers. These reports are used by the CSD Services function to compile a DG3 Register for each month and corresponding KPIs.

The following reports are generated by CSD Services for Management Information:

- Monthly DG3 Composite Report including monthly DG3 Register
- Monthly DG3 KPI Report
- Annual DG3 AIR Table 2 Lines 5 to 19 Report (as defined by the Annual Information Return Reporting Requirements and Definitions Manual).

6.2 Development of the DG3 Register and KPI Report

As described above, interruption data for each month is extracted from the various data sources (IMS and Contractor Return Sheets) used by the various work streams (Networks Water (Distribution and Leakage), Capital Asset Delivery and Customer Field Services) and copied to a DG3 Composite Report File held by CSD Services in Westland House.

Copies of the original records are retained in their unaltered state. The records are then sorted according to the four regulatory categories of interruption:

- Unplanned Interruptions
- Planned and Warned Interruptions
- Unplanned Interruptions Caused by Third Parties
- Unplanned Interruptions due to Overruns of Planned and warned Interruptions

and further sorted according to the four regulatory time bands:

- More than 3 hours
- More than 6 hours
- More than 12hours
- More than 24 hours

The interruption records are subject to a series of audit checks to ensure that the details have been captured in accordance to the regulatory guidance. For further information on the development of the DG3 Register, please refer to the DG3 LoS Methodology.

6.3 Regulatory Report

The Finance & Regulation Directorate will report to Northern Ireland Authority for the Utility Regulation (NIAUR) on an annual basis.

7.0 VOID PROPERTIES

Within NI Water, Asset Information Development (AID) is primarily responsible for ensuring the databases, systems, standards and processes are in place to support the Corporate Asset Register (GIS/Ellipse). According to the definition, a void property is a type of connected property. The GIS picks up the following twelve property types, including void properties:

- Approved Built
- Approved Derelict
- Approved Under Construction
- Candidate Built
- Candidate None
- Candidate Under Construction
- Historical Built
- Historical Derelict
- Historical None
- Historical Under Construction
- Provisional Built
- Provisional Under Construction

Unless AID is specifically asked to exclude void properties when running queries, their GIS address lists will include any of the property types listed above.

There is a delay in updating the GIS with property status information.

Relevant extracts from the Pointer 2.1 Specification can be found in Appendix E at the back of this document (Pages 22 to 26 of 31).

8.0 'NO WATER/LOW PRESSURE' COMPLAINTS

Within NI Water, CRC call agents adopt a specific line of questioning with the customer to establish the cause of complaint including complaints relating to low pressure and no water.

A copy of the latest CRC call scripts for handling low pressure/no water complaints can be found in Appendix F at the back of this document (Pages 27 & 28 of 31). Provided the customer provides an accurate response to the questions asked by the call agent, the risk of wrong classification should be negated.

Appendix A – DG3 Interruption to Supply - Roles & Responsibilities

Customer Relations Centre (Normal Hours)

- Log 'no water'/ 'burst main' complaints into RapidXtra system;
- Use IMS system to provide up to date information to customers;
- Use 'Operational Announcements' functionality to share information;
- Adhere to agreed communication routes.

Bretland Work Control Centre (Normal Hours)

- Create IMS interruption event records and close with either a status of 'Closed – DG3 Record Required' or 'Closed – DG3 Record Nor Required'.

Work Planning Unit

- Normal hours – create a Work Order and inform area supervisor immediately;
- Update the Ellipse System following 'status calls';
- Ensure Work Orders are closed out.

Customer Service Delivery Directorate - Networks Water

- The Area Managers and Field Managers are responsible for the procurement of information for DG3 within Networks Water.

Customer Field Services

- Customer Field Services is responsible for reactive meter maintenance, proactive meter exchange and the installation of new meters. An interruption to supply to the property arises during the course of the installation.

Field Technicians

- Proactively provide regular timely updates on the progress of events (bursts, repairs etc.) to Work Control / Duty Managers / Telemetry operators:
  - Nature of the problem and any relevant details
  - Time repair commenced
  - Estimated restoration time
  - Repair complete;
- Provide any additional information to Field Managers to allow completion of the corresponding DG3 record e.g.
  - Polygon details
  - Rezoned properties.

Field Managers

- Inform Customer Services and Work Planners of planned interruptions providing details of area & number of properties affected and proposed duration of interruption;
- Assess extent of unplanned interruptions and organise remedial work;
- Inform Work Planners on completion of remedial work;
- Provide supporting information on number of properties affected and reasons for interruption.
- Ensure Field staff are adhering to agreed processes and communication routes;
- Review records created by Work Controllers:
  - Ensure start / finish times are accurate
  - Ensure property data is accurate & required fields complete;
- Review corresponding DG3 record for each event;
- Draw polygons, where required, and automatically link to IMS record;

Field Managers (continued)

- Sign off DG3 records for submission for approval by Area Manager;
- Update Major Incident records.

Area Managers

- Ensure Field Managers are adhering to the agreed process / timescales;
- Check / query records signed off by Field Managers;
- Sign off DG3 records for approval by DG3 Customer Services Coordinator.

Telemetry Control Centres (Out of Hours)

- Log 'no water'/'burst main' complaints into Work Planning (Ellipse) system;
- Create IMS interruption event records;
- Inform on call supervisor immediately.

Work Controllers / Telemetry Operators

- Create and maintain event records based on the information provided by Field Staff:
  - Interruptions to Supply (planned and unplanned)
  - Water Quality;
- Create and maintain event records for planned work;
- Close records at completion of events and apply appropriate DG3 status (required or not required);
- Monitor open incidents for records requiring action;
- Provide advice and guidance, if required, to Bronze users during Major Incidents.

DG3 Customer Services Coordinator

- Processes interruption information from Networks Water (Distribution and Leakage), Capital Asset Delivery and Customer Field Services;
- Checks, audits and queries records signed off by Field Managers;
- Compiles DG3 Interruptions to Supply Register based on data derived from IMS;
- Signs off IMS records and DG3 Interruptions to Supply Register for approval by Head of Water;
- Produces KPI reports for Management and AIR for Regulator.

Capital Asset Delivery

- Capital Asset Delivery is responsible for the rehabilitation of existing water mains and the installation of new water mains. Interruptions to supply arise as a result of connecting properties to the refurbished and new water mains.

Capital Asset Delivery Planned Works Coordinator

- Ensure that planned works affected > x properties / lasting > x time are entered on the system in advance;
- Ensure that planned works are updated if necessary (e.g. overruns, early starts);
- Close records at completion of events and apply appropriate DG3 status (required or not required);
- Ensure that planned works affecting < x properties / lasting < x time are entered on the system retrospectively and submitted for approval.

Networks - On-call Staff

- Assess extent of unplanned interruptions, update Duty Officer (if required) and organise remedial work
- Inform Networks Water Area Manager of actions taken and interruption details

Head of Water

- Approves the DG3 reporting elements of the Annual Information Return.

Regulation & Business Performance Section

- Submit Annual Information Return to NIAUR.

Emergency Planning Team

- Declare Major Incidents on the IMS system;
- Interrogate reports to provide status updates as incidents develop;
- Complete Upwards Reports based on data provided in IMS;
- Close Major Incidents on IMS system.

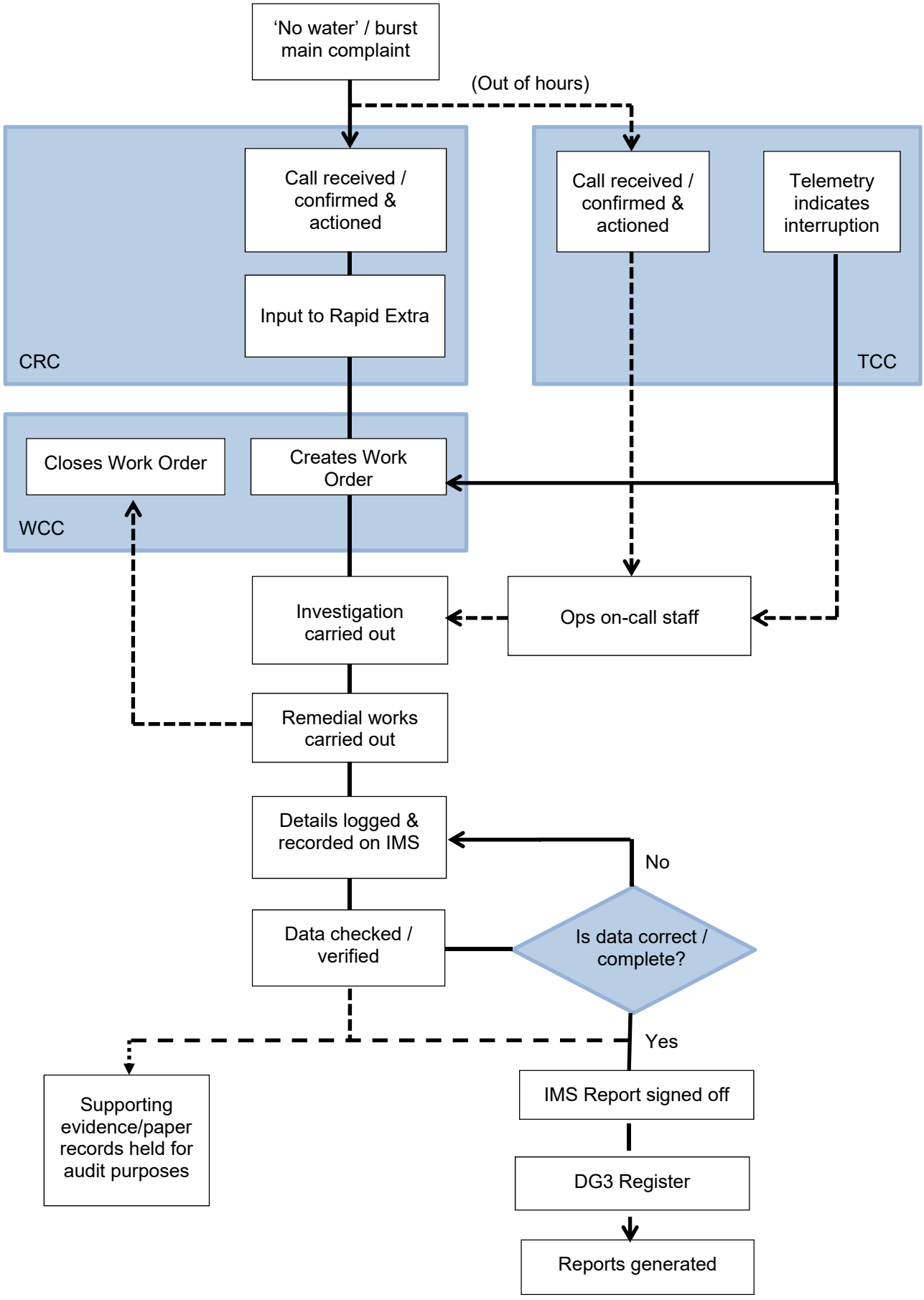
Bronze Team – MIP Only

- Create and maintain event records based on the information provided by Field Staff:
  - Interruptions to Supply (planned and unplanned)
  - Water Quality
  - Flooding;
- Close records at completion of events and apply appropriate DG3 status (required or not required);
- Monitor open incidents for records requiring action;
- Interrogate reports to provide status updates as incidents develop within their Bronze area.

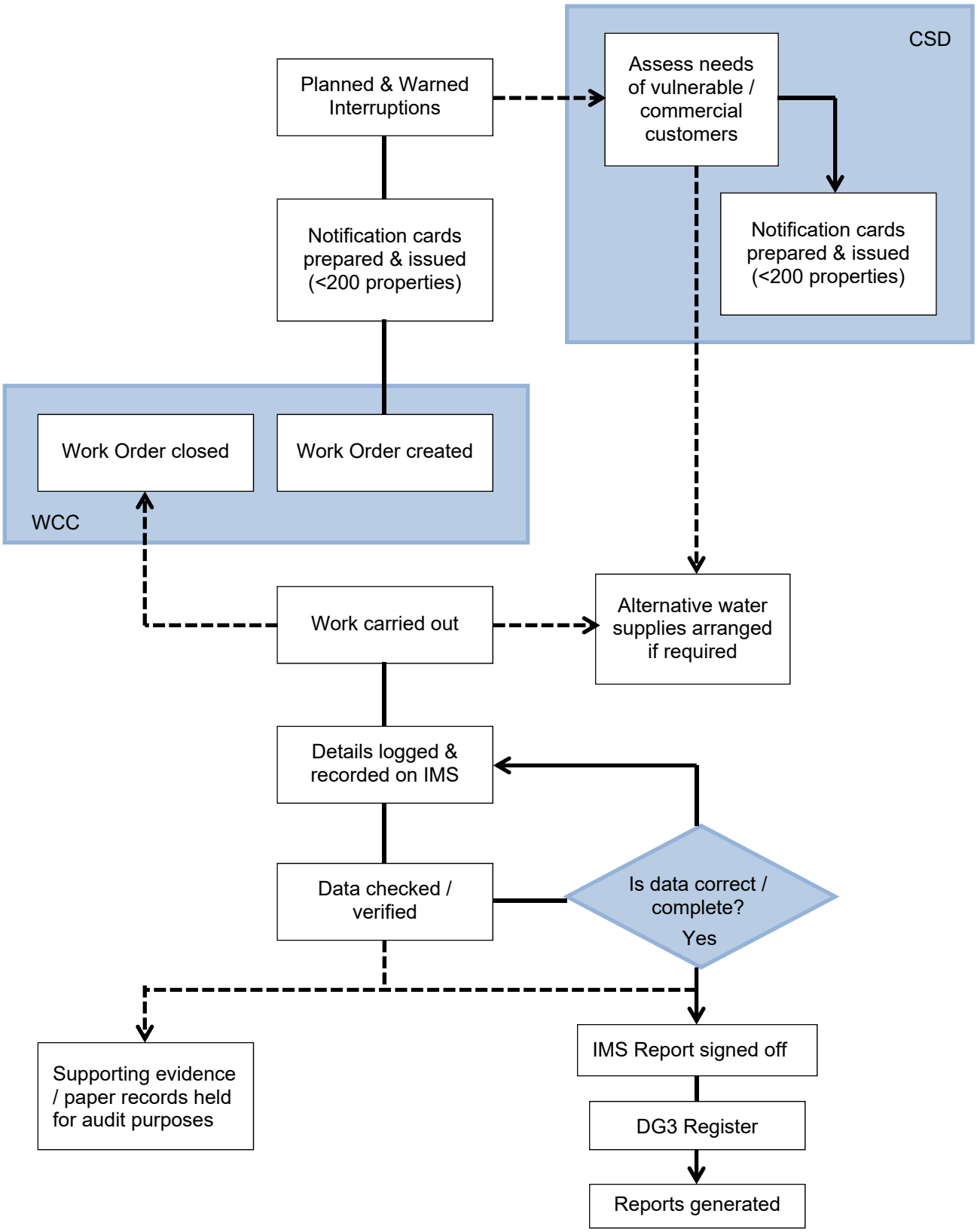
Silver Team

- Interrogate reports to provide status updates as incidents develop.

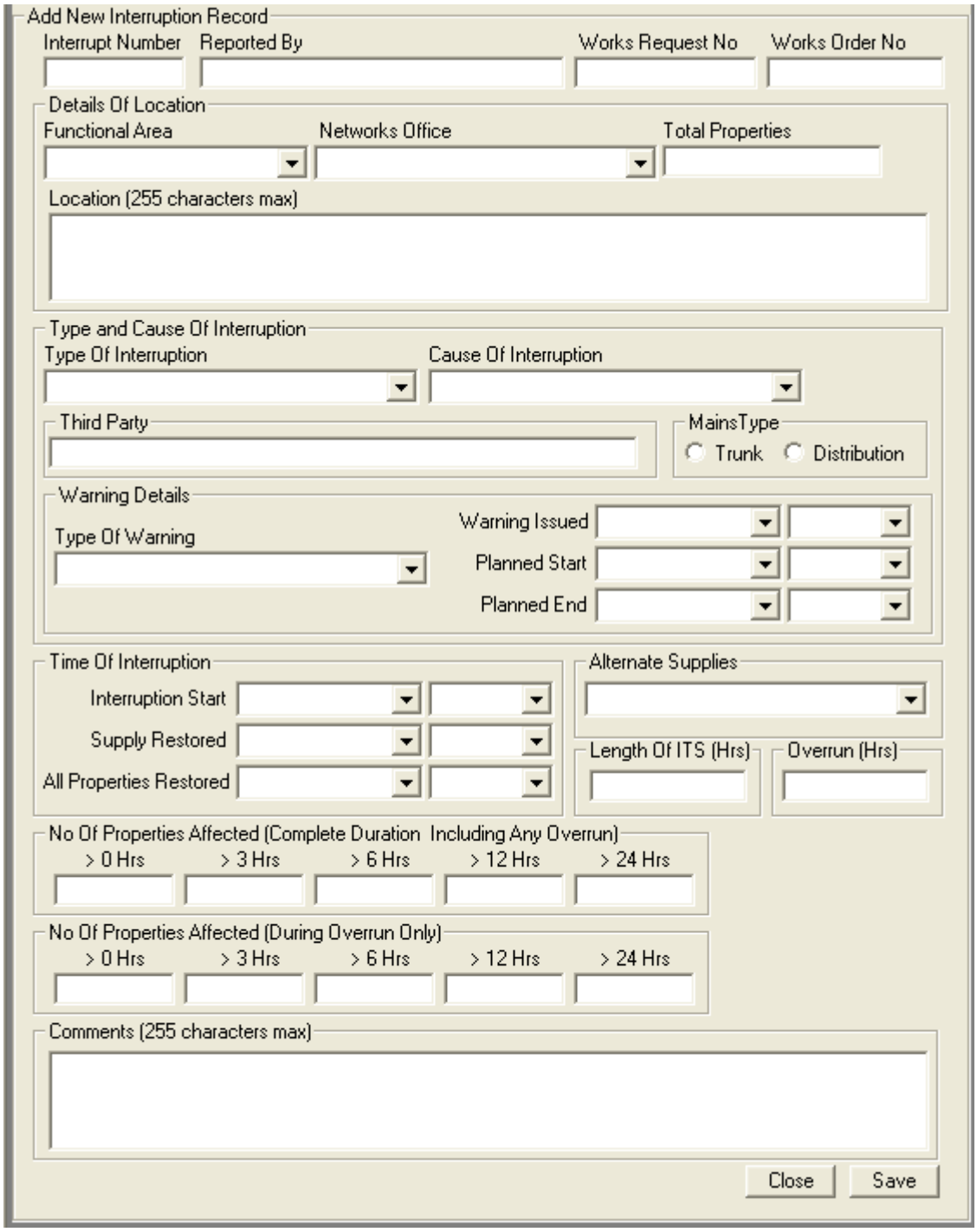
Appendix B – DG3 Process Flow Diagram – Unplanned or Unwarned Interruptions



Appendix B – DG3 Process Flow Diagram – Planned and Warned Interruptions



Appendix D – Pro forma - Interruption Record Sheet



Appendix E – Pointer 2.1 Specification Extract (Page 12)

4.21 BUILDING_STATUS

Definition
The current physical status of the building.

Constraints
Population of this field is mandatory.

Permitted PAO Status values are:

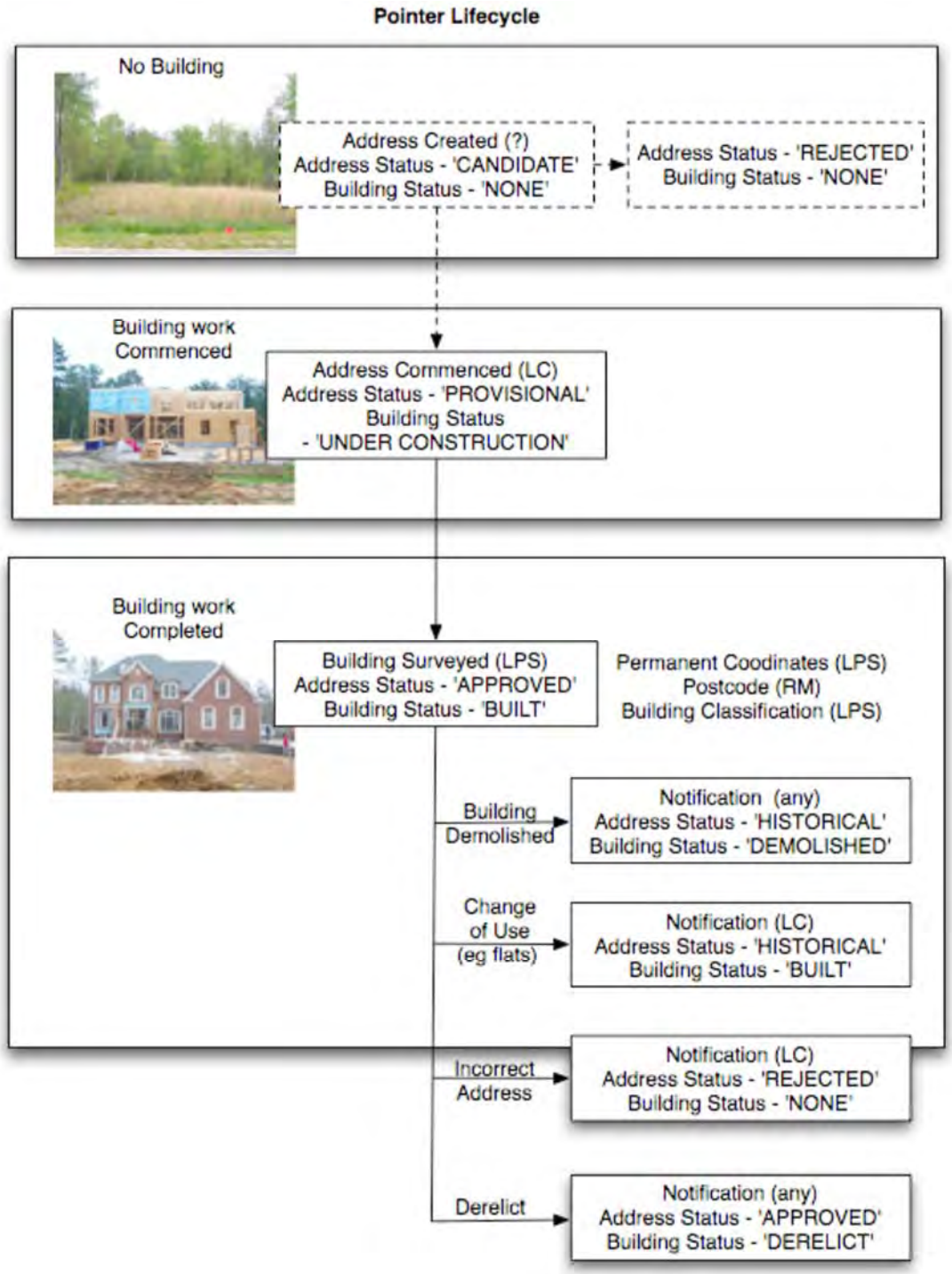
None, Under Construction, Built, Derelict and Demolished

Details
This field reflects changes to the Building_Status.

The values in this field are system generated and when a new address sent in from a council is entered in the system, the Building_Status is set to ‘None’ and the Address_Status set to ‘Candidate’. When the council sends notification that building has commenced, the Building_Status is set to ‘Under Construction’ and the Address_Status set to ‘Provisional’. After LPS field surveyors have confirmed the exact co-ordinates for the building, the Temp_Coords field is updated and the Building_Status is set to ‘Built’ and the Address_Status set to ‘Approved’. A notification from a council that a building is derelict or demolished results in the Building_Status being updated and the Address_Status set to ‘Historical’.

Please note that depending on the purpose for which the data is being used, the user may need to filter out certain categories of Building _Status. For example, addresses for ‘Demolished’ buildings would not be required where a mail shot is planned.

Appendix E – Pointer 2.1 Specification Extract (Page 13)



Appendix E – Pointer 2.1 Specification Extract (Page 14)

4.22 ADDRESS_STATUS

Definition
The current logical status of the address.

Constraints
Permitted ADDRESS_STATUS values are: (See diagram above)

- Candidate - before building starts. Planning permission has been granted but building has not commenced. Created by the Local Council before building has begun.
- Provisional – The Local Council has confirmed that the building is under construction.
- Approved – LPS add permanent co-ordinates and/or a building classification. A Postcode may also be added however this does not affect the ADDRESS_STATUS
- Historical - addresses that are no longer in use due to dereliction, demolition etc.
- Rejected – used to indicate the deletion of an incorrect address. Population of this field is mandatory, and is system generated.

Details
The values in this field are system generated and when a new address sent in from a council is entered in the system, the Building_Status is set to ‘None’ and the Address_Status set to ‘Candidate’. When the council sends notification that building has commenced, the Building_Status is set to ‘Under Construction’ and the Address_Status set to ‘Provisional’. After LPS field surveyors have confirmed the exact co-ordinates for the building, the Temp_Coords field is updated and the Building_Status is set to ‘Built’ and the Address_Status set to ‘Approved’. A notification from a council that a building is derelict or demolished results in the Building_Status being updated and the Address_Status set to ‘Historical’.

Please note that depending on the purpose for which the data is being used, the data should be filtered on the categories of Address _Status. For example, addresses set to ‘Historical’ would not be required where a mail shot is planned.

4.23 CLASSIFICATION

Definition
The current use of the building, derived from the LPS classification.

Constraints
Data in this field is system generated.

Permitted CLASSIFICATION values are shown below. These are derived from the detailed LPS list of valuation classifications.

Details
There are three main classification groups:

- NULL – Where the record has not yet been updated with an LPS classification.
- Non Domestic (formerly Commercial) – these records are prefixed with 'ND'
- Domestic (formerly Residential) – these records are prefixed with 'DO'. Where an individual is operating a business from a room within their home, LPS still classify this as a Residential property.

These are subdivided into a further classification as detailed above.

When the building use of an addressable object changes, the CLASSIFICATION field will be updated to reflect this change.

Appendix E – Pointer 2.1 Specification Extract (Page 15)

CODE	CLASSIFICATION DESCRIPTION
ND_agriculture	Agriculture (incl farms, market gardens)
ND_agriculture_other	Miscellaneous Agriculture
ND_comm_other	Commercial other
ND_culture	Cultural (incl museums, libraries)
ND_culture_other	Miscellaneous Culture
ND_education	Education (incl school, further ed)
ND_entertainment	Leisure and tourism(non-sporting - cinemas etc)
ND_ents_other	Miscellaneous Entertainment
ND_freight_other	Freight (canal, dock, railway undertaking)
ND_health	Health(incl hospital, care home, clinics)
ND_hospitality	Hospitality (incl hotels, b&b)
ND_indust_other	Miscellaneous Industry
ND_industry	Industry (incl factory, quarries)
ND_legal	Law and Order
ND_office	Commercial office - banks, post offices, offices
ND_religious	Religious establishment (incl places of worship)
ND_retail	Retail (shops, showrooms etc)
ND_sporting	Recreation (sports facilities)
ND_utilities	Public utilities
ND_utilities_other	Miscellaneous Utilities
DO_apart	Domestic - Apartments/flats
DO_detached	Domestic - detached
DO_semi	Domestic - Semi
DO_terrace	Domestic - Terrace
DO_other	Domestic other (incl Lock-up garages)

4.24 CREATION_DATE

Definition
The date when an address is first entered into the system by the Local Council.

Constraints
This field will only be populated for records created after the Pointer application went live in 2005. The field is automatically populated when records are entered into the database. It does not necessarily relate to the date of building, but rather when the information was provided.

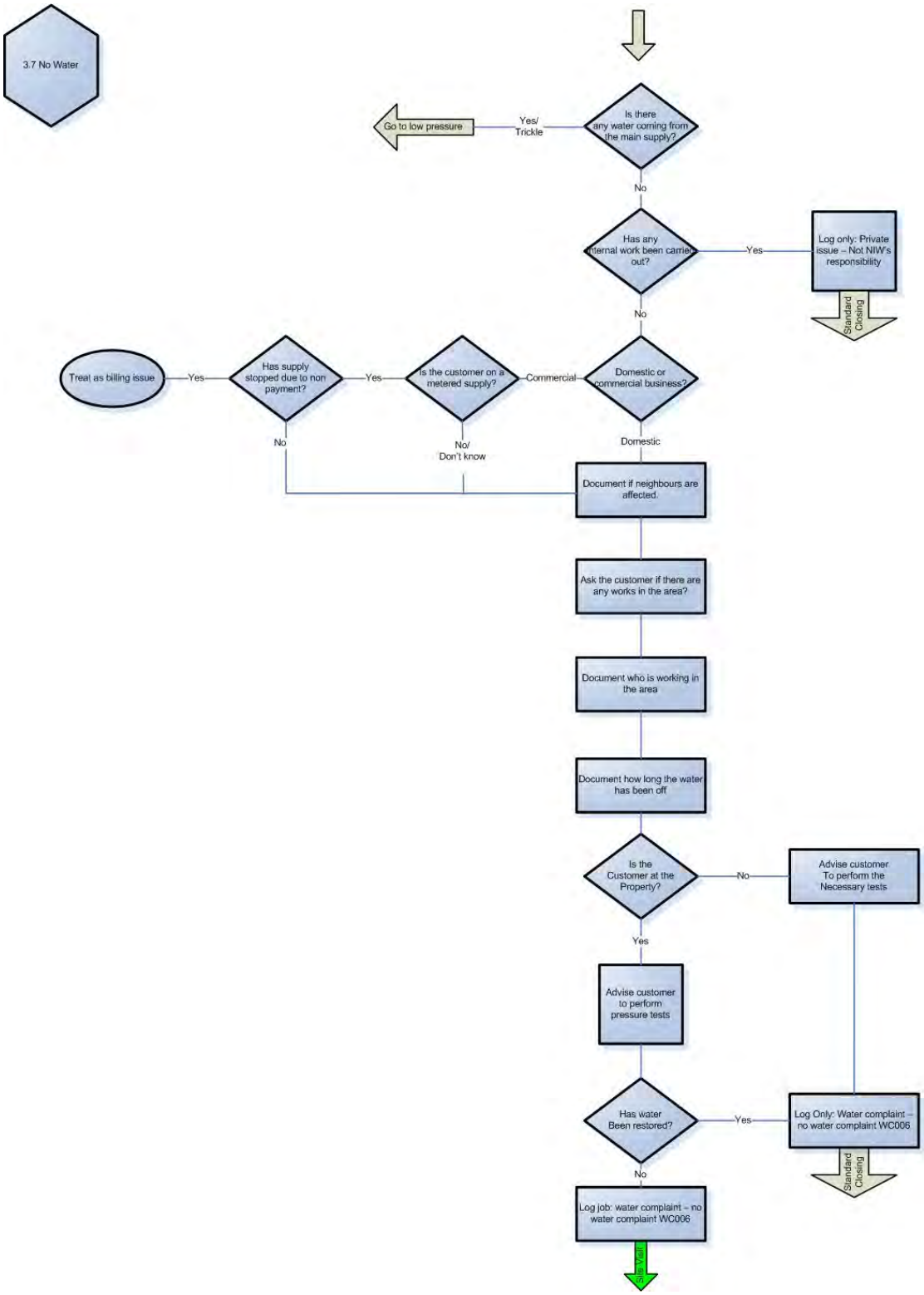
4.25 COMMENCEMENT_DATE

Definition
This is the date when construction on the property has begun.

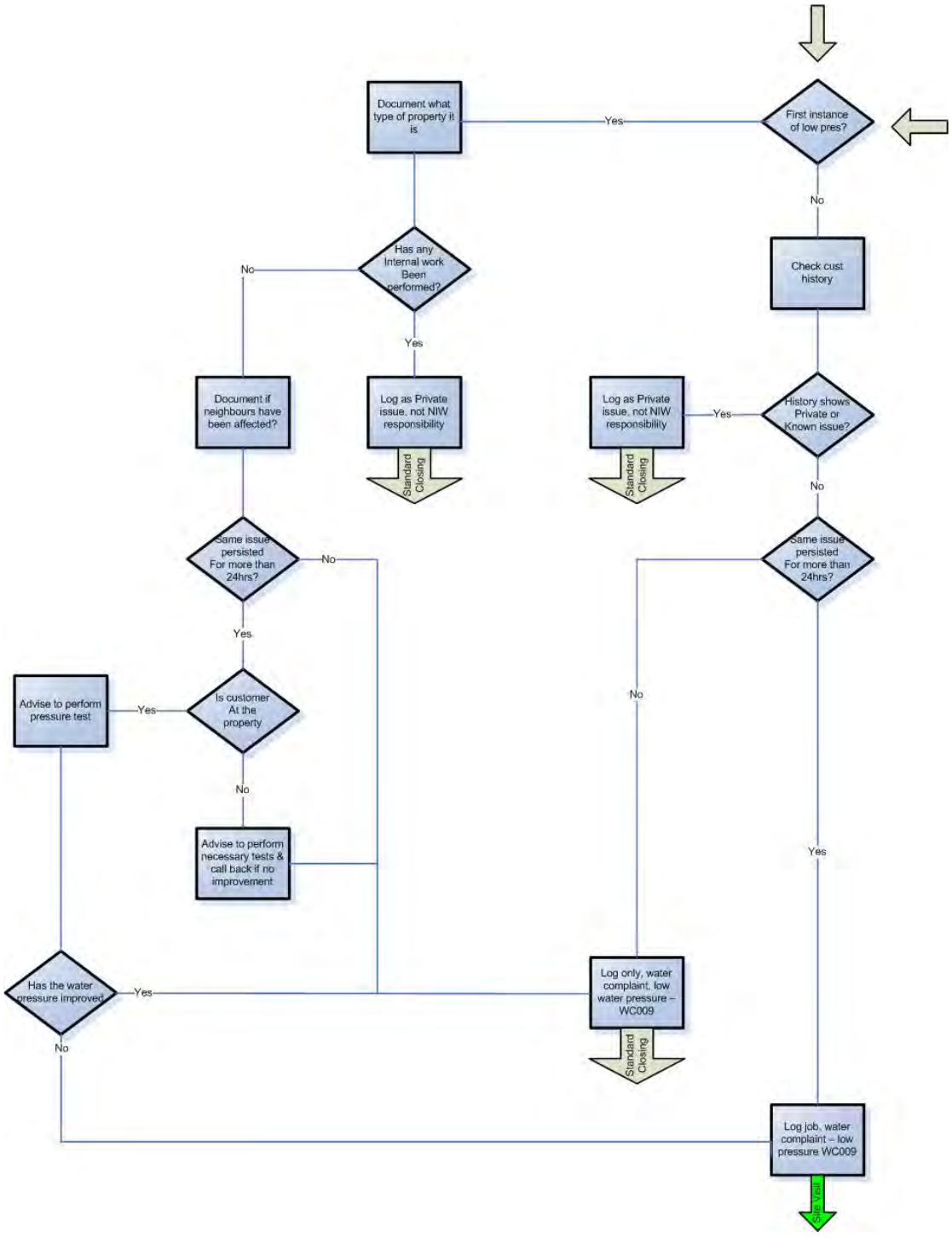
Constraints
This field will be populated for records created after the release of the new Pointer Product and when Local Council informs Pointer of the fact.

Details
This indicates when the BUILDING_STATUS changes from ‘NONE’ to ‘UNDER CONSTRUCTION’

Appendix F – CRC Call Script for 'No Water' Complaints



Appendix F – CRC Call Script for 'Low Pressure' Complaints



Appendix G – DG3 Register Extract *(Unplanned Interruption Events – IMS Report RPT1184)*

LastRun
24/05/2021 12:59

Unplanned, Unwarned Interruptions

More than 3 hrs **No of Properties** **1,630**

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:26	13/03/2021 20:30	690	52	52	0	0	0	3 Hrs 4 Mins 0 Secs	3	4	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265568	199212	Submitted to Area Manager	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			22/03/2021 15:53	22/03/2021 19:00	38	38	38	0	0	0	3 Hrs 7 Mins 0 Secs	3	7	0	(UPRN: 185675152) - [redacted] Drumlegagh Road North, Archill, Newtownstewart, Tyrone, [redacted]	FALSE			Other
265354	199066	Registered	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			01/03/2021 16:53	01/03/2021 20:00	361	14	14	0	0	0	3 Hrs 7 Mins 0 Secs	3	7	0	(UPRN: 185241250) - [redacted] Killyleagh Road, Barnamaghery, Saintfield, Down, [redacted]	FALSE			Burst Main/Main Repair
265534	199190	Submitted to Area Manager	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			19/03/2021 06:27	19/03/2021 09:35	25	25	25	0	0	0	3 Hrs 8 Mins 0 Secs	3	8	0	(UPRN: 185642494) - [redacted] Bardahessiagh Road, Edendoit, Pomeroy, Tyrone, [redacted]	FALSE			Burst Main/Main Repair
265628	199255	Submitted to Area Manager	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			29/03/2021 13:45	29/03/2021 17:00	36	36	36	0	0	0	3 Hrs 15 Mins 0 Secs	3	15	0	(UPRN: 185702938) - [redacted] Dunnyboe Road, Claggan South, Dunnamanagh, Tyrone, [redacted]	FALSE			Burst Main/Main Repair
265399	199097	Submitted to Area Manager	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			04/03/2021 16:13	04/03/2021 19:30	32	32	32	0	0	0	3 Hrs 17 Mins 0 Secs	3	17	0	(UPRN: 185478910) - [redacted] Tullyheran Road, Tullyheran, Maghera, Londonderry, [redacted]	FALSE			Other
265557	199206	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Unplanned Interruption		N/A			22/03/2021 07:21	22/03/2021 10:45	266	52	52	0	0	0	3 Hrs 24 Mins 0 Secs	3	24	0	(UPRN: 186012581) - [redacted] Doagh Road, Maxwells Walls, Kells, Antrim, [redacted]	FALSE			Other
265354	199066	Registered	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			01/03/2021 15:06	01/03/2021 18:30	361	15	15	0	0	0	3 Hrs 24 Mins 0 Secs	3	24	0	(UPRN: 185241250) - [redacted] Killyleagh Road, Barnamaghery, Saintfield, Down, [redacted]	FALSE			Burst Main/Main Repair
265590	199229	Registered	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			24/03/2021 17:05	24/03/2021 20:30	3	3	3	0	0	0	3 Hrs 25 Mins 0 Secs	3	25	0	(UPRN: 185471445) - [redacted] Oxtowns Road, Glenviggan, Draperstown, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265616	199245	Submitted to Area Manager	Networks Water	NWA4B	[redacted]		Unplanned Interruption		N/A			27/03/2021 15:08	27/03/2021 18:45	59	59	59	0	0	0	3 Hrs 37 Mins 0 Secs	3	37	0	(UPRN: 185900178) - [redacted] Boho Road, Mullylusty, Belcoo, Fermanagh, [redacted]	FALSE			Pump Equipment Failure
265393	199096	Registered	Networks Water	NWA3B	[redacted]		Unplanned Interruption		N/A			04/03/2021 13:23	04/03/2021 17:00	133	17	17	0	0	0	3 Hrs 37 Mins 0 Secs	3	37	0	(UPRN: 185578865) - [redacted] Coolmillish Road, Glasdrummond, Markethill, Armagh, [redacted]	FALSE			Burst Main/Main Repair
265432	199122	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			09/03/2021 08:22	09/03/2021 12:05	474	45	45	0	0	0	3 Hrs 43 Mins 0 Secs	3	43	0	OMA - C0844 - Fincairn	FALSE			Burst Main/Main Repair
265354	199066	Registered	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			01/03/2021 16:08	01/03/2021 20:00	361	49	49	0	0	0	3 Hrs 52 Mins 0 Secs	3	52	0	(UPRN: 185241250) - [redacted] Killyleagh Road, Barnamaghery, Saintfield, Down, [redacted]	FALSE			Burst Main/Main Repair
265617	199246	Submitted to Area Manager	Networks Water	NWA3A	[redacted]		Unplanned Interruption		N/A			28/03/2021 07:23	28/03/2021 11:15	66	66	66	0	0	0	3 Hrs 52 Mins 0 Secs	3	52	0	(UPRN: 185643685) - [redacted] Gortindarragh Road, Gortindarragh, Dungannon, Tyrone, [redacted]	FALSE			Burst Main/Main Repair
265519	199175	Registered	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			17/03/2021 07:22	17/03/2021 11:15	230	76	76	0	0	0	3 Hrs 53 Mins 0 Secs	3	53	0	(UPRN: 185688018) - [redacted] Rockstown Road, Creggandevesky, Skmilecross, Tyrone, [redacted]	FALSE			Burst Main/Main Repair
265565	199210	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			22/03/2021 13:30	22/03/2021 17:30	29	29	29	0	0	0	4 Hrs 0 Mins 0 Secs	4	0	0	(UPRN: 185463874) - [redacted] Altnahinch Road, Tully South (Detached Portion No 2), Antrim, [redacted]	FALSE			Other
265519	199175	Registered	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			17/03/2021 07:28	17/03/2021 11:35	230	3	3	0	0	0	4 Hrs 7 Mins 0 Secs	4	7	0	(UPRN: 185688018) - [redacted] Rockstown Road, Creggandevesky, Skmilecross, Tyrone, [redacted]	FALSE			Burst Main/Main Repair
265523	199179	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			18/03/2021 03:49	18/03/2021 08:00	35	35	35	0	0	0	4 Hrs 11 Mins 0 Secs	4	11	0	(UPRN: 185503873) - [redacted] Upper Nassau Street, Edenballymore, Londonderry, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265365	199070	Submitted to Area Manager	Networks Water	NWA3A	[redacted]		Unplanned Interruption		N/A			02/03/2021 10:21	02/03/2021 14:33	442	5	5	0	0	0	4 Hrs 12 Mins 0 Secs	4	12	0	(UPRN: 185600247) - [redacted] Cecil Street, Tavanagh, Portadown, Armagh, [redacted]	FALSE			PRV Maintenance
265618	199247	Submitted to Area Manager	Networks Water	NWA4B	[redacted]		Unplanned Interruption		N/A			28/03/2021 20:42	29/03/2021 01:10	34	34	34	0	0	0	4 Hrs 28 Mins 0 Secs	4	28	0	(UPRN: 187525874) - [redacted] Bun Road, Bun, Newtownbutler, Fermanagh, [redacted]	FALSE			Burst Main/Main Repair
265548	199199	Submitted to Area Manager	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			19/03/2021 20:15	20/03/2021 00:45	32	32	32	0	0	0	4 Hrs 30 Mins 0 Secs	4	30	0	(UPRN: 185687729) - [redacted] Woodland Road, Beltrim, Gortin, Tyrone, [redacted]	FALSE			Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NWA2A	[redacted]		Unplanned Interruption		N/A			03/03/2021 17:04	03/03/2021 21:40	9	8	8	0	0	0	4 Hrs 36 Mins 0 Secs	4	36	0	(UPRN: 185390151) - [redacted] Chool Lane, West Division, Carrickfergus, Antrim, [redacted]	FALSE			Burst Main/Main Repair
265558	199209	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			22/03/2021 07:43	22/03/2021 12:20	206	113	113	0	0	0	4 Hrs 37 Mins 0 Secs	4	37	0	Service Reservoir - S05269 - Sistrakeel - Nessagh Road, Glack, Claudy, Londonderry, BT49 9NE	FALSE			Other
265545	199198	Registered	Networks Water	NWA1B	[redacted]		Unplanned Interruption		N/A			19/03/2021 12:52	19/03/2021 17:30	57	34	34	0	0	0	4 Hrs 38 Mins 0 Secs	4	38	0	(UPRN: 185404702) - [redacted] Braepark Road, Carnlea, Ballyclare, Antrim, [redacted]	FALSE			Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NWA3B	[redacted]		Unplanned Interruption		N/A			08/03/2021 19:45	09/03/2021 00:30	26	26	26	0	0	0	4 Hrs 45 Mins 0 Secs	4	45	0	(UPRN: 185329488) - [redacted] Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]	FALSE			Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NWA2A	[redacted]		Unplanned Interruption		N/A			03/03/2021 16:53	03/03/2021 21:40	9	1	1	0	0	0	4 Hrs 47 Mins 0 Secs	4	47	0	(UPRN: 185390151) - [redacted] Chool Lane, West Division, Carrickfergus, Antrim, [redacted]	FALSE			Burst Main/Main Repair
265360	199068	Submitted to Area Manager	Networks Water	NWA3B	[redacted]		Unplanned Interruption		N/A			01/03/2021 15:42	01/03/2021 20:30	6	6	6	0	0	0	4 Hrs 48 Mins 0 Secs	4	48	0	(UPRN: 187120827) - [redacted] Glenveagh, Carcullion, Hilltown, Down, [redacted]	FALSE			Burst Main/Main Repair
265400	199098	Submitted to Area Manager	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			04/03/2021 13:42	04/03/2021 18:30	92	59	59	0	0	0	4 Hrs 48 Mins 0 Secs	4	48	0	(UPRN: 185214162) - [redacted] Cunningburn Road, Ballyblack, Newtownards, Down, [redacted]	FALSE			Other
265587	199226	Submitted to Area Manager	Networks Water	NWA4A	[redacted]		Unplanned Interruption		N/A			24/03/2021 10:55	24/03/2021 15:45	29	29	29	0	0	0	4 Hrs 50 Mins 0 Secs	4	50	0	(UPRN: 185472854) - [redacted] Drumrot Road, Drumrot, Moneymore, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265635	199262	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			30/03/2021 10:52	30/03/2021 15:50	391	122	122	0	0	0	4 Hrs 58 Mins 0 Secs	4	58	0	(UPRN: 185500712) - [redacted] Sperrin Park, Caw, Londonderry, Londonderry, [redacted]	FALSE			Other
265428	199115	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			08/03/2021 11:46	08/03/2021 16:46	88	88	88	0	0	0	5 Hrs 0 Mins 0 Secs	5	0	0	(UPRN: 187590784) - [redacted] Invoy Road, Ballytunn, Ballymena, Antrim, [redacted]	FALSE			Other
265393	199096	Registered	Networks Water	NWA3B	[redacted]		Unplanned Interruption		N/A			04/03/2021 10:56	04/03/2021 16:00	133	12	12	0	0	0	5 Hrs 4 Mins 0 Secs	5	4	0	(UPRN: 185578865) - [redacted] Coolmillish Road, Glasdrummond, Markethill, Armagh, [redacted]	FALSE			Burst Main/Main Repair
265557	199206	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Unplanned Interruption		N/A			22/03/2021 07:24	22/03/2021 12:40	266	5	5	0	0	0	5 Hrs 16 Mins 0 Secs	5	16	0	(UPRN: 186012581) - [redacted] Doagh Road, Maxwells Walls, Kells, Antrim, B[redacted]	FALSE			Other
265354	199066	Registered	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			01/03/2021 15:39	01/03/2021 21:00	361	23	23	0	0	0	5 Hrs 21 Mins 0 Secs	5	21	0	(UPRN: 185241250) - [redacted] Killyleagh Road, Barnamaghery, Saintfield, Down, [redacted]	FALSE			Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NWA3A	[redacted]		Unplanned Interruption		N/A			01/03/2021 07:07	01/03/2021 12:30	18	18	18	0	0	0	5 Hrs 23 Mins 0 Secs	5	23	0	(UPRN: 185280657) - [redacted] Whinney Hill, Ballynadolly, Lisburn, Antrim, B[redacted]	FALSE			Burst Main/Main Repair
265647	199270	Registered	Networks Water	NWA2A	[redacted]		Unplanned Interruption		N/A			30/03/2021 16:33	30/03/2021 22:00	35	35	35	0	0	0	5 Hrs 27 Mins 0 Secs	5	27	0	(UPRN: 185055701) - [redacted] Ballynafoy, Belfast, Down, [redacted]	FALSE			Burst Main/Main Repair
265354	199066	Registered	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			01/03/2021 15:32	01/03/2021 21:00	361	66	66	0	0	0	5 Hrs 28 Mins 0 Secs	5	28	0	(UPRN: 185241250) - [redacted] Killyleagh Road, Barnamaghery, Saintfield, Down, [redacted]	FALSE			Burst Main/Main Repair
265432	199122	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			09/03/2021 06:37	09/03/2021 12:05	474	25	25	0	0	0	5 Hrs 28 Mins 0 Secs	5	28	0	OMA - C0844 - Fincairn	FALSE			Burst Main/Main Repair
265354	199066	Registered	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			01/03/2021 14:55	01/03/2021 20:30	361	34	34	0	0	0	5 Hrs 35 Mins 0 Secs	5	35	0	(UPRN: 185241250) - [redacted] Killyleagh Road, Barnamaghery, Saintfield, Down, [redacted]	FALSE			Burst Main/Main Repair
265400	199098	Submitted to Area Manager	Networks Water	NWA2B	[redacted]		Unplanned Interruption		N/A			04/03/2021 15:19	04/03/2021 21:00	91	32	32	0	0	0	5 Hrs 41 Mins 0 Secs	5	41	0	(UPRN: 185214162) - [redacted] Cunningburn Road, Ballyblack, Newtownards, Down, [redacted]	FALSE			Other
265442	199127	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			09/03/2021 14:13	09/03/2021 20:10	29	25	25	0	0	0	5 Hrs 57 Mins 0 Secs	5	57	0	Treated Water Pumping Station - S03713 - Kilgort - Carnanreagh Road, Kilgort, Claudy, Londonderry, BT47 4BA	FALSE			Pump Equipment Failure
265442	199127	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			09/03/2021 14:13	09/03/2021 21:00	29	4	4	4	0	0	6 Hrs 47 Mins 0 Secs	6	47	0	Treated Water Pumping Station - S03713 - Kilgort - Carnanreagh Road, Kilgort, Claudy, Londonderry, BT47 4BA	FALSE			Pump Equipment Failure
265558	199209	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			22/03/2021 07:24	22/03/2021 14:15	206	33	33	33	0	0	6 Hrs 51 Mins 0 Secs	6	51	0	Service Reservoir - S05269 - Sistrakeel - Nessagh Road, Glack, Claudy, Londonderry, BT49 9NE	FALSE			Other
265558	199209	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			22/03/2021 08:13	22/03/2021 15:10	206	36	36	36	0	0	6 Hrs 57 Mins 0 Secs	6	57	0	Service Reservoir - S05269 - Sistrakeel - Nessagh Road, Glack, Claudy, Londonderry, BT49 9NE	FALSE			Other
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 18:21	14/03/2021 03:00	690	12	12	12	0	0	8 Hrs 39 Mins 0 Secs	8	39	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:32	14/03/2021 03:00	690	15	15	15	0	0	9 Hrs 28 Mins 0 Secs	9	28	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:26	14/03/2021 03:00	690	51	51	51	0	0	9 Hrs 34 Mins 0 Secs	9	34	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:26	14/03/2021 03:00	690	1	1	1	0	0	9 Hrs 34 Mins 0 Secs	9	34	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair

Unplanned, Unwarned Interruptions

More than 6 hrs **No of Properties** **152**

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description
265442	199127	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			09/03/2021 14:13	09/03/2021 21:00	29	4	4	4	0	0	6 Hrs 47 Mins 0 Secs	6	47	0	Treated Water Pumping Station - S03713 - Kilgort - Carnanreagh Road, Kilgort, Claudy, Londonderry, BT47 4BA	FALSE			Pump Equipment Failure
265558	199209	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			22/03/2021 07:24	22/03/2021 14:15	206	33	33	33	0	0	6 Hrs 51 Mins 0 Secs	6	51	0	Service Reservoir - S05269 - Sistrakeel - Nessagh Road, Glack, Claudy, Londonderry, BT49 9NE	FALSE			Other
265558	199209	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			22/03/2021 08:13	22/03/2021 15:10	206	36	36	36	0	0	6 Hrs 57 Mins 0 Secs	6	57	0	Service Reservoir - S05269 - Sistrakeel - Nessagh Road, Glack, Claudy, Londonderry, BT49 9NE	FALSE			Other
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 18:21	14/03/2021 03:00	690	12	12	12	0	0	8 Hrs 39 Mins 0 Secs	8	39	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:32	14/03/2021 03:00	690	15	15	15	0	0	9 Hrs 28 Mins 0 Secs	9	28	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:26	14/03/2021 03:00	690	51	51	51	0	0	9 Hrs 34 Mins 0 Secs	9	34	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair
265486	199158	Submitted to Area Manager	Networks Water	NWA1A	[redacted]		Unplanned Interruption		N/A			13/03/2021 17:26	14/03/2021 03:00	690	1	1	1	0	0	9 Hrs 34 Mins 0 Secs	9	34	0	(UPRN: 185769115) - [redacted] Moneybrannon Road, Ballydevitt, Coleraine, Londonderry, [redacted]	FALSE			Burst Main/Main Repair

Unplanned, Unwarned Interruptions

More than 12 hrs **No of Properties** **0**

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Unplanned, Unwarned Interruptions

More than 24 hrs **No of Properties** **0**

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Appendix G – DG3 Register Extract *(Planned & Warned, Third Party & Overrun Events – IMS Report RPT1184)*

Planned and Warned Interruptions

More than 3 hrs **No of Properties** 215

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description
265448	199134	Registered	Networks Water	NWA1A	[redacted]		Planned Interruption	05/03/2021 09:00	Card drop	10/03/2021 09:00	10/03/2021 16:00	10/03/2021 09:50	10/03/2021 13:00	15	15	15	0	0	0	3 Hrs 10 Mins 0 Secs	3	10	0	(UPRN: 185487266) - [redacted] Lismacarol Road, Lismacarol, Drumahoe, Londonderry, [redacted]	FALSE			Other
265430	199116	Submitted to Area Manager	Networks Water	NWA3A	[redacted]		Planned Interruption	05/03/2021 09:00	Card drop	08/03/2021 19:00	09/03/2021 00:30	08/03/2021 19:00	08/03/2021 23:15	132	132	132	0	0	0	4 Hrs 15 Mins 0 Secs	4	15	0	(UPRN: 185608887) - [redacted] Upper Church Lane, Killycomain, Portadown, Armagh, [redacted]	FALSE			Burst Main/Main Repair
265391	199093	Registered	Networks Water	NWA4A	[redacted]		Planned Interruption	01/03/2021 12:00	Card drop	04/03/2021 09:00	04/03/2021 16:00	04/03/2021 09:50	04/03/2021 14:20	46	46	46	0	0	0	4 Hrs 30 Mins 0 Secs	4	30	0	(UPRN: 185473437) - [redacted] Loguity Road, Ballyrogully, Moneymore, Londonderry, [redacted]	FALSE			Replacement Fitting (e.g. SV, FH)
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	23/03/2021 13:00	Card drop	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15	26/03/2021 14:10	22	22	22	0	0	0	4 Hrs 55 Mins 0 Secs	4	55	0	(UPRN: 185385904) - [redacted] Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	FALSE			Burst Main/Main Repair

Planned and Warned Interruptions

More than 6 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Planned and Warned Interruptions

More than 12 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Planned and Warned Interruptions

More than 24 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Interruptions caused by third parties

More than 3 hrs **No of Properties** 15

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description
265648	199267	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Unplanned Interruption		N/A			30/03/2021 15:41	30/03/2021 21:00	15	15	15	0	0	0	5 Hrs 19 Mins 0 Secs	5	19	0	(UPRN: 185458236) - [redacted] Ballybrack Road, Ballybrack, Cushendall, Antrim, [redacted]	TRUE	[redacted]	[redacted]	Burst Main/Main Repair

Interruptions caused by third parties

More than 6 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Interruptions caused by third parties

More than 12 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Interruptions caused by third parties

More than 24 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 3 hrs **No of Properties** 18

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description
265601	199244	Submitted to Area Manager	Networks Water	NWA2A	[redacted]		Planned Interruption	23/03/2021 18:45	Card drop	26/03/2021 09:00	26/03/2021 15:00	26/03/2021 12:20	26/03/2021 16:00	18	18	18	0	0	0	3 Hrs 40 Mins 0 Secs	3	40	0	(UPRN: 187645238) - [redacted] Belden Place, Ballygolan, Newtownabbey, Antrim, [redacted]	FALSE			Burst Main/Main Repair

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 6 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 12 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 24 hrs **No of Properties** 0

Event Id	Interruption Id User Friendly	Interruption Status Name	Managing Function Name	Field Manager Area Name	Event Creator	DG3 Creator	Interruption Type Name	Planned Warning Date Time 1	Planned Warning Type	Planned Start Date Time 1	Planned Restoration Date Time 1	Actual Start Date Time 1	Actual Supply Restored Date Time 1	Total Affected Properties Count 1	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Property Duration	Property Duration Hours	Property Duration Minutes	Property Duration Seconds	Location	Third Party Caused Interruption	Third Party	Other Third Party Details	Interruption Cause Description

Appendix G – DG3 Register Extract *(Unplanned Interruption Property Records – IMS Report RPT1183)*

LastRun
20/04/2021 08:56

Event Id	Interruption Id User Friendly	Interruption Status	Managing Function	Field Manager Area	Event Creator	DG3 Creator	Interruption Name	Planned Warning Type	Planned Warning Date Time	Duration Hours	Duration Minutes	Duration Seconds	Planned Start Date Time	Planned Restoration Date Time	Actual Start Date Time	Unplanned Estimated Restoration Date	Unplanned Repair Commenced Start Date Time	Actual Supply Restored Date Time	Water Sampler Contacted Date Time	Unplanned Estimated All Properties	UPRN	PRIMARY THORFARE	BUILDING NUMBER	BUILDING NAME	SUB BUILDING NAME	SECONDARY THORFARE	TOWN	POSTCODE	DTM HEIGHT M	Affected Area Property	Affected Area Property	Affected Area Property	Total Affected Properties	Location		Property DMA	Third Party Caused Interruption	Third Party	Description
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280645	Whinney Hill	[redacted]				Lisburn		173.35	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280646	Whinney Hill	[redacted]				Lisburn		173.15	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280659	Whinney Hill	[redacted]				Lisburn		172.68	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280655	Whinney Hill	[redacted]				Lisburn		170.16	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280656	Whinney Hill	[redacted]				Lisburn		171.25	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280647	Whinney Hill	[redacted]				Lisburn		170.26	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185876375	Whinney Hill	[redacted]				Lisburn		170.61	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	187665326	Whinney Hill	[redacted]				Lisburn		172.64	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280648	Whinney Hill	[redacted]				Lisburn		174.14	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280657	Whinney Hill	[redacted]				Lisburn		162.66	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280650	Whinney Hill	[redacted]				Lisburn		165.25	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280658	Whinney Hill	[redacted]				Lisburn		168.48	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	187547327	Whinney Hill	[redacted]				Lisburn		164.58	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280651	Whinney Hill	[redacted]				Lisburn		170.09	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280652	Whinney Hill	[redacted]				Lisburn		174.09	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280653	Whinney Hill	[redacted]				Lisburn		169.65	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	185280654	Whinney Hill	[redacted]				Lisburn		173.68	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265345	199060	Submitted to Area Manager	Networks Water	NW43A	[redacted]		Unplanned Interruption	N/A		5	23	0			01/03/2021 07:07	01/03/2021 12:00	01/03/2021 08:00	01/03/2021 12:30	01/03/2021 13:00	01/03/2021 12:30	187290444	Whinney Hill	[redacted]				Lisburn		167.96	18	0	0	18	(UPRN: 185280657) - Whinney Hill, Ballynadolly, Lisburn, Antrim, [redacted]		C0206	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	47	0			03/03/2021 16:53	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390149	School Lane	[redacted]				Carrickfergus		48.16	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390150	School Lane	[redacted]				Carrickfergus		49.84	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390151	School Lane	[redacted]				Carrickfergus		49.19	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390152	School Lane	[redacted]				Carrickfergus		48.31	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390153	School Lane	[redacted]				Carrickfergus		49.08	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390154	School Lane	[redacted]				Carrickfergus		47.89	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390155	School Lane	[redacted]				Carrickfergus		49.38	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390156	School Lane	[redacted]				Carrickfergus		49.52	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265385	199088	Submitted to Area Manager	Networks Water	NW42A	[redacted]		Unplanned Interruption	N/A		4	36	0			03/03/2021 17:04	03/03/2021 22:00	03/03/2021 19:30	03/03/2021 21:40	03/03/2021 21:45	03/03/2021 21:40	185390157	School Lane	[redacted]				Carrickfergus		49.63	9	0	0	9	(UPRN: 185390151) - School Lane, West Division, Carrickfergus, Antrim, [redacted]		C0537	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185920425	Dunnaval Road	[redacted]	[redacted]			Kilkeel		27.41	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185826634	Dunnaval Road	[redacted]	[redacted]			Kilkeel		27.41	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185826635	Dunnaval Road	[redacted]	[redacted]			Kilkeel		27.41	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329488	Dunnaval Road	[redacted]				Kilkeel		28.21	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329489	Dunnaval Road	[redacted]				Kilkeel		29.58	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329490	Dunnaval Road	[redacted]				Kilkeel		26.27	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329503	Dunnaval Road	[redacted]				Kilkeel		31.32	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329491	Dunnaval Road	[redacted]				Kilkeel		30.04	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329492	Dunnaval Road	[redacted]				Kilkeel		31.21	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329493	Dunnaval Road	[redacted]				Kilkeel		23.06	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185826636	Dunnaval Road	[redacted]				Kilkeel		30.35	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329494	Dunnaval Road	[redacted]				Kilkeel		30.21	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329501	Dunnaval Road	[redacted]				Kilkeel		29.01	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329495	Dunnaval Road	[redacted]				Kilkeel		29.06	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329504	Dunnaval Road	[redacted]				Kilkeel		35.04	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329505	Dunnaval Road	[redacted]				Kilkeel		30.57	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185826639	Dunnaval Road	[redacted]				Kilkeel		36.03	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329497	Dunnaval Road	[redacted]				Kilkeel		31.77	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329498	Dunnaval Road	[redacted]				Kilkeel		35.24	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	187356966	Dunnaval Road	[redacted]				Kilkeel		31.09	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329502	Dunnaval Road	[redacted]				Kilkeel		31.49	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329499	Dunnaval Road	[redacted]				Kilkeel		31.24	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	187315322	Dunnaval Road	[redacted]				Kilkeel		31.59	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	185329500	Dunnaval Road	[redacted]				Kilkeel		24.82	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	187637732	Dunnaval Road	[redacted]				Kilkeel		24.18	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265431	199117	Submitted to Area Manager	Networks Water	NW43B	[redacted]		Unplanned Interruption	N/A		4	45	0			08/03/2021 19:45	09/03/2021 01:00	08/03/2021 19:45	09/03/2021 00:30	09/03/2021 00:30	09/03/2021 00:30	187297608	Dunnaval Road	[redacted]				Kilkeel		25.34	22	3	1	26	(UPRN: 185329488) - Dunnaval Road, Dunnaval, Kilkeel, Down, [redacted]		C0482	FALSE		Burst Main/Main Repair
265548	199199	Submitted to Area Manager	Networks Water	NW44A	[redacted]		Unplanned Interruption	N/A		4	30	0			19/03/2021 20:15	20/03/2021 01:00	19/03/2021 20:15	20/03/2021 00:45	20/03/2021 00:45	20/03/2021 00:45	185838826	Liscabble Road	[redacted]				Newtownstewa		159.57	26	0	6	32	(UPRN: 185687729) - Woodland Road, Beltrim, Gortin, Tyrone, [redacted]		C1221	FALSE		Burst Main/Main Repair
265548	199199	Submitted to Area Manager	Networks Water	NW44A	[redacted]		Unplanned Interruption	N/A		4	30	0			19/03/2021 20:15	20/03/2021 01:00	19/03/2021 20:15	20/03/2021 00:45	20/03/2021 00:45	20/03/2021 00:45	185674950	Liscabble Road	[redacted]				Newtownstewa		178.58	26	0	6	32	(UPRN: 185687729) - Woodland Road, Beltrim, Gortin, Tyrone, [redacted]		C1221	FALSE		Burst Main/Main Repair
265548	199199	Submitted to Area Manager	Networks Water	NW44A	[redacted]		Unplanned Interruption	N/A		4	30	0			19/03/2021 20:15	20/03/2021 01:00	19/03/2021 20:15	20/03/2021 00:45	20/03/2021 00:45	20/03/2021 00:45	185674951	Liscabble Road	[redacted]				Newtownstewa		160.43	26	0	6	32	(UPRN: 185687729) - Woodland Road, Beltrim, Gortin, Tyrone, [redacted]		C1221	FALSE		Burst Main/Main Repair
265548	199199	Submitted to Area Manager	Networks Water	NW44A	[redacted]		Unplanned Interruption	N/A		4	30	0			19/03/2021 20:15	20/03/2021 01:00	19/03/2021 20:15	20/03/2021 00:45	20/03/2021 00:45	20/03/2021 00:45	185674952	Liscabble Road	[redacted]				Newtownstewa		168.17	26	0	6	32	(UPRN: 185687729) - Woodland Road, Beltrim, Gortin, Tyrone, [redacted]		C1221	FALSE		Burst Main/Main Repair
265548	199199	Submitted to Area Manager	Networks Water	NW44A	[redacted]		Unplanned Interruption	N/A		4	30	0			19/03/2021 20:15	20/03/2021 01:00	19/03/2021 20:15	20/03/2021 00:45

Appendix G – DG3 Register Extract *(Planned Interruption Property Records – IMS Report RPT1183)*

LastRun
20/04/2021 08:56

Event Id	Interruption Id User Friendly	Interruption Status	Managing Function	Field Manager Area	Event Creator	DG3 Creator	Interruption Name	Planned Warning Type	Planned Warning Date Time	Duration Hours	Duration Minutes	Duration Seconds	Planned Start Date Time	Planned Restoration Date Time	Actual Start Date Time	Unplanned Estimated Restoration Date	Unplanned Repair Commenced Start Date Time	Actual Supply Restored Date Time	Water Sampler Contacted Date Time	Unplanned Estimated All Properties	UPRN	PRIMARY THORFARE	BUILDING NUMBER	BUILDING NAME	SUB BUILDING NAME	SECONDARY THORFARE	TOWN	POSTCODE	DTM HEIGHT M	Affected Area Property	Affected Area Property	Affected Area Property	Total Affected Properties	Location	Property DMA	Third Party Caused Interruption	Third Party	Description
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185736652	Drumramer Road	[redacted]				Aghohill	[redacted]	78.55	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439836	Drumramer Road	[redacted]				Aghohill	[redacted]	91.86	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439849	Drumramer Road	[redacted]				Aghohill	[redacted]	85.77	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439850	Drumramer Road	[redacted]				Aghohill	[redacted]	78.66	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439837	Drumramer Road	[redacted]				Aghohill	[redacted]	82.6	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187228112	Drumramer Road	[redacted]				Aghohill	[redacted]	74.69	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187122943	Drumramer Road	[redacted]				Aghohill	[redacted]	74.83	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439846	Drumramer Road	[redacted]				Aghohill	[redacted]	84.27	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439783	Glebe Road	[redacted]				Aghohill	[redacted]	79.53	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439773	Glebe Road	[redacted]				Aghohill	[redacted]	79.33	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439785	Glebe Road	[redacted]				Aghohill	[redacted]	82.55	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439782	Glebe Road	[redacted]				Aghohill	[redacted]	84.87	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187265182	Glebe Road	[redacted]				Aghohill	[redacted]	86.6	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187423511	Glebe Road	[redacted]				Aghohill	[redacted]	84.33	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439775	Glebe Road	[redacted]				Aghohill	[redacted]	80.71	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187379867	Glebe Road	[redacted]				Aghohill	[redacted]	80.31	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439786	Glebe Road	[redacted]				Aghohill	[redacted]	80.31	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439776	Glebe Road	[redacted]				Aghohill	[redacted]	77	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439777	Glebe Road	[redacted]				Aghohill	[redacted]	75.38	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439778	Glebe Road	[redacted]				Aghohill	[redacted]	74.42	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185734473	Glebe Road	[redacted]				Aghohill	[redacted]	72.52	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439779	Glebe Road	[redacted]				Aghohill	[redacted]	71.16	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439780	Glebe Road	[redacted]				Aghohill	[redacted]	72.56	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187738386	Glebe Road	[redacted]				Aghohill	[redacted]	73.28	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		187423081	Glebe Road	[redacted]				Aghohill	[redacted]	75.88	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439697	Glebe Road	[redacted]				Aghohill	[redacted]	73.7	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439698	Glebe Road	[redacted]				Aghohill	[redacted]	75.11	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265495	199167	Submitted to DG3 Customer Services Coordinator	Capital Asset Delivery	NWA1B	[redacted]		Planned Interruption	Card drop	12/03/2021 14:00	4	50	0	16/03/2021 09:00	16/03/2021 16:00	16/03/2021 10:30			16/03/2021 15:20	16/03/2021 16:20		185439699	Glebe Road	[redacted]				Aghohill	[redacted]	74.85	22	1	5	28	[UPRN: 185439838]	Drumramer Road, Drumramer, Aghohill, Antrim, [redacted]	C0944	FALSE		New Mains Tie In
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187277752	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698753	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698752	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698755	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698747	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698750	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698754	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698751	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698749	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		187698748	Irish Quarter South	[redacted]		[redacted]		Carrickfergus	[redacted]	3.57	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385899	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.58	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385900	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.59	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385901	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.55	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385902	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.55	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385903	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.53	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385904	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.54	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
265605	199241	Submitted to Area Manager	Networks Water	NWA1B	[redacted]		Planned Interruption	Card drop	23/03/2021 13:00	4	55	0	26/03/2021 09:00	26/03/2021 16:00	26/03/2021 09:15			26/03/2021 14:10	26/03/2021 14:14		185385905	Irish Quarter South	[redacted]				Carrickfergus	[redacted]	3.49	12	1	9	22	[UPRN: 185385904]	Irish Quarter South, Carrickfergus, Carrickfergus, Antrim, [redacted]	C0036	FALSE		Burst Main/Main Repair
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265601	199244	Submitted to Area Manager	Networks Water	NWA2A	[redacted]		Planned Interruption	Card drop	23/03/2021 18:45	3	40	0	26/03/2021 09:00	26/03/2021 15:00	26/03/2021 12:20			26/03/2021 16:00	26/03/2021 16:15		187645232	Felden Place	[redacted]				Newtownabbey	[redacted]	29.89	18	0	0	18	[UPRN: 187645238]	Felden Place, Ballygolan, Newtownabbey, Antrim, [redacted]	C0026	FALSE		Burst Main/Main Repair
265601	199244	Submitted to Area Manager	Networks Water	NWA2A	[redacted]		Planned Interruption	Card drop	23/03/2021 18:45	3	40	0	26/03/2021 09:00	26/03/2021 15:00	26/03/2021 12:20			26/03/2021 16:00	26/03/2021 16:15		187645234	Felden Place	[redacted]				Newtownabbey	[redacted]	28.8	18	0	0	18	[UPRN: 187645238]	Felden Place, Ballygolan, Newtownabbey, Antrim, [redacted]	C0026	FALSE		Burst Main/Main Repair
265601	199244	Submitted to Area Manager

Northern Ireland Water

Level of Service Methodology

DG5 Internal Flooding

Contents

1. Introduction

Objective and Aim

NI Water must maintain verifiable records for DG5. The aim of the records is to provide an auditable method for identifying the specific, properties which are affected by flooding, or are at risk of experiencing flooding.

As part of these records companies must maintain a DG5 register which should form a database of all properties which are at risk of experiencing sewer flooding more than once in twenty years. It will enable the identification by address of individual properties which are below the reference level and should also contain information on (for example) complaints and the results of their investigation, problems which are attributable to customers apparatus and properties which experience sewer flooding but are covered by one of the allowable exclusions.

The register must clearly identify those properties below the reference level, distinguish them from those which have flooded but are not below the reference level and provide a verifiable reason for the exclusion (e.g. flooding was a result of a blockage).

The records should include:

- date of incident;
- properties affected identified by address;
- cause of flooding (including source and reason, where known);
- action taken;
- name of persons completing the records; and
- the 'Flooding' category for reporting under DG5.

Reporting Requirements

Two main outputs are required to be produced relating to internal flooding for AIR 21:

- DG5 Annual Flooding Summary – properties internally flooded as a result of overloaded sewers and other causes.
- DG5 Properties on the 'Flooding' register – properties at risk of flooding due to overloaded sewers, more frequently than once in twenty years and once or twice in ten years, requiring further investigation, problem status of properties on the register, annual changes to the register.

The information relating to the above is contained in Table 3 of AIR21.

2. DG5 Internal Flooding incidents – Methodology and Procedures

Internal

Data gathering and calculation is as described below.

Calculation Process - Lines 2 to 11,15a & 17

Data gathering and calculation is as described below in the Line- Specific Methodology Statements for Table 3: Lines 2 to 11,15a & 17.

Sources/Primary Process

Lines 2 – 11, 15a & 17 Properties and flooding incidents

A download of internal flooding records was obtained from the Ellipse system for the period April 2020 to March 2021 on a month by month basis.

Investigations were carried out for each reported incident and those properties found not to be flooded after investigation, using information from the Sewer Maintenance Contractor, Flood Incident Report (FIR) Forms, Field Manager reports, modelling provided by Drainage Area Plan consultant and contacting the Customers directly, are removed. The remaining properties were recorded as Flooding Incidents.

Assumption

For the purpose of AIR21, NI Water has assumed that a single incident includes recorded complaints from the same property on the same day or within three days.

'Three days' was chosen on the basis that a noticeable volume of repeat calls tends to be received within three days of an incident occurring. There is then a much longer passing of time before calls are again received from the same locality, suggesting that the original incident has passed and that the calls relate to a different incident.

An incident of internal flooding is assumed to be where a property has been flooded internally. If two adjacent properties are flooded at the same time they are classed as two properties and two incidents.

Where a single property floods internally on two separate occasions then this is recorded as one property and two incidents.

Sources/Secondary Process

1. Wastewater Business Unit (WWBU) carries out further investigations to determine the cause of every internal flooding incident.
2. WWBU assess the information held on customer report, Flood Incident Report (FIR), along with photographic evidence and closure details provided by the contractor.
3. WWBU determine if the cause of the flooding incident was hydraulic incapacity or flooding other cause, i.e. Blocked Sewer, Equipment Failure or Collapsed Sewer. This is done by a number of methods including site visits, concentric circle surveys, Customer Field Manager reports, modelling provided by Drainage Area Plan consultant, customer interviews, field manager interviews and review of existing incident information.
4. If hydraulic incapacity is confirmed a Met Office Weather report is used to determine if the incident is as a result of severe weather (Line 4).
5. These properties were then recorded on a spread sheet under the appropriate categories for lines 2, 3, 4, 4a, 5, 6, 8, 9, 10 and 11 using the information gathered from, the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly. A folder of evidence was created for all confirmed cases and this was brought to the monthly DG5 panel for approval and addition to the appropriate section of the register. At the end of the reporting year this was the data used for AIR returns.
6. The figure for line 7 was obtained by having a report run in the DG5 Oracle Database which holds the information as a DG5 layer in the GIS system.
7. The required information to populate Line 17 is extracted directly from the monthly spread sheet completed by the contractor.

3. Internal Flooding Register

Internal Flooding Process

All internal flooding incidents are subjected to a robust investigation (See Appendix A – NI Water DG5 Internal Flooding Register Methodology). An expert panel (the DG5 Panel) examines the evidence for each incident and governs the addition of properties to, and the

removal of properties from, the register. Those records that do not meet the DG5 Criteria are recorded in the 'excluded' section of the Database. All new incidents of external flooding are being investigated in a similar manner as the Internal flooding incidents.

The register is held as an Oracle database within the Corporate Asset Register – specifically as a GIS layer on CARtomap.

Methodology applied to the completion of Table 3

Lines 12-15: the numbers have been extracted from the DG5 Oracle database

Line 16: the number has been extracted from the DG5 Oracle database

Lines 22-25 and 30-33: A folder is created (within the Asset Management section of the company network) for each addition, removal or transfer of a property. The lines were populated from an analysis of these folders; the analysis was cross-checked against the minutes of the monthly DG5 Panel meetings.

Lines 26 and 34: The 'Enhanced Service Levels' element of the capex cost was obtained from the CAPTRAX system for each relevant project and aggregated. This total cost was then divided by the number of properties removed.

Mitigation

Properties protected from the risk of flooding by mitigation measures, such as non-return valves have been added to the 1 in 20 Register (unless evidence existed to allow addition to the 1 in 10 or 2 in 10 register).

All such properties are currently the subject of four Engineering Procurement appraisal projects – which seek to identify permanent solutions at the locations.

Additions to the Register and Transfers within the Register

A folder of evidence was created for all confirmed DG5 flooding properties and this was brought to the monthly DG5 panel meetings for their approval and addition to the appropriate section of the register.
Similarly transfers between the register categories (**2 in 10, 1 in 10 and 1 in 20)** are brought to the attention of the DG5 Panel at the monthly meetings for approval.

Prioritisation of capital schemes

No formal prioritisation process is applied.

All capital works projects are submitted to the NI Water Capital Investment Panel for approval before implementation.

Properties which have not flooded in the last 10 years

Properties remain on the Register which have not flooded in the past 10 years (excluding severe weather).

Appendix A NI Water DG5 Internal Flooding Register - Methodology

DG5 Internal Flooding Register - Methodology

Final v1.1

08 June 2015

1 Main Contributors	2 Aspect/Section	3 Notes
[redacted]	Draft	
[redacted]	Final	

4 Bid/Project Code: 41514657	5 Document No: 0.6	Controlled Copy No: *(in COLOUR – not black)*

Revision No	Date	Description/Amendment	Checked	Reviewed	6 Authorised for Issue
0.8	26 Feb 11	Revise to include improved approach	[redacted]	[redacted]	
1.0	31 Mar 12	Finalised ahead of sign-off by DG5 Panel	[redacted]	[redacted]	[redacted]
1.1	08 Jun 15	Minor revisions and new FIR form inserted	[redacted]	[redacted]	[redacted]

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9 CLEARLY MARK THEM AS "SUPERSEDED".

10 Introduction

10.1 Background

This document provides guidance on how the successful management of the DG5 Internal Flooding Register, within Northern Ireland (NI) Water, should be carried out. Where possible, this document complies with Ofwat and Northern Ireland Authority for Utility Regulation (NIAUR) Guidance.

10.2 Scope and Objectives

This document is owned by NI Water and describes the end-to-end business process by which a property that has experienced internal flooding is added to, and removed from the DG5 Internal Flooding Register. It will support NI Water in the development and implementation of its DG5 reporting processes and long-term management of the Register.

The purpose of this methodology is to ensure that a fully transparent, auditable process is in place for the management and maintenance of the DG5 Internal Flooding Register for NI Water in order to report to NIAUR.

11 Definitions

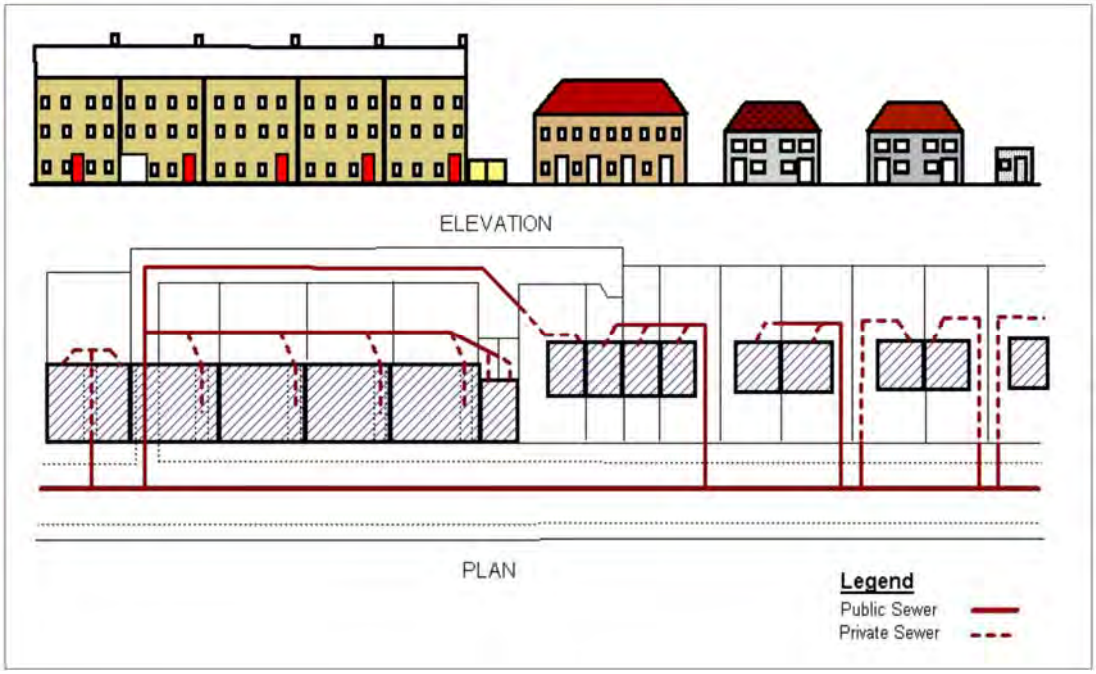
The following definitions are to be applied when recording and reporting properties and incidents held on NI Water's DG5 Internal Flooding Register.

Northern Ireland Water is only responsible for internal flooding caused by failure of the public sewerage system. This excludes private sewers, highway drainage, gullies, land drainage, and watercourses.

11.1 Legal Definitions

11.1.1 Public and Private

Northern Ireland Water is responsible for internal flooding caused by failure of the public sewerage system. The status of a sewer (i.e. whether public or private) is depicted below.



Drains; are defined as a pipe which carries waste water (sinks, baths, toilets etc.,) and trade wastes from one property to a sewer. Northern Ireland Water has responsibility for a drain up until the point of the property boundary. The length of drain within the boundary of the property lies with the property/landowner.

Public sewers; are defined as sewers serving more than a single property or, if serving a single property, sewers outside the property boundary and has been adopted, only then does responsibility lie with Northern Ireland Water.

11.1.2 Adopted and Unadopted Sewers

An adopted sewer is a sewer that is vested by NI Water and maintained at its expense. An unadopted sewer is a sewer that is either privately owned or has not yet been adopted by NI Water.

11.1.3 Third Party Responsibility

A third party incident is one where Northern Ireland Water could take action to recover costs from those responsible. Incidents due to third party attributed to hydraulic overload of the public sewerage system are significant unconsented discharges e.g. industry, leisure, domestic (swimming pool).

Where NI Water has gathered evidence that flooding of a property has occurred due to the actions of a third party, the company will attempt to recover the costs of implementing a the temporary or permanent solution.

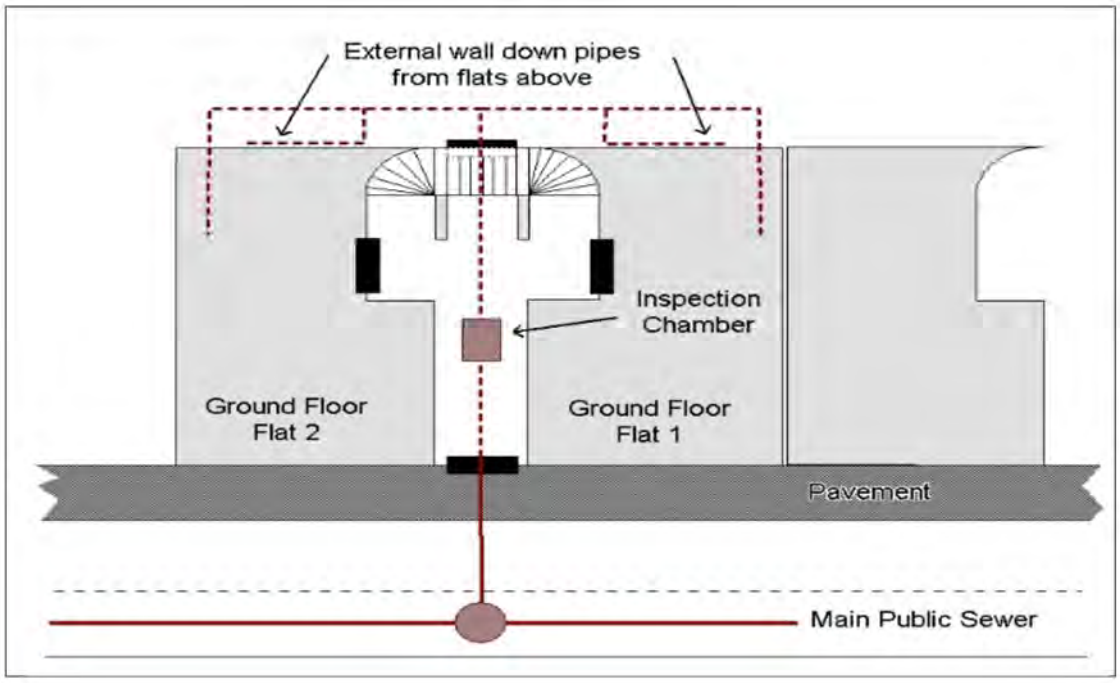
11.1.4 Basement Flooding

Customers do not have a right to connect wastewater discharges from a basement directly into the public sewerage. If a customer wishes to connect, then Northern Ireland Water will carry out investigations to confirm that by connecting the basement discharge to the public system it does not put the property at risk, because of existing conditions within the sewerage system. Written confirmation of the investigations will be given to the customer.

If a customer connects without obtaining the necessary planning permissions, then they do so at their own risk. Northern Ireland Water does not accept any responsibility for any resultant flooding incident. If basement flooding occurs due to hydraulic overload (and the customer has the right to connect) then this property will be identified as impacted by internal flooding and will be added to the appropriate register.

11.1.5 Apartment / High Rise Responsibilities

Incidents, which occur on the private drain, i.e. within the apartment block, are the responsibility of the residents. Should a flooding incident occur on the ground floor then those properties affected can be classed as internal flooding if appropriate. All other properties would be classed as external access flooding.



11.1.6 Sensitive Areas

Sensitive areas include, schools, hospitals, children play areas, nursing homes and properties of vulnerable customers. A property's sensitivity may have an impact on the prioritisation of when the solution to the internal flooding is implemented.

11.1.7 Property Classification

For reporting purposes, the following statements relate to property classification:

- Buildings that are normally occupied and used for residential, commercial, public, business or industrial purposes are included. This also includes garages that form an integral part of the property and are classed as part of the building even if the main purpose is storage.
- Buildings whose prime purpose is storage or installation of domestic appliances are not classed as occupied.
- Detached or 'linked-detached' garages i.e. those attached to a property but separated from it by an external passageway are excluded.

- A cellar forms an integral part of a building that is at least partly below ground level. Where a cellar is in regular use as part of normal living accommodation, it is termed a basement and any flooding should be reported as a normal flooding incident. Where an uninhabited cellar, i.e. one that is not used for habitation, is affected by water entering it directly (as opposed to via another part of the building) this has to be separately enumerated.

In order to ensure that the correct assessments on properties are made the following diagrams and pictures show the definitions for internal flooding against various property types;

- **Property with integral garage**
- Therefore either area flooded will be classed as internal flooding
- Flow entering the solum or living area would be classed as internal flooding and only that property recorded.

Villa – Ground Floor and 1st floor properties
Flooding to the solum of the ground floor flat will mean that only that property will be identified as suffering from internal flooding.
If the 1st floor flat is accessed via a door which enters immediately into the property and is also affected by flood water, then this will also constitute internal flooding and both will be identified as an internal flooding incident

- **Basement Property**
- A cellar that is in regular use as part of normal living accommodation is termed a basement and any flooding should be reported as a normal flooding incident.
-
-

Apartment Block
Internal Flooding would normally be contained to the ground floor flats. Individual properties affected by internal flooding will be identified and recorded. Flooding of the internal access will not be classed as internal property flooding for the remaining tenants. These will be classed as external flooding (access).

- **Semi-detached** properties with **detached** garage.
- Flooding of the garage would not be classed as internal flooding.

- **Detached** or **'linked-detached'** garages i.e. those attached to a property but separated from it by an external passageway.
- Flooding of the garage would not be classed as internal flooding.

11.1.8 Temporary and Permanent Solution

A temporary solution is defined as one which does not permanently remove the risk of flooding but reduces the risk of internal flooding happening.

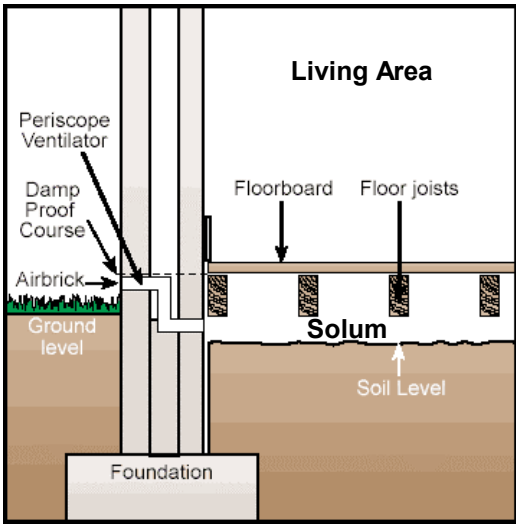
A permanent solution is defined as one that permanently addresses the cause of the hydraulic overload. Permanent works would enable a property to be removed from the DG5 Internal Flooding Register.

Examples of temporary and permanent solutions include;

Temporary Solutions	Permanent Solution
Fitting of anti-flood devices e.g. Non-Return Valve (NRV)	Land re-profiling
Air brick protection	Disconnect basement
Raising of Thresholds	Divert private drainage or public sewer
Bolt down inspection chambers	Isolate with private pumping station
Seal / bolt down manholes	Fill in hollow floors and cellars
Stop Logs	Flow attenuation
Issue of sandbags	Outfall protection e.g. flap valve
uPVC doors	Sewer Upsizing
Flood guards	'Right to purchase'

11.2 Internal Flooding Definition

A property can be deemed affected by an internal flooding incident when foul, combined or surface water escapes from the public sewerage system into a property and enters a building or passes below a suspended floor. The diagram below shows a cross section through a suspended floor.



For DG5 reporting purposes, internal flooding refers to buildings which are normally occupied and used for residential, public, commercial, business or industrial purposes. Buildings whose prime purpose is storage or installation of domestic appliances are excluded. Refer to Section 2.1.7 for Property Classification.

11.2.1 Restricted Toilet Use

Restricted Toilet Use (RTU) occurs where there is no internal flooding but where the customer us unable to flush their toilet without a risk of causing internal flooding of the property.

11.3 Flooding Cause Definition

11.3.1 Introduction

Flooding generally occurs through a combination of events and responsibility can lie with a number of different parties. Possible reasons for flooding can include:

- Blocked or overloaded drainage ditches, drains and sewers overflow across roads, gardens and into property.
- Hydraulic incapacity can on occasion cause sewers to backflow into a property.
- Rain can be so heavy that run-off flows overland down hills and slopes.
- Rain soaks into the ground causing groundwater levels to rise and flood.
- Broken or burst water mains (normally leading to basement flooding rather than property flooding above ground level).

Customers do not always distinguish between the various causes of flooding. In order to deal with an incident efficiently, it is imperative that call centre staff ascertain the cause and mechanism of the flooding. This ensures that appropriate action can be taken and the risks to the company minimised.
The cause of flooding will be determined by call centre staff asking the customer a set of pre-set questions from a call centre script.

11.3.2 Flooding due to Hydraulic Incapacity

A sewer can be classed as hydraulically incapable when the flow from a storm is unable to pass through it due to a permanent problem. Permanent problems are due to limitations in the physical characteristics of the network, generally the size of the sewer relative to flow and gradient. Properties affected by internal flooding due to hydraulic incapacity shall be placed within relevant flooding severity category unless there is evidence to prove that the flooding was due to 'Other Causes' or severe weather. Temporary problems are excluded and comprise of: Blockages, Collapses, Equipment Failure.

11.3.3 Other Causes Flooding

'Other Causes' are related to localised deficiencies and transient characteristics of the network. The main causes are:

- blockages
- collapses
- equipment or operational failure

These incidents are reported separately to NIAUR, but stored within the excluded section of DG5 Internal Flooding Register.

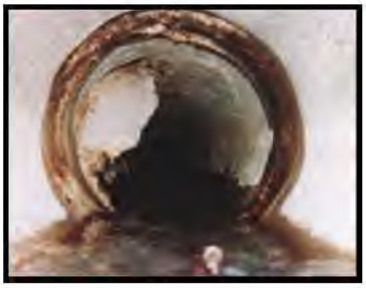
11.3.4 Blockages

A sewer blockage can be attributed to a number of factors, including siltation, fat, roots, and debris, as shown below.

For regulatory reporting, silt, fat, roots debris are all classed as a blockage. However, it is important that the actual cause of the blockage is recorded within the incident record. The response to each of these might require a different solution. For example, a persistent fat problem may require trade effluent control or persistent siltation problems may need to be added to the de-siltation programme for that area.

11.3.5 Collapsed Sewer

In the context of the indicator a collapsed sewer, is a sewer that creates a restriction or induces a blockage, e.g. fracture, deformation, intruding junction. A rising main burst is also classified as a collapse. An example of a collapse is shown below.



11.3.6 Equipment Failure

Equipment and operational failures can be attributed to power outages, inadequate maintenance regimes, a change to operating regime other than that designed for, mechanical or electrical failure.
Where a pumping station has failed then distinction must be made between network and terminal stations, as well as the criticality or size band of the station indicated.

Where a pumping station can be seen to be overrun by the incoming flows and can be shown to be operating within its design parameters then this may be an indication of severe weather or inflow from another source e.g. watercourse, tidal, ground water infiltration etc.

If the pumping station can be seen to be beaten by in coming flows in non-severe weather conditions and can be shown to be operating within its design parameters consideration should also be given to the possibility that the capacity of the pumping station has been exceeded, i.e. the sewer network now suffers hydraulic incapacity. Properties flooded internally as a result of such situations shall be classed as DG5 reportable.

Flooding caused by failure of an anti-flood device on a private connection, e.g. NRV, should be ascribed back to the underlying cause, hydraulic incapacity, and recorded as an internal flooding incident.

11.3.7 Third Party Causes

A third party incident is one where Northern Ireland Water could take action to recover costs from those responsible. These can include the discharge of material into the public system causing a blockage, or equipment failure, vandalism, network impacted by a third party e.g. a builder or other statutory utility.

It is important that causes beyond the reasonable control of the company are identified and described especially where a claim might be pursued against a third party. If permanent improvement or temporary operational works for Northern Ireland Water causes internal flooding then this must also be recorded and the reasons given as to why it happened.

The Flood Investment Planning Group is made up of Northern Ireland Water, Rivers Agency, Roads Service and Local Councils could provide a useful forum in which to establish responsibility for disputed third party flooding.

11.3.8 Increase in Demand

Increase in demand is defined by Northern Ireland Water as predicted growth, which exceeds the available headroom within the network on the trigger event.

Verified hydraulic models shall be used to identify properties at risk of flooding as a direct result of development/ growth based on the Local Area Plan. This analysis is generally an output from a Drainage Area Study (DAS). No other analysis on demand is carried out.

11.4 Flooding Class Definition

- 1 in 10; is applied to reported flooding location due to hydraulic incapacity during a rainfall event with a return period between 5 and 10 years.
- 2 in 10; is applied to reported flooding location due to hydraulic incapacity during a rainfall event with a return period of 2 in 10 years i.e. <5 years, or has actually flooded twice within a 10 year period.
- 1 in 20; is applied to reported flooding location due to hydraulic incapacity during a rainfall event with a return period between 10 and 20 years.
- Severe Weather; locations refer to a reported flooding incident with a return period greater than 20 years.
- Flooding Other Causes; is applied to reported flooding locations where the cause of flooding has been found not to be hydraulic incapacity i.e. blockages, collapses, third party or equipment failure causes.
- Removed due to Company Action; is applied to reported flooding locations where NI Water has constructed a permanent solution to remove the risk of flooding
- Removed due to Better Information; is applied to reported flooding locations where information has been obtained which proves that the cause of flooding was not due to incapacity in the sewer system.

Internal Flooding Register – Governance

11.5 General

The NI Water DG5 Internal Flooding Register contains information on internal flooding incidents caused by the hydraulic incapacity of sewers, and properties at risk of experiencing internal flooding. NI Water's Asset Management section (AMS) is the owner of the DG5 Internal Flooding Register.

The information recorded on properties affected by internal flooding or those at risk of experiencing flooding constitutes a legal register for reporting to the NIAUR. The information contained within must be verifiable and available for audit.

NIAUR requires NI Water to produce an annual DG5 Report summarising the required DG5 information. NI Water is also required to maintain a DG5 Internal Flooding Register which holds information on properties at risk of flooding, once in twenty years and once or twice in ten years due to the hydraulic incapacity of sewers. NI Water must also report on each flooding category status of each property on the register and all annual changes to the register.

The DG5 Internal Flooding Register will contain the information required to prepare Table 3, of the Annual Information Returns (AIR). This information can be accessed via the reporting function on the DG5 incident and property database.

The DG5 Internal Flooding Register has been developed from records that date back to 1990 and the increasingly robust investigation of 'live' incidents from 2008 onwards.

11.6 Governance

Maintenance of the DG5 Internal Flooding Register and AIR reporting is the responsibility of AMS and the Network Sewerage Business Unit (NSBU). Clear definition of responsibility for actions, analysis and records within the DG5 Internal Flooding Register has been entrusted to the appropriate sections within NI Water. The stakeholders and their responsibilities have been defined within this methodology.

This end-to-end DG5 business process outlined in this document, and attached in Appendix A, will ensure that responsibilities and performance measures are in place to ensure the quality of information captured and maintained is consistent at all levels through the process.

The DG5 Panel has responsibility for approval of additions to and removals from the register, while also ensuring that the reporting processes and outputs remain robust enough to meet the reporting requirements of NIAUR. Responsibilities for the internal DG5 flooding reporting process will be reviewed on an annual basis and updated accordingly.

12 Internal Flooding Register – Business Process

12.1 Notification of Internal Flooding Incident to Call Centre

All flooding incidents are recorded through a series of different source collection methods in NI Water's asset inventory management system. This happens by customers reporting flooding incidents via our Customer Call Centre. The call handlers will establish if the incident is the responsibility of NI Water and then confirm with the customer that the incident was indeed internal flooding and record it on NI Water's call management system. A Caller Log is created with the incident information then passing to NI Water's Work Control Centre staff who distributes the relevant work order to the appropriate contractor for action. This step takes no longer than one week to complete.

12.2 Initial Investigation by Network Sewerage Business Unit

The NSBU will initiate the first phase of investigations once an internal flooding incident has been reported. Evidence gathered at this initial stage is passed to Asset Performance (AP) for further investigation/verification. The process that NSBU follow is outlined below;

- Reported Internal Flooding Incidents are downloaded from the company's asset inventory management systems and interrogated, with duplicates removed.
- Information held on Customer Reports and Flooding Incident Reports are assessed along with photographic evidence and previous flooding records to ascertain if the reported incident is internal flooding.
- NSBU to carry out further investigations to determine if the cause of flooding incident was hydraulic incapacity or due to other causes, i.e. Blocked Sewer, Equipment Failure or Collapsed Sewer. This is done by a number of methods including site visits, concentric circle surveys, customer interviews and review of existing incident information. If flooding is due to other causes, the property is placed in the excluded section of the DG5 Internal Flooding Register. (Investigation methods are outlined in Section 4.2)
- If hydraulic incapacity is confirmed NSBU use a weather report to determine if the incident is as a result of severe weather. If severe weather is confirmed the property is excluded. The same weather report, along with historic records (if applicable), is used to categorise non-severe weather incidents into one of three storm return categories – 1:20, 1:10 and 2:10. In addition properties that suffer from RTU, due to hydraulic incapacity, are also recorded. (Storm Return Categories and RTU explained in Section 4.2.10 and 4.2.11).
- Once NSBU have completed the above stages a folder of evidence is compiled and forwarded to AP for further investigation/verification.

12.3 Identification of additional properties by Engineering and Procurement

In addition to the weekly flooding incident download by NSBU, Asset Delivery (AD) will forward a monthly report detailing any newly identified DG5 properties to NSBU for investigation. These potential DG5 properties will be identified from on-going Capital Works Programme (CWP) Schemes. This step is completed on a monthly basis.

12.4 Further Investigation by Asset Performance

AP receives all fully investigated and categorised DG5 Properties from NSBU on a monthly basis. AP carryout further detailed investigations to verify the investigations undertaken by NSBU. Detailed investigations can include modelling, DAS, customer questionnaires, Geographical Information System (GIS) assessments and topographical surveys.

AP carryout the following investigative process;

- Assess the history of flooding incidents at each property to confirm the NSBU flooding report. Historic assessments may include investigations of reported external incidents, extreme weather event records and incidents confirmed at adjacent properties.
- Interview the Operational Area Field Manager (FM) to confirm that the property has a history of internal flooding. AP also seeks advice from the relevant FM as to the cause of the internal flooding to aid in further investigations.
- Use GIS to assess the position of the sewer network.
- Carryout site topographical surveys of the sewer network and surrounding area.
- Interview the property owner with pre-set questions in DG5 Internal Flooding Questionnaire.

- Assess existing network model, i.e. DAS, for predicted flooding to verify if property floods under specific flooding scenarios.

Once AP has completed the above stages a report will be compiled summarising the evidence gathered including recommendations. If hydraulic incapacity is confirmed the evidence will be presented to the DG5 Panel to propose adding the property to the DG5 Register.

Note; if the cause is still unknown after the course of investigations and the internal flooding is major and frequent enough to warrant a thorough investigation, then a Project Consideration Form (PCF) will be raised to propose a feasibility study.

12.5 Approval of Additions by DG5 Panel

The DG5 Panel review the evidence brought before them and decide whether to add the property to the DG5 Internal Flooding Register. If the Panel members need more evidence, the property will be returned to AP for further investigation, and then re-submitted to the Panel for consideration. This step is completed once every month.

12.6 Update of Asset Information Records

The DG5 Panel Secretary will digitise all flooding incidents approved by the DG5 Panel onto the DG5 Layer of the company's GIS System, and update the DG5 incident and property database with the associated incident.

12.7 Initiation CWP Project by Asset Performance

The DG5 Panel forward all new additions to the DG5 Internal Flooding Register to AP to initiate the CWP process. Asset Performance cross-check existing CWP Schemes to ensure the property is not included in an on-going project. A PCF will be created to begin the CWP process.

Once the relevant section of the scheme is complete a DG5 Beneficial Use Form is sent from EP to AP, where a check against drainage area studies carried out to establish if the reported flooding has been resolved. If a resolution to the flooding is confirmed AP prepare supporting evidence to present at DG5 Panel for removal from the DG5 Internal Flooding Register

12.8 Approval of Removal by DG5 Panel

If a property is to be removed from the DG5 Internal Flooding Register due to 'Company Action', a Beneficial Use Form must be presented as evidence. If a property is to be removed due to 'Better Information' a folder of evidence must be presented outlining the reasons. This is completed once every month.

This clear and strictly controlled process will govern the movement of each property as it is investigated. Each stage described above can be seen in Appendix A.

13 Internal Flooding Register – Administration, Additions and Format

This section provides guidance on how properties at risk of flooding due to the hydraulic incapacity of sewers are categorised within the DG5 Internal Flooding Register.

13.1 Rules Governing Internal Flooding Register

The following rules govern the DG5 Internal Flooding Register and describe how a property is added and removed from the register. Property additions and transfers must follow the appropriate procedure as described below. (Property removals are discussed in section 7).

13.1.1 Additions to Internal Flooding Register

This procedure must be followed for all new flooding incidents received through the weekly NSBU download (see Section 3.2). These incidents will usually have occurred recently, although it is possible new information may cause a historic event to be reclassified.

- All properties that have been affected by internal flooding, caused by hydraulic incapacity, must be reported in the DG5 Internal Flooding Register. Properties flooded due to Other Causes (Blockage, Collapse or Equipment Failure) will be placed in the 'excluded' section of the same register and reported in Table 3 of the AIR.
- First time flooding where hydraulic Incapacity is confirmed shall be supported by weather reports and any supporting DAS data.
- A property affected by internal flooding as a result of hydraulic incapacity is categorised by the severity of the rainfall event and how often flooding has been recorded.
- All properties affected by flooding due to hydraulic incapacity will be investigated to ensure that each property or area flooded is accounted for within the appropriate category.
- For repeat incidents, supporting meteorological data will be required only if there is significant difference in the number of properties affected within the same location or if an event is deemed to be severe. An increase in frequency will affect the prioritisation and in some instances the register category of some or all properties affected.
- If the event was due to 'Severe Weather' the properties are placed in the 'excluded' section of the DG5 Internal Flooding Register.
- Where a property has flooded as a result of failure of a mitigation device, it should be reported as an equipment failure.
- Only if a basement has a 'right to connect' to the public sewerage system and has flooded can it be identified as being affected by internal flooding and categorised appropriately.
- If the flooding is shown to be outside Northern Ireland Water's responsibility (Third Party), it is excluded from the DG5 Internal Flooding Register and flagged appropriately within the exclusion register.
- Properties added due to better information are placed in the DG5 Internal Flooding Register when flooding has been identified for the first time, usually as a result of network analysis, greater local knowledge or following customer contact.

13.1.2 Sources of Information

Historic information can be used with discretion in order to support or understand the full extent of a flooding incident.

If properties are found to have historically flooded when carrying out a study within a catchment (e.g. DAS) then details should be captured and the appropriate information passed to NSBU. Supporting information would include:

- The use of verified hydraulic models.
- Site and level Information.
- Customer interviews.
- Shared information between other relevant bodies e.g. Local Authorities.

Information can also include the following:

- Flooding at a property being caused by blockages/ equipment failure rather than hydraulic incapacity. Acceptable supporting data would be date stamped CCTV, or static photographic evidence.
- Severe weather classification – data provided by weather reports
- Customer Interviews
- Flooding shown to be caused by a Third Party.

13.1.3 Investigations where Hydraulic Overload is suspected

After a flooding incident has occurred it is recorded and passed to NSBU who will carry out further investigative work to ensure that the cause, mechanism and impact of flooding is identified and analysed as soon after the event as is practicable.

This process will ensure that:

- The most appropriate action is taken.
- Where necessary a cost-effective solution proposed.
- Flooding regulatory registers are maintained with accurate and up to date information.

13.1.4 Incident Investigations

Initial site investigations will be carried out by the Contractor, co-ordinated by Networks Sewerage Section. The number of properties affected by the incident and the extent of the other external areas will be recorded regardless of the cause.

If the cause cannot be attributed to 'other causes' i.e. through CCTV, visual inspections, jetting, customer liaison or third party, then a request for further investigation will be submitted via the work order. This request will be submitted to the Contractor, by Networks Sewerage for action.

13.1.5 Network Review

This is primarily a desktop exercise to review all available information on the site and relevant assets. This will include information on the catchment through existing asset management plans, DAS, hydraulic modelling, feasibility studies, MET office data analysis, and previous cluster data if a repeat incident.

If there are known operational hot spot areas then further work on capacity checks, assessment of hydraulic model predictions and historic information will be needed. A network review will only be carried out in detail where the mechanism of flooding is unclear or where the rainfall data and impact is inconsistent with other evidence.

13.1.6 Sites Investigations

These are carried out as soon as is practicable after the incident happening. This is to ensure that the necessary evidence is gathered as close to the event as is practicable.

Site investigations may also show that there is evidence to prove that unreported flooding has occurred. Investigations are carried out using the concentric circle methodology, where investigations will start at the property affected by internal flooding and work outwards to adjacent properties in all directions. This will ensure that all affected properties are captured and recorded, allowing the full scale of the internal flooding to be realised. This approach will be repeated for every property identified for each incident.

13.1.7 Customer Questionnaires

Customers can provide useful information on the events leading up to, during and after an incident has occurred. Where appropriate a customer questionnaire should be completed.

13.1.8 Weather Reports

Weather reports will only be requested if:

- It is a first time flooding incident.
- There is low confidence in understanding the problem.
- It is a repeat incident and there is a significant disparity between the numbers of properties recorded by recurring incidents.
- Severe weather is suspected

Use of weather reports to categorise properties

- Properties will be categorised as 'excluded due to severe rainfall' if the weather report identifies the storm during which the internal flooding occurred as having a return period of greater than 1 in 20 years.
- Properties will be placed in the 1 in 20 register if the weather report identifies the storm during which the internal flooding occurred as having a return period of 1 in 20 years or less and greater than 1 in 10
- Properties will be placed in the 1 in 10 register if the weather report identifies the storm during which the internal flooding occurred as having a return period of 1 in 10 years or less and greater than 1 in 5

- Properties will be placed in the 2 in 10 register if the weather report identifies the storm during which the internal flooding occurred as having a return period of 1 in 5 years or less.

13.1.9 New Hydraulic Model Builds

If a hydraulic model does not exist and the extent of the problem cannot be determined from site investigations then a model may need to be commissioned.

Note: Prior to any major capital investment a verified hydraulic model should be used for solution development.

13.1.10 Localised Enhancements to Existing Models

Where a hydraulic model exists, then it may be necessary to carry out some localised enhancements. This process may include manhole survey, and / or dis-aggregation of the network prior to any solution development. The validity of the enhancements to the model must be checked in that area against the original verified model.

13.1.11 Conversion Factors

There are a number of situations where conversion factors must be applied when calculating the DG5 value of larger premises and buildings. Normally a single property or house is considered to constitute one DG5 property. This approach assumes the single property is of typical size, with a typical number of appliances discharging into the sewer network.

For larger premises and buildings that are likely to have more appliances a conversion factor needs to be applied for the full DG5 value of the property to be realised and prioritised accordingly. Properties that are classed as large commercial premises should have the conversion factor applied.

The DG5 value will be calculated by adding together all the loading units for all the appliances in the building and dividing this figure by 24 to produce the DG5 equivalent.

Water Fitting (See note 1)	Loading Units
WC Flushing Cistern	2
Wash Basin in a house	1.5
Wash Basin elsewhere	3
Bath (Tap nominal size 20mm)	10
Bath (Tap nominal size lager than 20mm)	22
Shower	3
Sink (Tap nominal size 15mm)	3
Sink (Tap nominal size larger than 15mm)	5
Spray Tap	0.5
Bidet	1.5
Domestic Appliance (subject to a minimum of 6 LU's per house) (See note 2)	3
Communal or commercial appliance	10
Any other water fitting or outlet (including a tap – but excluding a urinal or water softener)	3

Note 1; Reference to any fitting includes reference to any plumbing, outlet, dedicated space or planning or other provision for that fitting

Worked Example – 1 Alanbrook Road, Belfast (Thales Factory)

Water Fitting	No. per property	Loading Unit	Total
WC flushing cistern	46	2	92
Wash basin in a house	0	1.5	0
Wash basin elsewhere	0	3	0

Bath (tap nominal size 20 mm)	0	10	0
Bath (tap nominal size larger than 20 mm)	0	22	0
Shower	4	3	12
Sink (tap nominal size 15 mm)	70	3	210
Sink (tap nominal size larger than 15 mm)	0	5	0
Spray tap	0	0.5	0
Bidet	0	1.5	0
Domestic appliance	0	3	0
Communal or commercial appliance	0	10	84
Any other water fitting or outlet (including a tap – but excluding a urinal or water softener)	10	3	30
			428

DG5 Equivalent;

428 / 24 = 17.83 (rounded up to 18 units)

13.1.12 At Risk Categories

Properties are placed under one of the following three categories in the DG5 Internal Flooding Register:

1 in 10 – Frequency of flooding once in 10 years; Properties are classified here if either:

- The property has flooded once in 10 years from non-severe rainfall events
- The property has flooded from a single event shown to be less than a 10-year return period storm but more than a 5-year return period storm. (weather report required)

2 in 10 – Frequency of flooding twice in 10 years; Properties are classified here if either:

- The property has flooded more than once in 10 years from non-severe rainfall events
- The property has flooded from an event shown to be less than 5-year return period (weather report required)

1 in 20 – Frequency of flooding once in 20 years; Properties are classified here if either:

- This is the default category for all historical flooding properties coming into the register.
- The property has flooded from an event shown to be less than 20 year return period but more than 10 years. (weather report required)

Properties that have previously flooded and are included in the DG5 Internal Flooding Register but which have since not flooded in the last 10 years during a non-severe rainfall event, will be placed into the 1 in 20 category.

13.1.13 Timing Out

Properties can move between the different DG5 Internal Flooding Register categories, if they have not had a repeat flooding incident over a certain period of time.

Properties at risk of flooding internally due to hydraulic incapacity will move between the flooding register categories on a 'timing out' basis, as follows:

- If a '2 in 10' property does not suffer repeat flooding, caused by hydraulic overload, within 6 years it will be downgraded to '1 in 10'.
- If a '1 in 10' property does not suffer repeat flooding, caused by hydraulic overload, within 11 years it will be downgraded to a '1 in 20'.
-

13.1.14 Restricted Toilet Use

RTU is an NIAUR AIR reporting requirement. Properties suffering from RTU are placed in one of the three categories discussed in Section 4.1.12, and recorded in the AIR.

13.2 Format of Internal Flooding Register

13.2.1 Record Data held on each Property

The records held on each property on GIS will include at least;

- Date of Incident
- Property Address – Property Number, Street Name, Town and Postcode
- Grid Reference
- Sewer Type
- Asset causing flooding incident
- Library of Documented Evidence for addition
    - Field Manager Report, GIS Map, Incident Report, Ellipse Report, Met Office Report (if applicable) and Confirmation of CCTV
- Library of Documented Evidence for removal
    - DG5 Beneficial Use Form

13.2.2 Property and Incident Unique Identifiers

A DG5 incident number is used within the DG5 Internal Flooding Register and all related registers as a unique identifier to distinguish one incident from another.

Structure of DG5 Property and Incident Numbers

- DG5P – corporate indicator that the record is a DG5 Property
- 0000001 – unique seven figure number for each DG5 Property
- DG5I – corporate indicator that the record is a DG5 Incident
- 0000002 – unique seven figure number for each DG5 Incident

The generated seven figure number is unique for both DG5 Properties and Incidents and no two DG5 Properties or Incidents can have the same seven figure combination.

All historic and new DG5 properties will be assigned a DG5 incident number, using the above format. DG5 Property and Incident numbers will be allocated in order of date added to the register.

14 Internal Flooding Register – Periodic Maintenance

Periodically the register should be assessed to check for the following:

- Properties that have been recorded as flooding but have not had a repeat flooding after 10 years will be demoted to the 1in 20 category within the register but they are not automatically removed from the register.
- Comprehensive audits of the DG5 Internal Flooding Register must be carried-out annually (or when necessary) to ensure the information held within is accurate and reflects what has happened throughout the year.

15 Internal Flooding Register – Solutions

15.1 Permanent Solutions

A permanent solution to flooding risk is dependent on the cause. Where the problem can be isolated, a quicker and cheaper permanent solution could be implemented. However, this is not always the case and a permanent solution can take several years to construct due to the solution development, design, and tendering and construction process.

In some cases the cost involved to rectify a problem will far exceed the benefits. This means that where the solution cost exceeds a certain level per property then other action may need to be considered i.e. 'Right to purchase', 'Mitigation' or 'Do nothing' alternative.

A permanent solution will enable a property to be removed from the register.

Permanent solutions can fall into one of the following categories:

- Sewer upsizing and flow attenuation; these types of solutions require a hydraulic model and extensive data collection and analysis to understand the extent of the problem and therefore identify the appropriate cost effective solution.
- Property isolation; if a single or small number of properties are shown to be affected then where the cost of other more traditional solutions far exceed the benefit then isolation may be seen as the most appropriate long term solution.
- Right to Purchase; it is not NI Water's normal policy to purchase a customer's property. However, where there is extreme and persistent flooding the most cost-effective solution may be seek to purchase the at risk property.

15.2 Mitigation and Contingency

Mitigation will be considered where the costs of capital schemes are high or where permanent works are not planned in the short term. Where it is appropriate to do so, mitigation measures can offer customers some degree of protection against internal flooding from the public sewerage system i.e. reduce the frequency of incidents.

Mitigation measures can be applied to either persistent internal flooding or where there is severe flooding to sensitive areas. However, mitigation measures will not enable a property to be removed from the register. Where a property has flooded as a result of failure of a mitigation device it should be reported as equipment failure.

Properties with mitigating measures installed to prevent internal flooding will be defaulted into the 1:20 category of the DG5 Internal Flooding Register and will be prioritised accordingly for solution.

15.3 Prioritisation and Cost Benefit Analysis

The company does not at present carry out cost benefit analysis on DG5 projects. However to allow prioritisation of schemes the process set out below is proposed.

- Review of existing CWP to ensure DG5 related programmes of work are captured.
- Assessment of DG5 Register to develop prioritisation methodology relative to frequency and impact.
- Receipt and analysis of feasibility studies to compliment prioritisation matrix including cost details.
- Review to ensure alignment with Regulatory Reporting on AIR and CIM returns.

16 Internal Flooding Register – Removals

A DG5 Property can be removed from the DG5 Internal Flooding Register when one of the solutions described below has been implemented. This will usually be triggered by construction of a CWP Scheme, or new information on the causes of historic events. Removal of a property from the register can only be done through a formal business process and where there is a justifiable reason, supported by sound evidence.

These properties will have supporting documentation to demonstrate that the grounds for removal have been met. This evidence will be presented to the DG5 Panel for formal removal of a property. Solutions to be considered before property removal from the register can be approved include;

- Permanent Solution; where a permanent solution has been constructed and is in beneficial use, the Capital Programme Team will present a DG5 Beneficial Use Form to the DG5 Panel as a record of confirmation of the flooding scheme completion. This will include the properties to be removed and cost of solution apportioned to flood prevention. The Beneficial Use Form will be approved by the DG5 panel members, and the identified properties removed from the DG5 Internal Flooding Register. They will in turn be re-categorised as removed due to 'company action'. The property will remain in this category of the register indefinitely or until such a time as the property floods again.
- Minor Works; where there has been evidence of asset deterioration, e.g. subsidence or through third party interference and a minor asset improvement project has been completed to rectify the flooding issues. Evidence that the flooding has been resolved will come from the appropriate FM and signed off by the DG5 Panel members.
- Better information - Severe weather; the event causing the property to be on the DG5 Internal Flooding Register is confirmed to have > 20 year return period (i.e. severe) and supported by appropriate meteorological or DAS investigation data.
- Better information - Flooding due to Third party; where investment on the sewer network would not prevent a repeat internal flooding incident and NI Water does not have responsibility for the problematic sewer the properties should be removed from the DG5 Internal Flooding Register. The details should be recorded in the AIR commentary. However, if the responsibility for the problematic sewer is shared with NI Water, then the property remains on the Register.
- Better information - Flooding is due to other causes; where it can be confirmed that flooding has occurred due blockage, collapse or equipment failure details will be recorded as 'other causes' within the excluded section of DG5 Internal Flooding Register.

Note: Mitigation will not enable a property to be removed from the register.

Finally, errors can happen;

- Error, identified by Audit or Investigation. Where an error can be clearly shown to have occurred, then the property can be removed.
- Operational improvements are an unlikely explanation for justifying removal of properties from the register. Therefore any supporting data must be robust, for example, CCTV data. In the case of permanent solution then the property would be removed.

17 Annual Information Returns

The DG5 Internal Flooding Register will contain the information required to prepare Table 3, of AIR. The information required for the AIR will be retrieved from DG5 Internal Flooding Register.

- AMS will report on internal flooding incidents due to hydraulic incapacity held in the DG5 Internal Flooding Register.
- NSBU will report on internal flooding incidents due to other causes held in the 'excluded' section of the register
- AMS and NSBU will collaborate closely when compiling the AIR for internal flooding.

Appendix 1 – **Asset Performance Customer Questionnaire**

Northern Ireland Water
Asset Performance
Asset Management
Westland House
Old Westland Road
BELFAST
BT14 6TE

Tel: 08458 770002
Fax: 028 2566 3131
Email: [redacted]
www.NI Waterater.com

Owner/Occupier

Email
Your Ref
Our Ref
Date

Dear Sir/Madam

SEWER FLOODING AT THE ABOVE ADDRESS

I refer to your complaint of sewer flooding on, and would be very grateful if you could help me with the following pieces of information:

- Was the flooding internal (e.g. in the house or attached garage) or external?
- What was the cause of the flooding?
- Has it been resolved by Northern Ireland Water or others?
- What way was it resolved (if known)?
- If it is still occurring, when did it last happen?

Could you please respond by calling me on my mobile (xxx) or emailing me. Your assistance in this matter will be much appreciated.

Yours faithfully,

[redacted]
Asset Performance

Appendix 2– **Asset Performance DG5 Determination Report**

	ASSET PERFORMANCE DG5 DETERMINATION REPORT
Name and Address (Add BT Code)	
Incident Date	
Flood Type	
Rainfall Report	
Ellipse Notes	
CEMS Notes	
Customer Comments	
F.M. Comments	
Restricted Toilet Use	
Other Information Sources e.g. Pollution Reports, WWPS alarms, Captrax, Flooding Incident Reports, CCU etc.;	
GIS Assessment	
Existing Sewer Details	
Type of sewer	
Diameter (mm)	
Material Type	
Year Laid	
Sewer Location	
CCTV Carried Out	
Sewer Desilted	
Comments	
Topographical Assessment	
Possible Number of Other Properties Involved	
Flooding Mitigation (NRV's etc. ;)	
Drainage Area Catchment	
D.A.S.is Network Model Available	
DAS is there Predicted Flooding	
Summary	
Determination	
Signed	
Date	

Appendix 3– **DG5 Flooding Incident Report**

Northern Ireland Water – Flooding Incident Report

Work Order Ref No: ___ Name: _____

Location: _____

Date: _____ Arrival time: _____

1) Internal Flooding: ☐

Main Sewer	☐	Lateral Sewer	☐
Adjacent properties flooded	☐	Attached garages flooded	☐
Basements/Cellar flooded	☐	Restricted Toilet use	☐
Kitchen	☐	Hallway	☐
Living room	☐	Dining room	☐
Shop/integral store	☐	Downstairs bathroom	☐

2) External Flooding: ☒

Main Sewer	☒	Lateral Sewer	☐
Public road/footpath	☐	Public area	☐
Agricultural land	☐	Curtilage	☒
Detached garage flooded	☐	Detached shed or store flooded	☐

3) Comments on cause of reported incident: (Select only one category below)

Blockage	☒	Collapsed sewer	☐
Defective road gulley	☐	Defective private drain	☐
M&E equipment failure	☐	Other:	

4) Clean up operations:

Not Required ☐ Further Action Required ☐ Completed ☒

5) Previous History:

Yes ☐ No ☒ Not Aware ☐

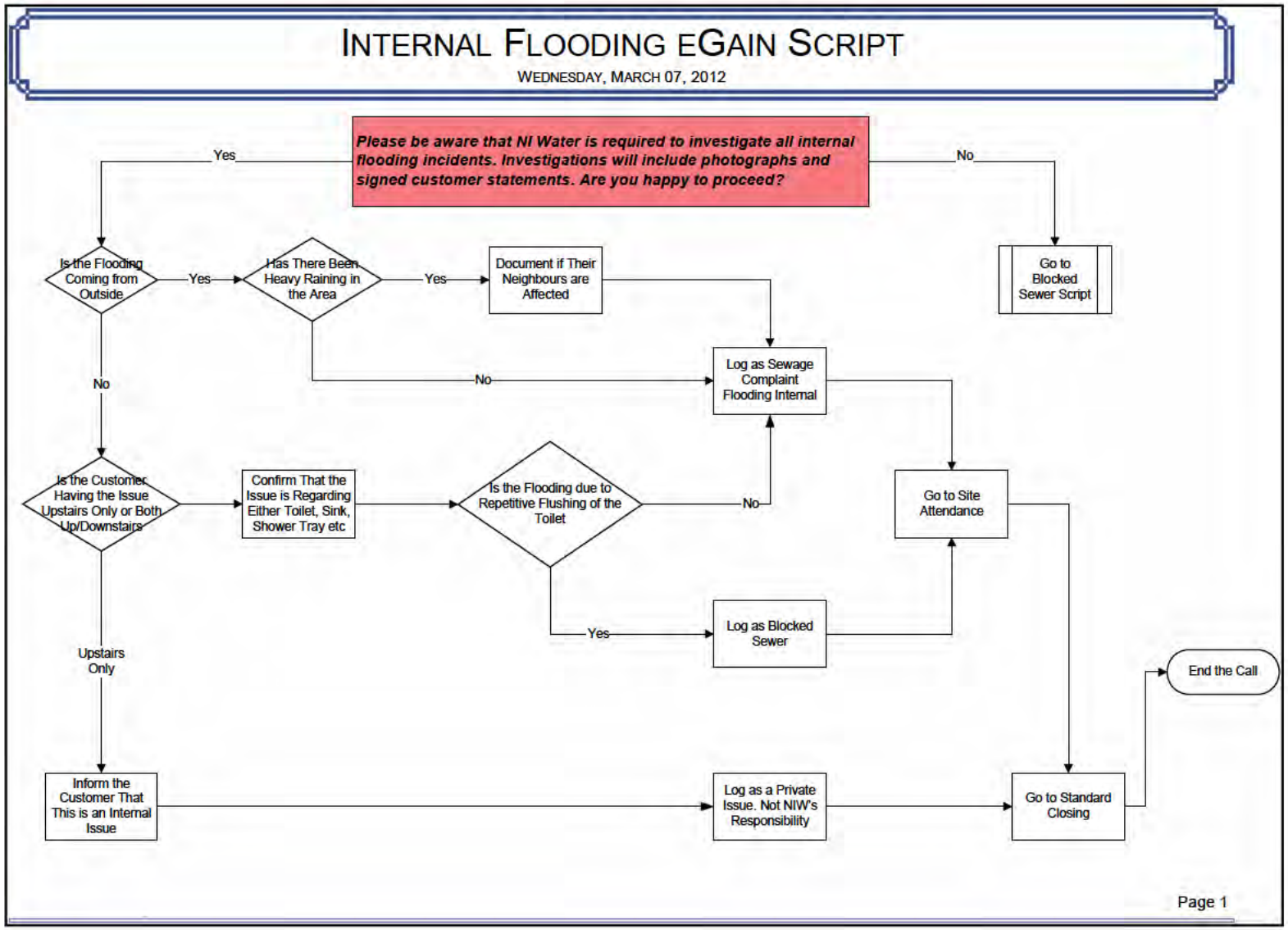
6) Weather Conditions:

Dry ☐ OR Wet ☒: Heavy ☐ Medium ☐ Light ☒

Comments: Especially for Flooded jobs or Follow on jobs

PHOTO FOR FLOODED JOBS:

Appendix 4– **Call Centre DG5 Caller Script**


INTERNAL FLOODING EGAIN SCRIPT
WEDNESDAY, MARCH 07, 2012
Please be aware that NI Water is required to investigate all internal flooding incidents. Investigations will include photographs and signed customer statements. Are you happy to proceed?
Yes
No
Is the Flooding Coming from Outside
Yes
Has There Been Heavy Raining in the Area
Yes
Document if Their Neighbours are Affected
Go to Blocked Sewer Script
No
No
Log as Sewage Complaint Flooding Internal
Is the Customer Having the Issue Upstairs Only or Both Up/Downstairs
Confirm That the Issue is Regarding Either Toilet, Sink, Shower Tray etc
Is the Flooding due to Repetitive Flushing of the Toilet
No
Go to Site Attendance
Yes
Log as Blocked Sewer
Upstairs Only
End the Call
Inform the Customer That This is an Internal Issue
Log as a Private Issue. Not NIW's Responsibility
Go to Standard Closing
Page 1

Copy of DG5 Register

Project No	Scheme Title	GIS CODE	Address	Post Code	Register	Scope of Work	Feasibility Da	PC Year
KR444	Sydenham Upgrade (Interceptor Sewer)					Major Scheme regarding building a tunnel in East Belfast and also side works. Feasibility on going.		PC21
		DG5P0002528	[redacted]	[redacted]	1 in 20			
		DG5P0002529			2 in 10			
		DG5P0003700			2 in 10			
		DG5P0003663			2 in 10			
		DG5P0003664			2 in 10			
		DG5P0003665			2 in 10			
		DG5P0002667			2 in 10			
		DG5P0003784			2 in 10			
		DG5P0003781			2 in 10			
		DG5P0003782			2 in 10			
		DG5P0003701			2 in 10			
		DG5P0003702			2 in 10			
		DG5P0003569			2 in 10			
		DG5P0003014			2 in 10			
		DG5P0003699			2 in 10			
		DG5P0003789			2 in 10			
		DG5P0003666			2 in 10			
		DG5P0003667			2 in 10			
		DG5P0000045			1 in 20			
		DG5P0003668			2 in 10			
KR444	Stand Alone Scheme.	DG5P0000131			1 in 20			
		DG5P0000191			1 in 20			
KR442	Glenmachan Street, Belfast					Feasibility Study being carried out.	29/08/2014	PC21
		DG5P0000629			1 in 20			
		DG5P0000630			1 in 20			
		DG5P0003763			2 in 10			
		DG5P0002659			2 in 10			
KR500	Glenmachan Greystown Ave/Upper Malone Road, Belfast					Feasibility Study being carried out.	30/05/2014	PC15
		DG5P0000004			2 in 10			
		DG5P0000634			2 in 10			
		DG5P0000635			1 in 20			
		DG5P0003762			1 in 20			
		DG5P0000540			2 in 10			

Sheet2

Northern Ireland Water

Level of Service Methodology

DG6 Response to Billing Contacts

DG6 RESPONSE TO BILLING CONTACTS

Methodology and Procedures

Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to Echo Managed Services (Echo). Echo is the provider of CBC services to NIW.

DG6 response to billing contacts (Process Summary):

1. Telephone Contact (go to step 4) or Documentation received (in Capital House)
2. Documentation opened by the Echo Payment Processing Team and passed to the NIW Customer Support Team
3. Scan and Index (documentation only which is archived after scanning)
4. Raise and allocate CMS contact type
5. Assess and Investigate
6. Update and compose response

All customer response letters are printed by NIW Contacts Team and dispatched locally. Exceptions to this include correspondence generated through DSTI which are bills (including recalculated bills) and automated recovery letters / correspondence. The process for printing and distribution of bills and other stationery on a daily basis is detailed below:

Items generated in Rapid:
Information received and updated by the agent, (which automatically updates the system), may trigger the system to create an item of stationery. The agent can also take a course of action (which will manually update the system) and may also trigger an item of stationery. This may include receipt of a leakage form from the customer, Data Protection Letter, Transfer of Responsibility etc. All such contacts are recorded as closed as at the date of dispatch.

The BSA team, within Echo, reconciles numbers of bills, letters and forms and sends all relevant items of stationery created the previous day through to DSTI for printing. These are signed-off, printed, enclosed and prepared for pick-up by TNT. Currently only bills, recovery notices and letters are handled this way. For DG6 reporting purposes the date of resolution of the item or date of the substantive response is used as the closure date.

Definitions

A billing contact covers any communication from a customer or their representative (on receipt of written permission from the customer as per data protection) regarding a customer account which requires a response or an action by NIW and does not constitute a written complaint. A customer's representative may be a solicitor, Citizens Advice Bureau, local MLA, or stakeholder representative, e.g. Ulster Farmers Union or CCNI.

Billing contacts can be received by telephone, in writing, by e-mail, by fax, by personal visit or written on a piece of company correspondence, for example a bill which is returned to NIW. Offensive or abusive written contacts are not included.

A billing contact not received in writing is a DG6 event. A written communication however, may be classified as a DG6 or DG7 event. Where the content or tone of written communication indicates an element of dissatisfaction, however mildly worded or unjustified, it should be classified as a written complaint and reported under DG7.

Billing contacts include calls that are made to pay a bill as this will result in an action being taken on the customer's account.

Email / Faxes: When an e-mailed, faxed or hand delivered contact is received after 16:30 it will be scanned, logged and indexed on the next working day. The date of receipt recorded will match the actual date of receipt.

Emails and faxes, which can be sent at any time, that are received outside or normal operating hours shall record the receipt date as the date it was delivered to the company. For example, if an email is received on a Saturday this is recorded as day 0. The next working day (Monday) would be counted as day 1. If an email is received on a Sunday then this is recorded as date of receipt – day 0 and Monday as day 1.

Exclusions

A query relating to billing for domestic customers, including the provision of meters is not a DG6 contact, as domestic customers are not billed by NIW.

For reporting purposes, other exclusions are:

- Written complaints (these are handled as DG7);
- Correspondence from banks re direct debits (clarified with NIAUR as excludable);
- Contacts logged in error;
- Freedom of Information requests;
- Calls relating to septic tanks and septic tank payments (these are non-appointed);
- Calls relating to new connections, not yet completed; and
- Copy correspondence from and to NIW personnel.
- Correspondence relating to payment processing, e.g. BACS notifications, payment giros and remittance advice notes.

Multiple Accounts

NIW received clarification from the Regulator as to how contacts from customers with multiple accounts should be logged, so as not to over or understate the DG6 position.

Therefore, for reporting purposes, a DG6 contact received; by a customer holding multiple accounts with NIW that is requesting an update to their standing account details will be recorded as 1 DG6 event on 1 account and as a non-reportable event on the remaining accounts.

End of year (contacts not dealt with at end of year)

As per NIAUR guidance, if a billing contact is not resolved by the time the year end report is run, the contact is included in the total number of billing contacts received for the year in which it is received.

The contacts which are open at end of year are included in the reported figures for the number dealt with within 5 working days. This is based on the assumption that a holding response has been issued within 5 working days and that the reported date of closure will, at the point of final resolution, be backdated to the date on which the holding response was issued.

It was later verified that, per the assumption above, each of those contacts still open at yearend were closed in line with the aforementioned methodology with a reported closure date within 5 working days of receipt.

Further, the response time for any open billing contacts received within the reporting year is reported to be within 5 working days based on the assumption that a substantive holding response has been issued for each by working day 5. On resolution of the billing contact, these billing contacts will be closed back to the date of the holding response. A sample of 70 of the 355 open DG6 contacts were checked to see if they had a holding letter issued on or before working day 5 and 100% of the 70 sampled did.

Auditing

Internal Audits – This process falls within Echo's Quality Management system and is audited several times a year under ISO9001/2000.

Performance and the achievement of Billing enquiries are recorded as per the Contact Handling Expected Service Levels which are measured monthly in accordance with *Contract Schedule 2.2*. Detailed monthly monitoring reports of actual performance are generated by Echo within CorVu and presented in the Monthly Business Review Pack (MBRP) to NIW within 5 working days of the end of each month covering lines 1.1.1 to 1.1.9 in accordance with schedule 8.4.

Validation of DG6 figures provided by Echo are carried out monthly by NIW in accordance with *Contract Schedule 2.2* and recorded in the "NIW Response to the Monthly Business Review Pack" document which is published for comment and review. Any discrepancies on monthly DG6 performance are raised with Echo and escalated.

Echo regularly performs quality reviews against contacts received to ensure contacts are dealt with correctly. Although no documentation is made available to NIW, regular reviews are carried out by Team Managers within Echo, including:

- Weekly call listening;
- Monthly scoring based on call listening and feedback to individual agents;
- Coaching and feedback; and
- Daily monitoring of all billing contacts with team feedback when necessary.

NIW conduct monthly bill accuracy checks and report their findings to Echo by randomly selecting 100 bills issued each month and analysing them for accuracy, including:

- Accuracy of standing charges, sewerage and water charges;
- Bill total agrees with supporting pages;
- Correct application of VAT;
- Customer details are correct; and
- Correct bill type is used.

Any discrepancies are logged and sent to Echo for review.

CSD Services MI and Data Team performs a call listening exercise on a monthly basis. Each month a random selection from the total calls received is made. This selection includes both billing and operational calls. Billing calls are assessed for:

- For accuracy;
- To determine if memo contents are clear and precise;
- To ensure the conversation is accurately recorded on Rapid; and
- To ensure correct use of CMS code.

Any findings are reported back to Echo management through the Response to the MBRP.

An end to end process review is carried out by internal audit.

Sources of information

System used

The telephony system comprises of a suite of Avaya products and a Call Media ACD. The Avaya switch is tightly integrated with the Call Media platform which provides CTI (Computer Telephony Integration) and ACD (Automatic Call Distribution). Calls can be automatically routed to appropriately skilled agents ensuring a quality response to the customer, at first point of contact. NICE is the call logging system.

The software comprises of Call Media Enterprise Console with an integral reporting suite which distributes calls based on skills sets and SLA's.

Written correspondence is date stamped at point of receipt by Echo (unless received after 16:30), scanned on a (Kodak i 620 scanner) and indexed. This safeguards security and minimises administration. Once correspondence is scanned it is indexed and batched with an allocated batch number. The scanned image is then available to Rapid Users.

All contacts received should be recorded on Rapid. Reports from CorVu are generated by Echo, validated by NIW, and are used to report on DG6 performance.

Actual data

Actual data is extracted from the billing system RapidXtra using CorVu. CorVu 'DG6 Received QRY (Live)' is used to calculate the total number of DG6 contacts received (table 4, line 1) and to calculate the DG6 closed performance (table 4, lines 2-5). DG6 data analysis is produced monthly and re-run for the entire reporting year, providing the necessary information essential for the Director General's reporting requirements.

Sampling

Actual data is used to report DG6 performance (table 4, lines 1-5). Sampling is only used by NIW for data quality purposes and to provide comfort around the assumption that DG6 contacts open at year end will be closed back to a holding letter issued on or before working day 5.

Reliability

All data is taken from the main billing system to ensure it is reliable and accurate.

Responses

This is defined as a response to a billing contact which may be by telephone, written correspondence or personal visit. Responses will provide the following:

An explanation of NIW's relevant policy or procedure and indicates why, in NIW's opinion, no further action on the customers billing contact is required; or

Informs the customer when action on his/her account will be taken if action cannot be taken immediately due to circumstances beyond NIW's control, for example customer needs to obtain clearance from third party, such as a landlord.

Whichever type of response is dispatched it must substantively answer all points raised by the customer and be recorded and date stamped.

Use of telephone

The telephone is the company's preferred method of responding to a billing enquiry. All DG6 related telephone calls should result in a CMS memo being raised and coded by the agent according to the individual enquiry. An audit trail of the response will be recorded on the billing system (Rapid) as a memo with a CMS type. A full record of the actual conversation and its outcomes is held on Call Media. A CMS is created on Rapid and contains information including:

- CMS type;
- Customer name;
- Customer address;
- Telephone contact;
- Query details; and
- Action required.

Use of letters

Letters are only used when it is not possible to deal with the customer by telephone, when a written reply has been requested by the customer and when it is deemed more appropriate by the agent. Telephone calls not dealt with at first point of contact are dealt with by the Echo CRC Workflow department. A CMS is created on Rapid and contains information including:

- CMS type;
- Customer name;
- Customer address;
- Telephone contact;
- Query details; and
- Action required.

Holding letters are sometimes used but are customised by the agent. They are held within Rapid and are posted directly to the customer and not through DSTI.

Use of personal visit

If a DG6 telephone contact requires a personal visit, (e.g. a meter query team site visit), the agent will raise a CMS contact. This will be transferred to the Echo CRC Workflow Team who takes ownership for resolution and closure of the contact. The Echo CRC Workflow Team agent will send a holding letter to the customer once the visit request has been raised. It is this date/time of this letter that is used for closure.

Response time

This is the number of working days between receipt of a contact by NIW up to and including the day of despatch of a response. For the purpose of this calculation, the day of receipt; provided it is a working day; is counted as day zero and the next working day as day one.

Emails and faxes, which can be sent at any time, that are received outside or normal operating hours shall record the receipt date as the date it was delivered to the company. For example, if an email is received on a Saturday this is recorded as day 0. The next working day (Monday) would be counted as day 1. If an email is received on a Sunday then this is recorded as date of receipt – day 0 and Monday as day 1.

CCNI

Written billing contacts received via the Consumer Council for Northern Ireland (CCNI) office on a customer's behalf are included.

Holding reply

This is defined as a response to a billing contact which advises the customer that NIW will need to undertake additional research or other actions before being able to respond to the customer's contact. A holding reply is counted as a substantive response if it informs the customer what further action needs to be taken to respond to the query and includes a date by which investigations or further actions will be complete and by when the customer will receive a further communication from NIW.

A holding reply will close a contact for DG6 reporting purposes but not for NIW until all actions have been taken. NIW provides a reply within 5 working days of the customer contact and a further holding letter is sent, if there is a delay in finding a resolution. The company will include the number of days in which they will contact the customer again. Enquiries and follow up questions will not be counted as a DG6 contact.

Other Issues

Please refer to DG6 Company Commentary.

Northern Ireland Water

Level of Service Methodology

DG7 Response to Written Complaints

DG7 METHODOLOGY 2020/21

Methodology and Procedures

Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to Echo Managed Services. Echo Managed Services (Echo) are the provider of CBC services to NIW. Written complaints are dealt with in-house by the NIW Customer Services Centre function. Customer Support Agents within the Complaints & Executive Mail Team scan, log & index documentation whilst Customer Service Officers within the team case-manage and respond to the written complaints.

The following high level process steps are followed:

- documentation received (in Capital House);
- documentation opened by Payment Processing (Echo) who separate payments & non-customer documentation before passing the remainder to Customer Support;
- documentation sifted into DG6, DG7 and non-reportable categories;
- documentation date stamped, scanned, logged & indexed by Customer Support;
- CMS contact raised to the NAS Account Services inbox in RapidXtra (Customer Billing & Contact Management System) and case raised in OEBPM (upgraded version of the BPM solution);
- cases allocated to Customer Service Officers;
- Customer Service Officers assess, investigate and case-manage the complaint as appropriate;
- request for information and/or action sent to relevant part of the business; then
- review information provided by business, update accounts, draft & issue response.

Allocation to DG7

Written complaints are recognised from all other correspondence by following the definition of a written complaint as set out in the Reporting Requirements and Definitions Manual. All incoming written correspondence is passed to Customer Support. It is then sifted and categorised as DG6, DG7 or non-reportable according to the Utility Regulator's definitions. Following that, it is date-stamped, scanned, logged and indexed by Customer Support.

The reported response times for all written complaints are derived from the RapidXtra database. All written complaints, with the exception of exclusion categories detailed herein, are included in this total.

Definitions

A DG7 complaint is defined as any written communication from a customer or customers' representative (e.g. Citizens' Advice Bureau, solicitor), alleging action or inaction, or service or lack of a service on the company's part or that of its agent or contractor has fallen below the expectation of the customer – even if written in mild and friendly terms. This includes any expression of annoyance or dissatisfaction by the customer, or disagreement with the company.

Written complaints include letters, e-mails and faxes.

Also included are:

- second or subsequent complaints;
- general complaints;
- complaints that may seem unfair or frivolous;
- complaints received by Consumer Council for Northern Ireland; and
- complaints written on returned Company letters or stationery (e.g. bills).

Should the Company receive a petition, it is classed as a DG7 contact and the Company will respond only to the customer who has sent in the petition. This will be classed as one complaint although the complaint and the response letter will be archived against the account of each customer that has signed the petition where practical.

Exclusions

The following are excluded from DG7:

- cheques and stubs;
- written DG6 billing queries;
- all other Company mail;
- complaints that are sent anonymously;
- complaints that are offensive or abusive;
- complaints referring to non-appointed activities;
- complaints returned alongside customer satisfaction surveys;
- complaints not about the services and functions of the Company (e.g. complaints about executive salaries, advertising campaigns);
- complaints about the activities of other utilities (for example signage around trenches);
- complaints about recreational and amenity activities not defined as duties imposed by the Water and Sewerage Order 2006; and
- Public liability claims (although any related complaint should be included as normal).

End of Year (contacts not dealt with by end of year)

As per UR guidance, if a complaint is not resolved by the time the year-end report is run, the complaint is included in the total number of complaints received for the year in which it is received.

Further, the response time for any open complaints received within the reporting year is reported to be within 10 working days based on the assumption that a substantive holding response has been issued for each by working day 10. On resolution of the complaint, these complaints will be closed back to the date of the holding response.

Auditing

Each complaint also undergoes a series of quality assurance checks. The first is carried out by the Customer Service Officer who has been allocated the case.

They check that the case has been:

- correctly categorised as DG7;
- coded using an appropriate CMS code; and
- logged to the correct account(s).

The Customer Service Officer verifies that the information received from within the business is suitable to use in response to the complaint before the reply is drafted.

Once the response has been drafted, it is subject to a self-assessed Quality Assurance check during which adherence to an agreed Letter Writing Checklist is tested.

The Complaints & Exec Mail Team Manager/Supervisor performs further monthly sampling of contact categorisation to ensure accuracy. These additional monitoring systems check:

- DG7 categorisation;
- CMS description; and
- Advice Code for closed complaints (existence of and; accuracy of).

Sources of Information

Complaints are sorted into the relevant categories, date-stamped, scanned, logged then indexed, therefore ensuring security and minimising administration.

Each complaint received is scanned using the Fujitsu FI 6670 scanner. At the end of each "batch" of correspondence scanned, a batch number is allocated. The images can then be viewed by Customer Support on their PC and indexing can begin. During indexing the following details are input:

- Property and/or Customer reference;
- Date of receipt;
- CMS group;
- CMS description; and
- Document type

The Operator ID is automatically populated based on which member of Customer Support log the correspondence. At the indexing stage the scanned items are categorised, allowing the CMS description to be applied.

Changes in system during the reporting year

There were no major changes to the key systems in 20/21.

Actual Data

Actual data is extracted from the billing system RapidXtra using CorVu. CorVu 'DG7 Received QRY (Live)' is used to calculate the total number of DG7 contacts received and to calculate the DG7 closed performance. DG7 data analysis is produced monthly and re-run for the entire reporting year, providing the necessary information essential for the reporting requirements.

Sampling

Sampling is not used in compiling received data for DG7. Sampling is only used by NIW for data quality purposes.

Reliability

All data is taken from the main billing system to ensure that it is reliable and accurate.

Responses

Upon receipt of a complaint, we ensure that relevant action is undertaken, provide a substantive response and ensure the contact is closed on the Customer Contact Management System (RapidXtra).

NIW replies to all written complaints, regardless of the sensitivity of the issue or subject raised by the customer.

Our responses do one or more of the following:

- provide an explanation of our policy or procedure and indicate why no further action is required;
- inform the customer that action to resolve the complaint has been taken and identifies when this action occurred;

- informs the customer when the action to resolve their complaint will be taken if it cannot be done immediately e.g. capital works programme scheduled for completion in the future;
- answer all issues or questions raised by the customer.

Use of Telephone

Where appropriate, telephone calls are used to respond to written complaints. Telephone calls are also used to update customers as the progress of complaints under investigation. The customer account on RapidXtra is annotated with details of the call in these cases.

Use of Standard Letters

Standard letters are not used to respond to complaints - all responses are personalised and customised.

Use of Personal Visit

When a personal visit is used to respond to a written complaint, a letter confirming the content of the visit is provided to the customer. The date of the visit is used as the date of response.

NI Direct

Complaints received through NI Direct are not reported.

Telephone Complaints

Complaints received via telephone are reported as DG9 telephone complaints, not DG7. Billing telephone complaints are reported as DG6.

Date of Receipt

Written complaints are date-stamped per the date of receipt.

Date of Dispatch

The date of dispatch refers to the date on which a response is sent to the customer. The date of dispatch is recorded as the date closed.

Response Time

This is the number of working days between receipt of a contact by NIW up to and including the day of dispatch of a response. For the purpose of this calculation, the day of receipt (provided it is a working day) is counted as day zero and the next working day as day one.

When an email or fax is received after 16:00 it will be logged using the actual date of receipt, not the date on which it is scanned.

The reported date of receipt for emails/faxes received outside of normal operating hours is the actual date on which the complaint was delivered to the company. For example, if an email is received on a Saturday, this is recorded as day zero. The next working day (normally the Monday) would be counted as day one. If an email is received on a Sunday then this is recorded as date of receipt (day zero) and (normally) Monday as day one.

Substantive Holding Reply

This is defined as a response to a written complaint which advises the customer that NIW needs to undertake additional investigation or other actions before being able to provide a full response. A holding response is considered substantive if it advises the customer what

further action needs to be taken in order to fully respond, when this will be done and when they will receive a further communication from NIW.

Items remain open until all actions have been completed but will be closed back to the date of the holding response for reporting purposes when said actions have been completed.

When a date by which investigations or further actions will be complete cannot be given, we will give the date by which we will update the customer.

Holding responses can be issued in writing or provided by telephone.

Repeat Contact

Where a complaint has been responded to and results in a period of correspondence each written contact is treated as, and reported as, a separate complaint.

This is done even if NIW consider the complaint has been dealt with as far as we are able.

Consumer Council for Northern Ireland (CCNI)

Complaints received in writing via CCNI will be logged as complaints and recorded in DG7 figures. All complaints from CCNI are received in writing.

CCNI enquiries and follow-up questions are not recorded as complaints.

Complaints to or about Contractors

Complaints made directly to contractors about work carried out on our behalf are recorded following notification to NIW through agreed process. Such complaints will be recorded even they are handled directly by the contractor.

Complaints about contractors received directly by NIW are reported even if they are referred to the contractor to deal with.

Holding Response & Frequency

Monitoring systems have been in place throughout the reporting period to support recording on the number holding responses issued throughout 20/21.

System-based report data was used to derive the number of holding responses issued between 01/04/20 and 31/03/21.

In cases where the investigations were on going by the expiry date of the initial holding response, a further holding response will have been issued.

Based on the recorded data, we can say that one (or more) holding response was sent in relation to 207 DG7 contacts received in 20/21. Therefore, it can be concluded that one or more holding response was issued in relation to 10.98% of the DG7 contacts received during 20/21.

Other Issues

Please refer to the DG7 Company Commentary.

Northern Ireland Water

Level of Service Methodology

DG8 Bills for Metered Customers

DG8 – Bills for Metered Customers

Definitions

Every time a metered account is billed a reading type is updated onto the Rapid billing system (Rapid) to identify the type of reading.

The reading types and estimated indicator are used to distinguish the meter reading status of each metered account, which is subsequently analysed in Rapid to create the 'DG8 Meter Summary Analysis' report.

DG8 Reporting

The Rapid 'DG8 Meter Summary Analysis' report ensures we correctly identify each of the reporting requirements in the sequence shown.

The reading indicators are extracted from Rapid RPU005 meter consumption update screen. The 'DG8 Meter Summary Analysis' report extracts this information and compiles this in line with the requirements.

The report is run annually at the end of the financial year, covering the period 1 April to 31 March and includes all categories requested by the Director General for the June Return reporting.

A bill is only counted as issued if it is sent to the customer within the reporting year. Any bills that are sent after this date will be included in the following reporting year's figures.

Total Metered Accounts

The report confirms the number of active accounts with either water or water and sewerage consumption which are metered.

Company Reading and Billed

If a Company reading has been taken during the within the defined annual cycle period, and a bill created against that reading, it will be included under the 'Meters read by Company' indicator. The exception to this is those meters that are billed outside of Rapid (trade effluent meters).

Company readings are recorded by the Meter Reader (MR) via a PDA. Each day the MR will upload those accounts that have had a reading and or an abnormal reading from the PDA to Temetra, for transfer to Rapid.

No Bills Received During Reporting Year

Bill status is scanned for no bills issued during the reporting year and is reported under the 'Not Billed this year' indicator.

Meters included in this category are identified as having a reading entered but the 'bill sent' flag set to 'No'

Customer Readings

Reading types are scanned for not receiving a bill based on a Company Reading but at least one bill based on a 'Customer Reading' and will be included in the 'Meters read by Customers' indicator.

'Meters Read By Customer' represents the number and percentage of the meters read by the customer within the DG reporting year.

The Company encourages our customers to take readings themselves so that they are aware of their usage. Customer reads can be registered for billing purposes by using the On-line facility available on our website or by calling our billing line.

Customer readings are recorded via a correspondence management system. A team member will then update the account and issue a revised bill. A customer reading type indicator will be displayed on the system. The estimated read will also be visible on the system

Estimated Only

Any meters that have not satisfied any of the preceding indicators will be recorded under the 'Meters Estimated Only' indicator.

'Meters Estimated Only' represents the number and percentage of meters only estimated within the DG reporting year. The following read types are identified as estimates: Estimate Exchange Final, System Estimate, and Manual Estimate.

Unread for Two Years

If no Company reading exists during a two year period, it will be reported under the 'No Company Reading for 2 Years' indicator.

Specifically two years back from the end date of the DG report.

Exclusions

The following are excluded from the indicators:

- Charged on another basis (not metered consumption)
- Test meters
- Trade-effluent meters
- DRD or NIW meters
- Fire supplies
- Properties occupied continuously for less than six months
- Complex accounts – Including combination meters i.e. the 'low-flow' element is excluded.
- Void properties

Reading and Billing Frequency

Frequency of reading:

- Non-household properties are scheduled to be read twice a year. The reading schedule for each read is completed over a six month period, the 1st read cycle is April to September and the 2nd read is October to March.
- Non-household – large volume users are read and billed monthly.
- There are a number of meters that have been assigned a reading frequency of Annual Read within the Rapid system. However, these meters are either DRD Supply or Test Meters which fall under the permitted exclusions and will only be read to assist business requirements, as neither category generates a customer bill.

Frequency of Bill Issue:

- Household properties – the Company do not currently bill domestic properties

- Non-household – the Company aim to read at twice a year and bill twice yearly.
- Large non-household users – the Company aim to read and bill monthly.

Method of Meter Reading

Before the start of each reading period, whether monthly or six monthly, details of metered accounts scheduled for reading were transferred from Rapid to the Temetra system on the last working day prior to the commencement of the reading period.

The accounts are then downloaded on to an electronic data storage unit (PDA) to facilitate the actual reading of the accounts by a MR in the field.

The meter reading information obtained by the MR is then transferred back to Rapid from Temetra, which is subsequently updated upon the meter being read.

The data transfer from Temetra to Rapid is not solely automatic and currently requires manual assistance by the MAM team.

Abnormal Readings

An abnormal reading can be identified by one of two factors:

- A meter reading that gives a usage that does not fall in line with previous usage patterns, identified by the MR, billing system or customer.
- A meter reading that does not correlate with previous readings taken.

The PDA unit automatically calculates the usage between a new reading and the previous reading. The MR checks the usage against the previous readings that are displayed on the PDA. If the usage appears to be abnormal the MR will enter a report onto the PDA and or use a pre-set indicator to explain why (trouble codes).

A daily ‘Rejected Readings’ report is produced through the Rapid billing system that also identifies any abnormal usage that require further investigation. Each account on the report is checked and if accepted the reading will be utilised and a bill issued. If the rejected read cannot be added, a site visit request is raised to instruct a Meter Query Technician (MQT) to investigate and provide further information.

Previous Misreads

Accounts that are identified as having previously been misread are subject to re-calculation based on the most recent meter reading.

Access Denied / Meter Reading Unobtainable

In such instances that the Company is unable to gain access to the meter, a skip code is entered which identifies that access was denied. If the customer does not provide a reading before the billing run a system estimate is used.

Faulty Meters

Where a faulty meter is identified and a MR or MQT replaces the meter, it is recorded on an MRD (Meter Replacement Docket) which their Field Manager (FM) signs off and sends to the MAM team, and “First Read New Meter” is logged on the handheld.

If a MR or MQT cannot replace the meter, a MMR (Meter Maintenance Request) is completed which their FM signs off and sends to the Meter Maintenance (MM) team, MM then forwards the MMR to the Contactor. When the meter has been replaced, the Contractor

advises MM of the replacement details. The old and new details will then be returned by MM on a MRD to MAM for updating on the billing system

Updating, Post Bill Issue

If the Company has any disputed readings, the account will be suspended while further investigations are being made. Once the investigations are finalised, a revised bill will be issued if necessary.

Assumptions

Those accounts excluded from the analysis are categorised using the definitions provided by the reporting requirements, as noted above.

Additional Information

Echo, on behalf of Northern Ireland Water, are responsible for the billing activity.

Some meters are billed on a sundry schedule rather than the normal billing schedule within Rapid. These are Trade Effluent bills. Trade Effluent bills are excluded from DG8.

Northern Ireland Water

Level of Service Methodology

DG9 Telephone Contact

Definitions:

Principle Advertised Customer Contact (PACC) Points

For the purposes of the indicator, Principal means the main contact point(s) which customers are encouraged or directed to phone. Advertised refers to Customer Contact Points which are available in telephone directories, newspaper advertisements, Northern Ireland Water (NIW) website and NIW literature. It does not include temporary contact points which have been established to handle a specific topic.

NIW PACC points include:

- **Billing Enquiries:** 0345 877 0030
- **Debtline:** 0345 8770 050
- **Waterline:** 0345 744 0088
- **Leakline:** 0800 028 2011
- **Text Relay (for customers with hearing difficulties):** Registered users are provided with a prefix for any NIW number they wish to ring.

An MLA/ER Hotline ([redacted]) was initiated on 21st August 2007 to provide a direct means of contact for elected representatives and council members telephoning to enquire about specific issues in their constituencies.

In addition, the following dedicated campaign lines are in operation for certain sections of the community to aid NIW's response:

- Developers Line: 0345 877 0002
- Emergency Services: 0345 877 0008
- Telecare Quick Check: 0345 877 0080
- Closed Communities: 0345 877 0007
- Aged Debt: 0345 877 0003

Telephone Contact

The indicator is intended to monitor incoming telephone traffic which can be regarded as originating from NIW's customer base. All calls received to telephone lines other than principle advertised customer contact points are excluded for reporting purposes (i.e. all other business lines).

Company Agent

NIW has contracted out the provision of Customer Billing and Contacts (CBC) to a 3rd party provider known as Echo Managed Services (Echo). Echo is the provider of CBC services and is based in Capital House, Belfast.

A company agent is defined as an employee of Echo (operating from a principle customer contact point), who operate the contact on behalf of NIW. All calls are answered directly by Customer Service Advisors who are direct employees of Echo.

Office Hours

The indicator covers office hours only. Office hours are defined as the hours which NIW's PACC points are open. These are detailed below:

- **Billing Enquiries:** Monday to Friday - 08.00 to 20.00
  Saturday - 08.00 to 18.00
  Sunday - 12.00 to 18.00

- **Debtline & Aged Debt:** Monday to Friday - 08.00 to 17.00
- **Waterline:** 24 hours a day, 7 days a week, 365 days a year
- **Leakline:** 24 hours a day, 7 days a week, 365 days a year
- **MLA and dedicated lines:** 24 hours a day, 7 days a week, 365 days a year

Telephone Complaints

Calls received about the following water service issues are expected by NIAUR to be included as a complaint:

- no water;
- lack of pressure;
- leaks;
- taste and odour;
- discolouration; and
- hard water (except for simple enquiries, e.g., dishwasher settings).

In addition, calls received about the following wastewater service issues are also expected to be included as a complaint:

- sewer flooding other than those received through NI Direct/ blockages; collapsed sewers / manholes;
- smells from sewage treatment works / pumping stations; and flies from sewage treatment works.

NIW have created a series of CMS logging codes, within the RapidXtra system, to cover these issues. All telephone contacts logged by the agent using one of these codes will be included in the reported volume of telephone complaints. In addition, where a customer expresses dissatisfaction during their call, the agent has the ability to select the complaint flag which will identify the log for inclusion in the reported figures.

NIW excludes from the reported figures, those telephone complaints which are:

- Anonymous;
- About the activities of other utilities;
- Received through NI Direct Incident Line; and
- Received on telephone lines other than principle advertised customer contact points (i.e. all other business lines).

Complaints to/about contractors

Telephone complaints to contractors or other agents about work being undertaken on behalf of NIW are reported only where NIW are informed. Complaints about contractors or other agents are also reported, even if the complaint is referred to the contractor to resolve.

Telephony Structure:
Telephone Providers Network

The supplier during the reporting year was Cable & Wireless, however all physical lines in Capital House were switched from C&W to BT on 6th March 2014, with remaining non-geographic services moved to BT on Tuesday 10th of March 2015. No issues were experienced during these switches.

Cable and Wireless Network IVR

NIW introduced a High Volume Call Answering (HVCA) solution to assist answering large volumes of unexpected trouble calls in December 2012. HVCA is now called HVCH (High Volume Call Handling) system. In order to facilitate the solution, the Cable and Wireless Network IVR was activated on the 'Waterline'. Customers calling this line will hear the following message and be presented with further options:

High Volume Call Handling (HVCH) System

The HVCH system is aimed at ensuring NIW can handle large volume of calls during periods where calls can increase very quickly e.g. Major Incidents, heavy rainfall incidents, etc. This ensures that all calls are logged and customers given specific information resulting in higher levels of customer satisfaction during service interruptions. The HVCH system will recognise customers using the telephone number we hold on their customer record or it can use Voice Recognition to allow customers to speak their Post Code.

Calls will be delivered to HVCH direct from the C&W IVR menu structure when a caller selects option '2'. Calls delivered to this campaign will be offered to agents first in Call Media, however if an agent is not available the call will automatically divert to the HVCH Platform. The divert is controlled by the Cable and Wireless intelligent network, calls will divert on busy tone, route failure and no reply.

As each caller hangs up in the HVCH application, a Call Data Record (CDR) is created which details the caller's activity during the call. A portion of the CDR is passed to NIW in the customer contact file for the creation of work requests through Rapid to Ellipse.

IVR Cirrus

The new IVR platform is not set to Agent first which means all calls will hit the BT switch first and then be directed to the IVR platform. If completed successfully on the IVR, the call will never hit the Avaya switch and will not be reported in Call Media. However, the Billing & Debt line and Septic Tank IVR are linked to the Billing Enquiry and Waterline PACC lines and will be reported using the CIRRUS Voice platform.

IVR is a technology that automates and simplifies interactions with incoming customer calls. In doing this, IVR provides a conversation, which can be either pre-recorded or generated audio that assists, directs, and/or guides customers automatically without the need to talk to an agent. Within these interactions customers are able to communicate by using either the dial pad or speech recognition.

This system was also used to report total calls figure when agents were advised to work from home.

Call Media

Calls received on all other PACC lines and the majority of calls received on Waterline are delivered to the Call Media system for allocation to an appropriately skilled agent. If there is more than one Customer Service Agent available, the system allocates the call to the one who has been available the longest period of time.

If no skilled agent is available immediately then the call will be queued until a skilled agent becomes available. The Call Media Telephony System provides an internal queuing system where callers will hear a ring tone and then a comfort message and music on hold.

The use of Call Media's skill based routing ensures that incoming calls are distributed in a way that will ensure a quality response to the customer.

Call Recording

All calls received in the call centre via Call Media are recorded via NICE call recording software. This software records the time of the call and the telephone number that called the centre if available.

Reporting:

Reporting the DG9 Position (telephony schematic attached in Appendix 1)

DG9 performance is reported by the MI and Data Team on a monthly basis using the MI reports from both HVCH, Call Media & Cirrus systems.

Reporting of Telephone Complaints

The MI and Data team use Corvu to report on the volume of telephone complaints received, on a monthly basis, using the agreed Operational Original CMS transaction codes and any other call logged where a complaint flag has been selected by an agent if the customer has expressed dissatisfaction.

Call Listening

CSD Services MI and Data Team listen to 10 randomly selected calls per month, check that they have been logged on Rapid correctly and feedback any quality issues highlighted to ECHO through the monthly response to the MBRP.

Call Handling:

Practices and Procedures

All calls received are managed by either HVCH call routing system or Call Media and routed directly to an appropriately skilled agent based on the first available call handler.

Wherever possible, an agent will deal and action a customer's enquiry at point of contact. Where this is not possible, a message will be raised on the system for further investigation or where appropriate the customer will be transferred.

All enquires are logged on RapidXtra automatically by HVCH or manually via an agent, covering the reason for the contact (contact type) and the advice given or action taken. This is the case whether or not further work is required ensuring all calls are recorded, even if they remain open for further action.

Calls which require further action are logged on RapidXtra and work flowed to teams or individuals as required or passed to Ellipse for issue to mobile work management operational teams. This includes instances where further actions or NIW investigation is required in order to provide a full response to the customer.

Transfers between PACC Points

Agents are multi-skilled, so transfers are not generally made. Transferred calls are reported as one call.

Direct Measurement/Interpolation/Extrapolation

NIW measures statistics for all telephone calls received on PACC points which are delivered directly to the Call Media telephony system and to the HVCH system. Sampling, interpolation

or extrapolation is not used in compiling totals.

Messaging:
Use and activation of IVRs (Interactive Voice Response)

During business as usual an introductory message is set up and assigned to each queue, e.g. Billing Enquires Line. The message greets the customer and thanks them for calling the relevant number. It explains that an agent with be with them shortly and to note that calls are recorded to help provide quality assurance and training.

If a customer telephones out of hours, the customer will receive an out of hour's message. In the event of disaster recovery and building evacuation, a recorded message is activated which explains to customers that calls cannot be answered at the moment, please call back later.

As noted above, the Cable and Wireless Network IVR tool is now being utilised on Waterline to direct customers calling in relation to New Connections, Trouble Calls, Septic Tank requests and other operational issues. This allows NIW to transfer Trouble Calls to the HVCH system in situations where calls exceed the volume of agents available in the CRC.

As noted above, the CIRRUS Voice IVR Platform is now being utilised to automate and simplify interactions with incoming customer calls. The IVR provides a conversation, which can be either pre-recorded or generated audio that assists, directs, and/or guides customers automatically without the need to talk to an agent.

Use and activation of message manager systems

No message manager systems were used during the reporting year.

Use and activation of answering machines

Answering machines were not used during the reporting year.

Company Systems:
Telephony

Systems comprise of a suite of Avaya products and a Call Media Automatic Call Distribution (ACD). The Avaya switch is tightly integrated with the Call Media platform which provides Computer Telephony Integration (CTI), ACD and outbound dialler functionality through three main components:

- Avaya S8710 providing core telephony switching
- Call Media Contact Centre software providing ACD, CTI and dialler functionality
- NICE Call Recording; and
- High Volume Call Answering (HVCH), hosted service provided by Twenty First Century Communications.

Calls that arrive at the Avaya switch are routed by the Call Media ACD to appropriately skilled agents via desktop phones.

Location

All systems are located at Capital House, Belfast. There is currently a 240 line capacity dedicated inbound calls from NIW customers, 30 dedicated lines for outbound calls and 30 dedicated lines ring-fenced for priority lines e.g. ER Hotline, Emergency Services, etc.). The scale of the current capacity was implemented in preparation for domestic billing which was

deferred in April 2007.

Software

Software comprises of Call Media Enterprise Console, the integral reporting suite supplied with Call Media ACD and NICE call recoding.

Other Issues:

Text Relay Service and Text Phone

NIW has provided for a Text Relay and Textphone service to support customers with hearing difficulties.

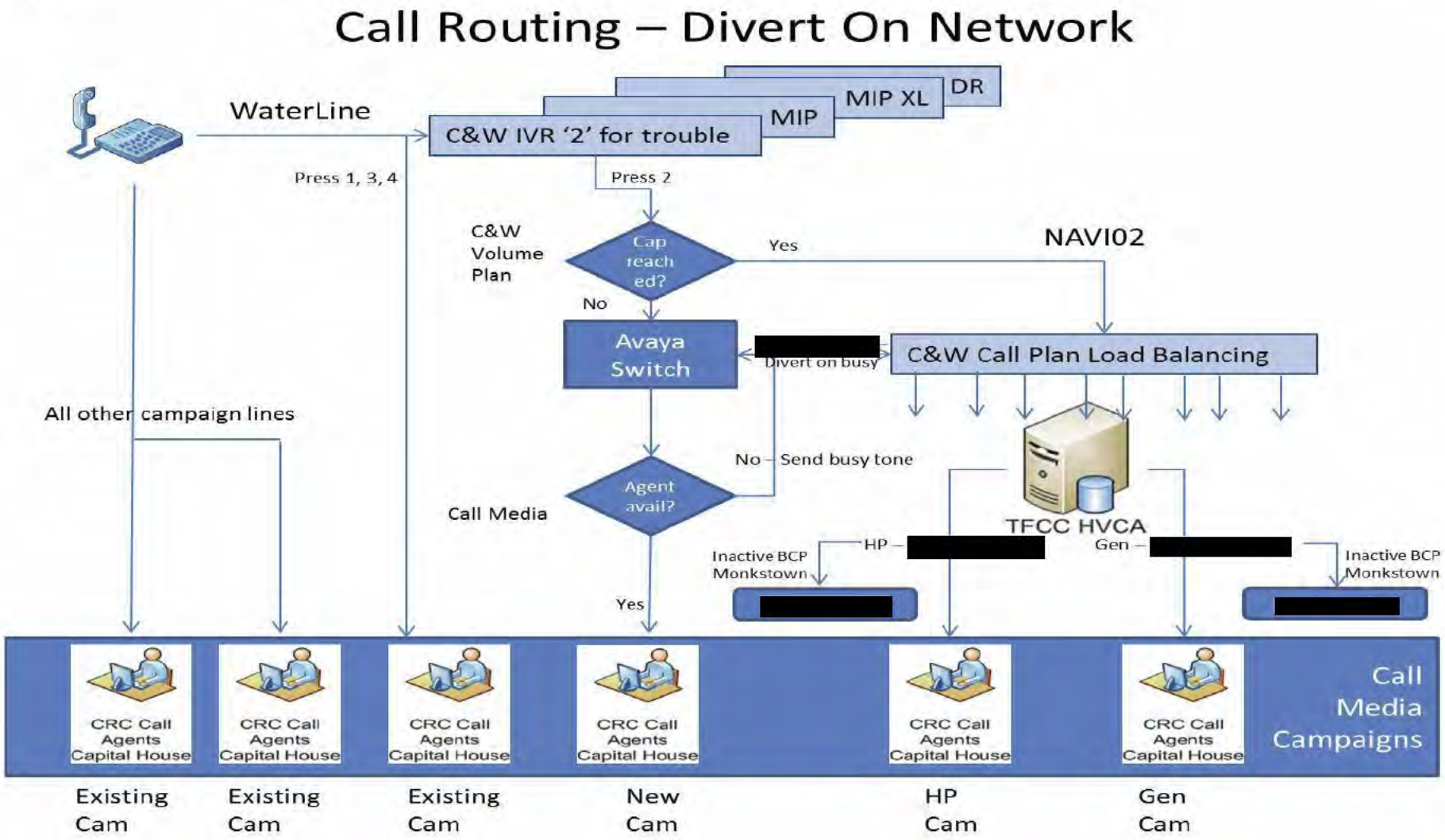
Text Relay Service is a third-party service whereby the customer rings a Text Relay operator, who in turn contacts the Customer Relations Centre via the normal customer line (Waterline/Leakline/Billing, etc.) on behalf of the customer. This is recorded as a call received on the appropriate line.

Rejected Calls

During the reported year calls currently rejected for any of the following reasons are not included in total calls received:

- The time being out of working hours
- The queue is too full and cannot accept any more tasks. Each queue holds 500 calls at any one time.
- The task queued for the ‘Max Queue Time’ and was returned to the connector.

Appendix 1


Call Routing – Divert On Network
WaterLine
C&W IVR '2' for trouble
MIP
MIP XL
DR
Press 1, 3, 4
Press 2
C&W Volume Plan
Cap reach ed?
Yes
NAVI02
No
Avaya Switch
Divert on busy
C&W Call Plan Load Balancing
All other campaign lines
No – Send busy tone
Agent avail?
Call Media
TFCC HVCA
HP –
Gen –
Inactive BCP Monkstown
Inactive BCP Monkstown
Yes
CRC Call Agents Capital House
CRC Call Agents Capital House
CRC Call Agents Capital House
CRC Call Agents Capital House
CRC Call Agents Capital House
CRC Call Agents Capital House
Call Media Campaigns
Existing Cam
Existing Cam
Existing Cam
New Cam
HP Cam
Gen Cam

Annual Information Return 2021

Section 4

Customer Research Appendix

Annual Information Return 2021

Customer Research Appendix

Customer Satisfaction

One of the fundamental measures concerning the level of service received by customers is their level of customer satisfaction. NI Water measures customer satisfaction through several different surveys:

- Customer Advocacy Measure (CAM), where an updated Question 71 from the 'Consumer Experience Survey' (CES-SIM) is used.
- Omnibus Survey - Question 1 & Question 2.
- Voice of the Customer (VoC)

Listening to our customers' views and building these into our plans is essential for us to ensure that our customers' needs are at the heart of our service delivery.

Customer Services Centre (CSC) has been working extensively on providing an improved customer experience. Under the auspices of the Customer Engagement Oversight Group (CEOG) and the Customer Measures/Satisfaction (CM/SAT), CSC has been actively engaging with NIAUR, CCNI and DRD to develop a range of new quantitative and qualitative customer measures which are most relevant to us and our customers, including the merits (or otherwise) of the current (OPA/DG) regulatory measures.

These new measures include the development of targets and methodologies more meaningful and timely customer satisfaction feedback to highlight, as close to real time as possible, those areas and activities which cause dissatisfaction for customers.

For regulatory reporting purposes in 2020/21, only the satisfaction scores from the Customer Advocacy Measure and the Omnibus Survey are used/reported in Table 5.

E	CUSTOMER SATISFACTION MEASURES
23	Customer advocacy measure
24	Omnibus survey question 1
25	Omnibus survey question 2

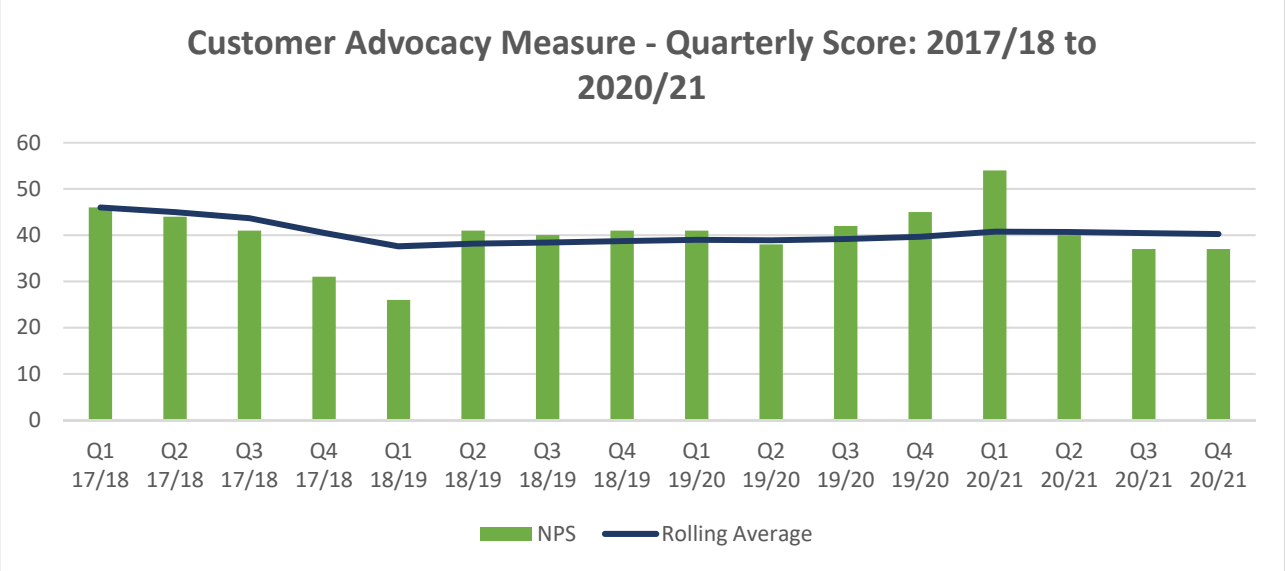
In 2018/19 NI Water introduced Voice of the Customer (VoC) in which surveys are conducted by Watermelon, an independent Customer Experience and Insight specialist.

Previously this score was provided by Allto, an external market research company who carried out quarterly surveys of customers. The switch to VoC came about as it is a continually operating service, day-by-day, with each customer being asked to complete a survey after interacting with NI Water. This provides a much greater sample size over the course of an entire year (approximately 700 surveys per month compared to 200 per quarter), giving a more true reflection of NI Water's satisfaction score as opposed to the Allto method which only focused on a single week within a 3 month time-span, 4 times per year.

The objective of the surveys is to capture the views of those customers who have had dealings with the company, not only through the main contact centre but other parts of the business. On top of surveying customers who have telephoned our main contact centre, an automated report has been set up to look at any Operational work completed the day before via Ellipse. Once the Work Order is closed within Ellipse the data is linked to the initial contact(s) logged in Rapid to obtain the details of the customer ringing with the issue. This data is then passed to Watermelon every morning who then survey that customer.
Customers are asked "*Based on your recent experience with us, how likely are you to recommend NI Water? Please respond 0 for very unlikely up to 10 for very likely".*

The score is calculated using Net Promoter Score methodology based on results from the previous question.

NI Water achieved an overall score of 42 for the reporting year 20/21.



The survey is based on resolved contacts only in relation to all areas of the business.

As previously mentioned the daily report only captures completed Work Orders from the day before in Ellipse linking it with the customer contact details from Rapid. A separate report is generated for log-only contacts, within Rapid when a contact is logged a flag is ticked to categories the contact as Telephone, capturing all contacts received.

An extract of this Rapid data is sent every morning to Watermelon and in turn they provide the latest completed surveys via SFTP into NI Water's data warehouse where the master set of surveys are stored. The score is based on an annual sample of c8,000 completed surveys.

Omnibus Survey

The Omnibus survey is different from CES-SIM and VoC, in that it also includes customers who have not contacted us during the year – known as the Silent Majority. Our records show that on average 80% of our customers do not contact/need to contact us. Yet it is important to seek and understand their views regarding the level of service they are receiving from NI Water, to determine if there is any correlation between their views and those customers that do contact us.

Ipsos MORI conducted quantitative research on behalf of NI Water, between 29th April to 6th May 2021, with the standard Questions 1 & 2 included in a series of questions being asked of domestic and non-domestic customers.

- 1000+ residential customers adults aged 16+ were engaged via Ipsos MORI's online Knowledge Panel. Due to Covid face-to-face interviews could not be carried out, we received a slightly smaller response than previous years with 784 responses received via the knowledge panel, scores like previous years are weighted to be representative of the NI population in terms of age, gender, social class and geographical location.
- 500+ business customers were surveyed by means of Computer Assisted Telephone Interviewing (CATI), conducted by telephone from the Ipsos MORI Telephone Research Centre. Quota controlled by location, industry sector and size. For

consistency with previous research, non-domestic customers were categorised as services or manufacturing.

A summary of the key findings is as follows:

- Findings from the research suggest strong levels of endorsement of water services in Northern Ireland, with
    - 83% of domestic customers and 77% non-domestic customers indicating that they are satisfied with the services they receive from NI Water.
    - Of the domestic customers, significantly more of those aged 55+-64 (68%) agree with the statement. "I am happy with the service I receive from NI Water."
    - Of the non-domestic/business customers, more than three quarters (77%) agree with the statement 'I am satisfied with the service I receive from NI Water. Significantly more businesses with 6-10 employees (58%) strongly agree with this statement.
- Overall, the average level of satisfaction, weighted over both customer bases, is 80.7, as follows:

	Sample Size	Score	Total
Domestic	784	83	65072.0
Non-domestic	500	77	38500.0
Total	1284		103572.0
Average			**80.7**

- In terms of Advocacy:
    - 58% of domestic customers rated NI Water with a score of 7 or more out of 10 in terms of likelihood to recommend. The average score across the sample was 7.23. Those in the least deprived quintile and Protestants were more likely to recommend NI Water.
    - 68% of non-domestic customers rated NI Water with a score of 7 or more out on 10 in terms of likelihood to recommend. The average score across the sample was 7.62, which is slightly higher than domestic advocacy.

Service Incentive Mechanism (SIM)

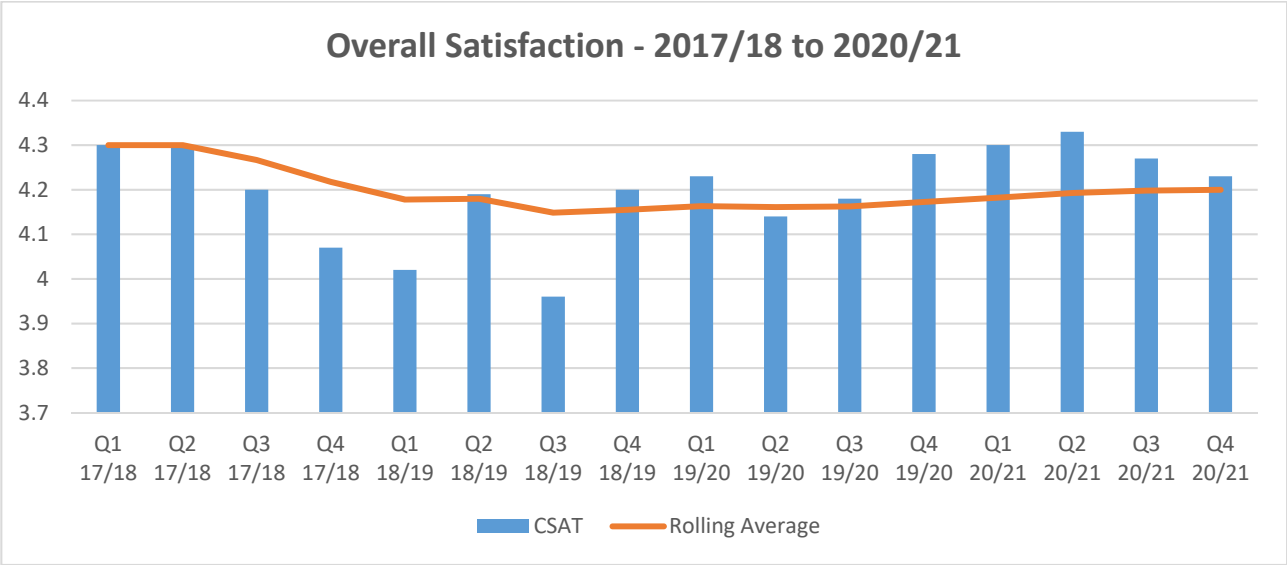
We previously measured the SIM score via the Consumer Experience Survey (CES-SIM), which was based on a sample of 800 consumers annually that have had direct contact with the company to request a service or make a complaint. The sample was split into a minimum of 200 consumers per Quarter and carried out four times a year. Question 60 of this survey asked the customer to rate their 'Level of satisfaction taking everything into account.'

From FY19/20 onwards, the decision was made to switch to the Voice of the Customer service provided by the third party, Watermelon. This was initially set up in 2018/19. All customers which have interacted with NI Water in any capacity would be asked to complete a survey which provided a much greater sample size of close to 700 surveys per month. This larger, ongoing sample allowed for a more reliable reflection of NI Water's customer metrics, while also allowing NI Water to monitor ongoing trends.

As part of the survey, customers are asked "*taking everything into account, how satisfied were you with the way NI Water handled this matter? Remember, that 0 is very dissatisfied through to 10 for very satisfied*"

NI Water supplies contact details (telephone number, date of initial contact, CMS code detailing the type of contact) to Watermelon each day via Secure File Transfer Protocol, with Watermelon returning any completed surveys the same way the following morning. This information is then stored in NI Water's encrypted data warehouse.

The scores given in the aforementioned question are normalised to a 5 point scale and are used to drive the qualitative, overall satisfaction component of the SIM Score.



Development of new measures

As mentioned in the introduction, Customer Services Centre has been working extensively on providing an improved customer experience through the development of new quantitative and qualitative customer measures which are most relevant to us and our customers.

These new measures include the development of targets and methodologies for:

- Reducing unwanted contacts;
- Resolving customer queries at first point of contact (FPOCR), industry trends show that Customer Satisfaction increases in line with FPOCR increase; and
- Developing a solution to obtain more meaningful and timely customer satisfaction feedback to highlight, as close to real time as possible, those areas and activities, which cause dissatisfaction for customers.

The measures above were trialled and reported on for the first time in AIR16, to establish reporting baselines and trends over the remainder of the PC15 period (up to March 2021) which will support the setting of targets for each in the PC21 period.

PC21 Customer Research

In preparation for the PC21 business plan, NI Water appointed IPSOS MORI as it strategic customer research partner to undertake all research surveys over the next 5 years (from January 2019 to March 2024). This covers the PC21 main and interim customer research, Omnibus surveys and further annual support.

IPSOS MORI completed the PC21 Customer Research under the guidance and monitoring of CEOG – Consumer Engagement Oversight Group – incorporating representatives from CCNI, DfI, NI Water and NIAUR.

The final PC21 Customer Research was completed in Winter 2019/20 and findings included in the PC21 Business Plan.