northern ireland water

Annual Information Return 2016

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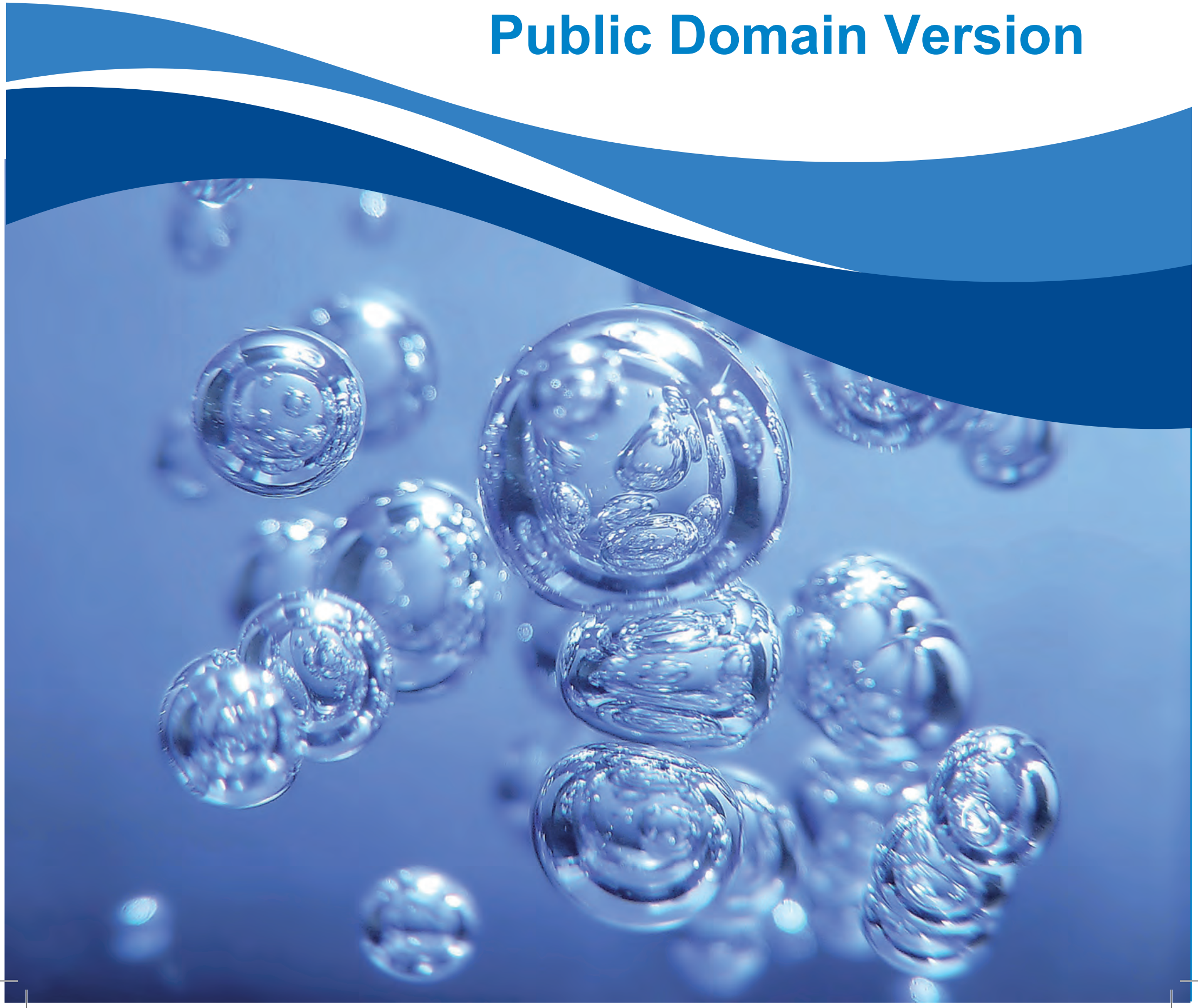

Annual Information Return 2016

for

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Section 1

Board's Overview

Board's Statement

In support of Northern Ireland Water's Annual Information Return (AIR), its board of directors is required by the Utility Regulator to prepare a statement on the compilation of 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 2015/16. 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 (UK Generally Accepted Accounting Practice) 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 and the relevant provisions of the Water and Sewerage Services (Northern Ireland) Order 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 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 the 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 functional working groups;
2. coordination of cross-functional working groups;
3. adherence to the AIR submission programme;
4. 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 line 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 deliverables of the AIR submission, namely:

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

Population of data tables and drafting of associated company commentaries was 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.

Authors, reviewers and approvers of line methodologies, data tables and company commentaries were designated for all data in the AIR submission. 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 Reporter Protocol, and was agreed with NI Water and submitted to the Utility Regulator.

The Utility Regulator issued AIR reporting requirements on 31st March 2016. 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 the tables and commentaries where appropriate.

The complete AIR submission was endorsed by the Executive Committee and Board on 20th and 28th June 2016 respectively.

Board Involvement

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

- Reviewing monthly company business performance analyses;
- Considering the findings of the Reporter and Auditor as presented in June 2016;
- Reviewing, commenting on and approving the Board's Overview;
- Reference back 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 in respect of material assumptions and judgements included in the AIR commentaries:

- Clear accountability at senior management level for the ownership of all elements of the AIR. NI Water has established an accountability trail from the information providers to the line owners through to heads of function.
- Briefings on the importance of the AIR process have been disseminated to all staff involved in the data collection process.
- 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.
- Every item of financial data is reviewed against the Utility Regulator's guidance by a separate individual to the preparer and reviewer. This includes undertaking cross-checks of tables to ensure consistency.
- Before each item of data is submitted for 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 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 the steps that he/she ought to have taken as a director in order 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. P. 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 2021-22
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					
2	DG2 Properties receiving pressure below the reference level at end of year	nr	0	1420	1257	1082	900					
3	DG3 Supply interruptions > 12hrs (unplanned and unwarned)	%	2	0.32	0.14	3.10	0.10					
4	DG3 Supply interruptions (overall performance score)	nr	2	1.98	0.97	11.72	1.14					
5	DG6 % billing contacts dealt with within 5 working days	%	2	100.09	99.92	99.97	99.96					
6	DG7 % written complaints dealt with within 10 working days	%	2	99.78	99.72	99.96	99.87					
7	DG8 % metered customers received bill based on a meter reading	%	2	98.73	99.11	99.11	99.23					
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					
10	DG9 % calls not receiving the engaged tone	%	2	100.00	100.00	99.99	99.92					
11	Overall Performance Assessment (OPA) score (11 Measures)	nr	0	198	216	206	230					
12	Total Leakage	Ml/d	0	162	167	166	162					
13	Security of supply index	nr	0	100	100	100	100					
14	Percentage of NI Water's power usage derived from renewable sources	%	1	13.4	33.1	51.4	39.8					
B	**Quality Water**											
15a	% overall compliance with drinking water regulations	%	2	99.77	99.81	99.86	99.83					
15b	% compliance at consumers tap	%	2	99.63	99.74	99.78	99.74					
16	% iron compliance at consumers tap	%	2	97.25	98.08	98.95	98.40					
17	% Service Reservoirs with coliforms in >5% samples	nr	2	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					
19	Completion of nominated trunk main schemes	nr	0	2	0	1	2					
20	Completion of nominated water treatment works schemes	nr	0	0	0	3	1					
21	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks	nr	0	1	0	1	0					
D	**Serviceability**											
22	Water infrastructure serviceability	Text		Stable	Stable	Stable	Stable					
23	Water non-infrastructure serviceability	Text		Stable	Stable	Stable	Stable					
E	**New Output Measures**											
24	Number of Catchment Management Plans	nr	0		3	5	3					
25	Number of lead communication pipes replaced under the proactive lead replacement programme	nr	0		0	401	1922					
26	Number of school visits	nr	0	138	150	209	277					
27	Number of other education events	nr	0	35	38	59	65					
28	% Service Reservoirs where sample taps have been assessed and are to required	%	1				0.0					

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 2021-22
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					
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					
B	**Quality Sewerage**											
3	% of WwTWs discharges compliant with numeric consents	%	1	93.3	92.0	92.4	92.8					
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					
5	Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%	2				80.72					
6	Number of high and medium pollution incidents attributable to NI Water	nr	0	18	26	25	21					
C	**Sewerage Outputs**											
7	Sewerage activity - Length of sewers replaced or renovated	km	0	24	25	21	17					
8	Delivery of improvements to nominated UIDs as part of a defined programme of work	nr	0	38	11	17	26					
9	Delivery of improvements to nominated WwTWs as part of a defined programme of work	nr	0	12	17	16	3					
10	Small wastewater treatment works delivered as part of the rural wastewater investment programme	nr	0	14	7	18	4					
D	**Serviceability**											
11	Sewerage infrastructure serviceability	Text		Stable	Stable	Stable	Stable					
12	Sewerage non-infrastructure serviceability	Text		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					
14	WwTWs upgraded to comply with PPC Regulations	nr	0				0					
15	Impermeable surface water collection area removed from the combined sewerage network	m^2	0				28,560					
16	Number of sustainable WwTW solutions delivered (p.e. ≥ 250)	nr	0				1					
17	Number of sustainable WwTW solutions delivered (p.e. < 250)	nr	0				0					

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	6 REPORTING YEAR 2017-18	7 REPORTING YEAR 2018-19	8 REPORTING YEAR 2019-20	9 REPORTING YEAR 2021-22
A	**TOTAL EXPENDITURE**											
1	Total operating expenditure - water service (NI Water only)	£m	3	71.882	70.914	69.932	76.947					
1a	Total operating expenditure (PPP) - water service	£m	3	1.845	8.234	8.431	8.225					
2	Total capital expenditure (excl. adopted and nil cost assets)	£m	3	69.303	71.809	86.920	63.796					
3	Total operating expenditure - sewerage service (NI Water only)	£m	3	72.113	73.300	71.330	73.126					
3a	Total operating expenditure (PPP) - sewerage service	£m	3	26.488	24.896	24.323	25.096					
4	Total capital expenditure (excluding adopted and nil cost assets) - sewerage servi	£m	3	92.709	95.548	71.881	79.692					
B	**CURRENT COST ACCOUNTS - PROFIT & LOSS**											
5	Total Turnover	£m	3	366.398	361.313	364.407	367.287					
6	Current cost operating costs (including CCD & IRC)	£m	3	-349.47	-343.723	-306.624	-315.156					
7	Current cost operating profit	£m	3	19.872	19.799	59.111	53.738					
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					
9	Total net debt	£m	3	868.158	909.323	946.748	980.545					
10a	Post tax return on capital	%	2	1.12	1.05	2.96	2.57					
10b	Pre tax return on capital	%	2	1.12	1.05	2.96	2.57					
D	**KEY FINANCIAL INDICATORS**											
11	Cash interest cover (funds from operations; gross interest)	ratio	2	3.34	3.60	3.52	3.38					
12	Adjusted cash interest cover (funds from operation less capital charges; gross interest)	ratio	2	-0.03	0.27	0.91	0.83					
13	Adjusted cash interest cover (funds from operation less capital maintenance; gross interest)	ratio	2	1.70	1.67	2.00	1.76					
14	Funds from operations: debt	ratio	2	0.15	0.13	0.13	0.12					
15	Retained cash flow: debt	ratio	2	0.12	0.12	0.12	0.09					
16	Gearing: D/RCV	%	2	47.89	46.66	46.74	46.24					
17	Gearing: D/RCV (adjusted for PPP liability)	%	2		49.12	49.09	48.47					

Chapter 1
Monitoring Plan Outputs
Tables A and B

1.1 Delivering Service to Customers

NI Water delivered another strong year of service to customers in 2015/16, despite uncertainty over funding for PC15. Our customers are benefiting from record levels of service which is underpinned by our capital investment programme.

The overall level of service delivered to our customers in 2015/16 is record breaking. We achieved an Overall Performance Assessment (OPA) score of 230 against a 2015/16 target of 218. Levels of complaints are at record low levels.

The way customer service is measured is changing. By improving our services, we aim to reduce the number of customer contacts and the time taken to resolve issues. Our goal is to minimise the need for our customers to contact us but, when they do, we will measure how often we resolve issues on the first contact. We also want to measure how many repeat issues we get, examine why they arose and make process and system changes to continue to improve.

During 2015/16 we have, in conjunction with the Utility Regulator, CCNI and DRD[1], developed a new range of customer measures to replace the current call handling satisfaction measure. We commenced trials for these new measures in 2015/16 and will continue to monitor them in 'shadow mode' through the first half of the PC15 period, with a view to including them as regulatory targets from at the mid-point of PC15.

Customer Service Centre

Our new virtual Customer Service Centre will go live in 2016/17. Through the use of technology we will be able to make early interventions, such as understanding where assets are repeatedly failing and need to be fixed. The centre will include teams that are involved with activities such as alarm management, work control, customer call handling and major incident planning. The teams will be more integrated with a focus on central operational control and providing excellent customer service.

In addition, we continue to improve the availability of information to our customers. In 2016/17 we will introduce supply interruption mapping to the external website which will better inform customers on problems that may affect their water supply. These improvements will also help us to better communicate with our customers and stakeholders during major incidents.

Metering and Billing

Accurate measured bills are central to customer account management. We aim to improve the accuracy of our customer data to ensure that details of our 80,000 business customers are accurately recorded on our corporate systems and billed in a timely manner. During 2015/16, we made major enhancements to our customer contact and billing system with the introduction of modern technology for our field staff allowing real-time information flows to other parts of the organisation. We also reviewed our business

[1] Department for Infrastructure with effect from 9 May 2016.

processes to streamline activities and improve efficiency through a major data quality programme.

Compliance

Our levels of water and wastewater compliance in 2015 are at some of the highest ever levels at 99.83% and 98.6% respectively - some of the highest levels experienced in Northern Ireland. Fewer customers are facing the risk of low pressure and pollution incidents continue to be at near record low levels.

Investment in our asset base is delivering improved water and wastewater quality. Quality improvements are also being driven by collaboration with our stakeholders. For example, during 2015/16 we worked with Ulster Farmers Union, the NIEA and the DARDNI[2] to increase awareness of the impact that pesticides have on water quality.

Continued investment in our water mains improvement programme is contributing towards a reduction in levels of leakage and to reduce the number of properties at risk of low pressure. In 2015/16 we met most of our supply interruption targets except for interruptions lasting more than 6 hours. This was due to adverse weather conditions and limited options to provide supplies from other zones.

In 2015/16 we continued to reduce leakage by a further 4 million litres per day (Ml/d). Leakage at 162 Ml/d was better than our target of 163 Ml/d. We outperformed against low pressure targets.

We plan to invest around £120m in water mains improvement by 2021. This investment includes a £11m upgrade for Belfast and Carrickfergus which commenced in 2015/16.

Our investment programme is also targeted at alleviating the problems faced by areas which have experienced flooding events. The removal of properties from the register of properties at risk of sewer flooding remains a key area of focus and we achieved all our sewer flooding targets in 2015/16. This included the removal of 7 properties from the 'at risk register' against a target of 6 properties. This performance was supported by proactive sewer desilting and customer education campaigns such as the 'Dirty Dozen'.

[2] Department of Agriculture, Environment and Rural Affairs with effect from 9 May 2016.

1.2 Improvements to Drinking Water and Environmental Quality

Drinking Water

Delivery of clean, safe drinking water is central to what we do. It underpins the public health and economy of Northern Ireland. Being able to rely on and have confidence in the quality of water that we supply is a fundamental expectation of our customers.

We measure the quality of drinking water at water treatment works, service reservoirs and consumers' taps across Northern Ireland. During 2015, we carried out more than 200,000 water quality tests and outperformed against our target for overall compliance with drinking water regulations.

Over the PC15 period, we have committed to proactive replacement of over 11,000 lead communications pipes at consumer properties, in addition to lead pipe replacement as part of our water mains rehabilitation programme and in response to sample failures. However, even with the removal of all lead pipes within our network, there will be a risk to lead compliance from lead pipes remaining within customer properties. We continue to partner with key stakeholders to ensure a joined up approach to the removal and management of lead pipe in public and private water supply systems.

We are investing to improve the water supply infrastructure across Northern Ireland to further improve the service to our customers. This includes laying large trunk mains to enable us to transfer water from one area to another and laying water mains in areas where there is a risk of repeat interruptions to supply or low pressure. Over 2015/16, we laid, renewed or relined 117 km of water mains.

As a result of the assistance of customers and pro-active leakage management by NI Water, we have continued to reduce the amount of water lost by 4 million litres per day in 2015/16. We are currently ahead of the target set by the Utility Regulator and will continue to reduce leakage towards the PC15 Sustainable Economic Level of Leakage figure.

Wastewater

We remove wastewater from homes and businesses all over Northern Ireland. After appropriate treatment the effluent is returned safely to the environment.

Since NI Water was first established in 2007, there have been improvements in wastewater compliance, culminating in one of our best ever compliance results at our treatment plants last year. Over the same period, pollution incidents have shown a significant reduction. This is clear evidence of the attention we give to safeguarding the natural environment. These excellent results have been delivered through a combination of targeted capital investment in our wastewater assets, coupled with proactive asset maintenance and timely operational interventions to protect the aquatic environment and prevent flood risk.

We play our part in managing and mitigating flood risk by providing an effective drainage function through our sewer network. The number of sewer flooding incidents has reduced over time, however, there may be annual fluctuation in figures because flooding performance is strongly influenced by the weather. Flooding is a complex problem and one that requires close collaboration between numerous organisations.

We are committed to working with stakeholders to play our part to manage flood risk in Northern Ireland through initiatives such as the flooding incident line and the 'Living with Water Programme'.

We work in partnership with the Rivers Agency and Transport NI to manage the drainage systems and prevent flooding. The Flooding Incident Line is a single telephone number that can be used all day, every day to report flooding.

DfI is leading the 'Living With Water Programme' to facilitate the delivery of a Strategic Drainage Infrastructure Plan for Belfast. NI Water is working with other agencies and stakeholders on the programme to protect against flood risk, enhance the environment and support economic growth. We have identified around £584m of investment aimed at delivering a number of outputs that will help improve the water quality in Belfast Lough. These include upgrading Belfast wastewater treatment works, increasing the capacity of key sewers, pumping stations and storm attenuation tanks so that there are fewer discharges of dilute sewage to the environment during storm events, and by installing screens on a number of combined sewer overflows.

We are committed to reducing pollution incidents. Our Pollution Reduction Strategy and Action Plan has informed the development and implementation of a wide range of activities ranging from proactive sewer desilting to focused customer education campaigns.

Sewer blockages are a key contributory factor in flooding and pollution incidents - almost 80% of blockages are due to inappropriate materials in the sewerage system. The number of blocked sewers has reduced by almost 40% over the past 6 years - from around 26,000 in 2009/10 to around 16,000 in 2015/16

1.3 Delivering Sustainable Services

As one of the largest landowners in Northern Ireland, our activities have a significant impact on the environment. During 2015/16 we further developed Sustainable Catchment area Management Planning (SCaMP) for drinking water catchments to provide a more environmentally sustainable way of improving water quality. We worked in conjunction with Mourne Heritage Trust (MHT), NIEA and NIFRS on wildfire management to protect the water catchment in the Mournes, Co Down.

This area is subject to wildfires which can have devastating effects on habitats, flora and fauna, pose a risk to human life and stretch the resources of various responders. Measures such as training co-responders, liaison with land managers and carrying out wildfire exercises are being progressed. This project is regarded across the UK as an example for others to follow and aims to preserve a beautiful Mourne landscape for future generations.

We remain committed to reducing our pollution incidents. During 2015/16, we appointed 17 employees as environmental champions to educate customers on better flushing habits and how to save water. Our focus on reducing pollution is supporting the creation of both environmental and economic value: Northern Ireland continues to have some of the best bathing water quality in Europe, attracting thousands of visitors each year.

Environmental Champions

From working in the office, to educating the public, NI Water staff from across the business have been trained as environmental champions in a bid to educate customers on better flushing habits and how to save water.

Seventeen champions will be informing and educating school pupils, community groups and the general public, on NI Water's environmental campaigns including water efficiency and flushing inappropriate items down the sewer.

Climate change

The water industry is vulnerable to the impacts of climate change in the form of water scarcity, flooding and more frequent extreme weather events. Therefore our business must adapt to these changes to maintain vital services to our customers. We are targeting energy efficiencies and the use of renewable sources of energy to mitigate our impact and reduce the production of greenhouse gases.

We are playing our part in addressing climate change through the development and installation of energy efficiency programmes throughout our treatment works. The programme includes the installation of solar panels at nine sites, programming our treatment works to operate at their optimum level and refurbishing our pumps, all of which contributed towards a reduction in our carbon emissions in 2015/16. Our operational greenhouse gas emissions were 0.223 tonnes of carbon dioxide equivalent per million litres of treated water in 2015/16 (2014/15: 0.347 tCO2e/Ml).

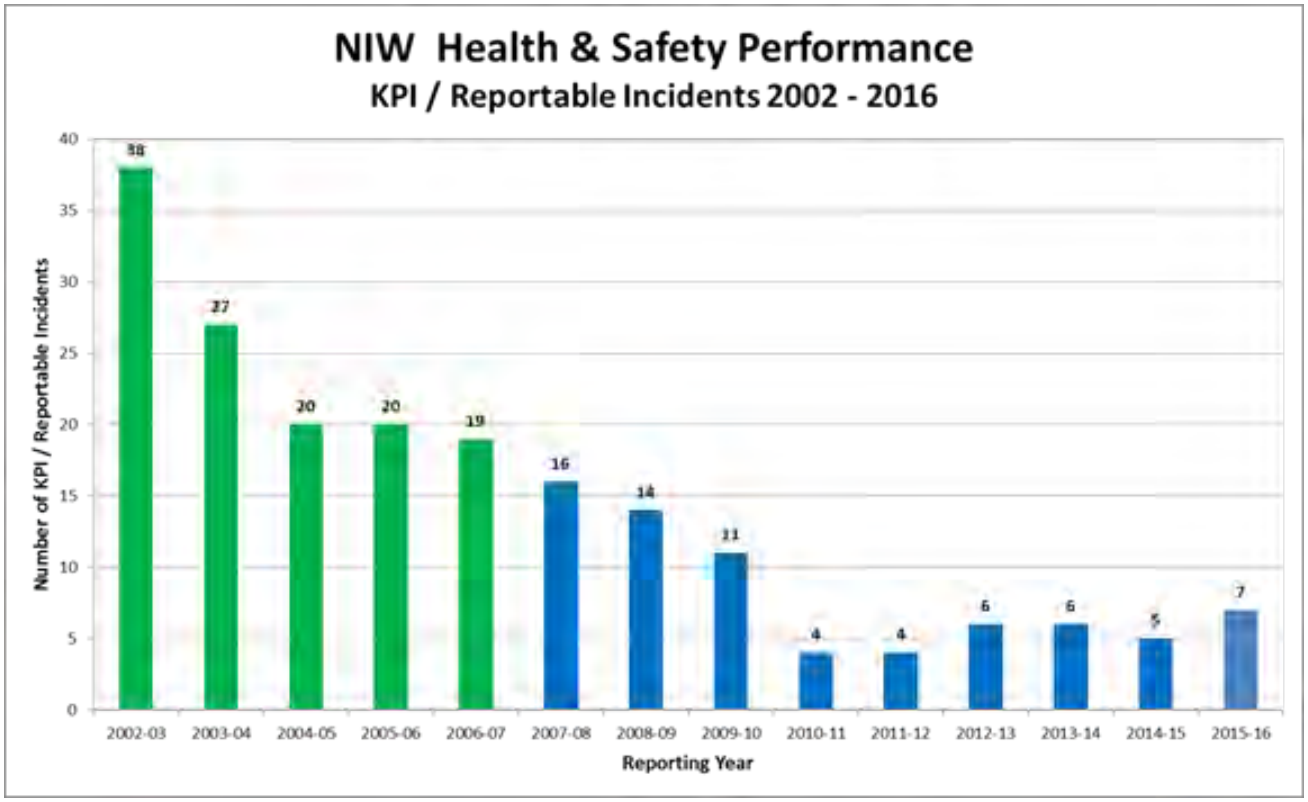
The majority of our carbon emissions are from grid electricity with the remaining emissions being attributed to areas such as sludge emissions and transport.

1.4 Health and Safety

This year NI Water entered RoSPA's major Competitive Sector Awards for the first time and, as a result, has been recognised with the award of 'Commended in the Water Industry Sector for Occupational Safety and Health'. This is a tremendous corporate result with NI Water achieving an impressive second place in a field of 29 international organisations.

NI Water has introduced a corporate 'Zero Harm' ambition, seeking to achieve Zero Harm for all of our staff, contractors and customers. In our vision for continual improvement we have also employed an independent review of health and safety within NI Water. The review has identified the existence of extensive and robust health and safety management systems and will now assist us in exploring further opportunities to focus upon improving safety culture and behaviours.

The table below indicates our annual safety performance on 'Reportable Incidents' since 2002, which reflects a continuing improvement since 2002 when we had 38 incidents.



1.5 Monitoring Plan Outputs

Tables 1.1 and 1.2 below provide a tabular summary of NI Water's delivery of services and outputs against the PC15 Year 1 Monitoring Plan targets. As can be seen, NI Water hit or outperformed against all but four targets:

1. DG3 Supply interruptions (overall performance score)

   Supply interruptions (greater than 6 hours) were adversely impacted by several exceptional events in 2015/16. These included a trunk main burst in November which proved to be unusually difficult to locate and repair due to poor weather conditions and health and safety considerations. Also, in January there were a number of difficult repairs in rural areas with no options to rezone the water distribution network. This resulted in NI Water failing to achieve the overall performance target for supply interruptions.

2. Call handling satisfaction score:

   The Call Handling Satisfaction target of 4.65 was narrowly missed (4.59). In conjunction with the Utility Regulator, CCNI and DRD, NI Water has begun trials of a new, more meaningful customer satisfaction metric. It is anticipated that the new measure will replace the current call handling satisfaction score around the mid-point of PC15.

3. Improvements to Unsatisfactory Intermittent Discharges (UIDs)

   26 UIDs achieved beneficial use in 2015/16 compared to a target of 27. These comprised: 24 out of 27 nominated for 2015/16, a PC15 nominated UID delivered early and a new, previously not nominated UID. The 3 nominated UIDs not achieving beneficial use in 2015/16 will be delivered in subsequent years in PC15.

4. Improvements to Wastewater Treatment Works (WwTW):

   3 out of 4 nominated WwTW achieved beneficial use in 2015/16. Blackrock WwTW was delayed due to a requirement from Transport NI to change the location of the pumping station. Anticipated beneficial use is now June 2017.

Table 1.1 – Monitoring Plan Targets and Outturns: Water

	Units	2015/16	
		Target	Actual
DG2 Properties at risk of low pressure removed from the risk register by company action	nr	92	171
DG2 Properties receiving pressure below the reference level at end of year	nr	1,040	900
DG3 Supply interruptions > 12hrs (unplanned and unwarned)	%	0.18	0.10
DG3 Supply interruptions (overall performance score)	nr	1.07	1.14
DG6 % billing contacts dealt with within 5 working days	%	99.90	99.96
DG7 % written complaints dealt with within 10 working days	%	99.50	99.87
DG8 % metered customers received bill based on a meter reading	%	99.00	99.23
Call Handling Satisfaction score (1-5)	nr	4.65	4.59
DG9 % Calls not abandoned	%	99.00	99.43
DG9 % calls not receiving the engaged tone	%	99.90	99.92
Overall Performance Assessment (OPA) score (11 Measures)	nr	218	230
Total Leakage	Ml/d	163	162
Security of supply index	nr	100	100
Percentage of NI Water's power usage derived from renewable sources	%	20.0	39.8
% overall compliance with drinking water regulations	%	99.79	99.83
% compliance at consumers tap	%	99.69	99.74
% iron compliance at consumers tap	%	97.10	98.40
% Service Reservoirs with coliforms in >5% samples	%	0.00	0.00
Water mains activity - Length of new, renewed or relined mains	km	93	117
Completion of nominated trunk main schemes	nr	2	2
Completion of nominated water treatment works schemes	nr	1	1
Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks	nr	0	0
Water infrastructure serviceability	Text	Stable	Stable
Water non-infrastructure serviceability	Text	Stable	Stable
Number of Catchment Management Plans	nr	3	3
Number of lead communication pipes replaced under the proactive lead replacement programme	nr	1,844	1,922
Number of school visits	nr	176	277
Number of other education events	nr	57	65
% Service Reservoirs where sample taps have been assessed and are to required standard	%	0.0	0.0

Table 1.2 – Monitoring Plan Targets and Outturns: Sewerage

	Units	2015/16	
		Target	Actual
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	6	7
DG5 Properties on the 2 in 10, 1 in 10 and 1 in 20 risk register at the end of the year	nr	179	160
% of WwTWs discharges compliant with numeric consents	%	91.1	92.8
% of total p.e. served by WwTWs compliant with numeric consents excluding upper tier failures	%	98.1	98.6
Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%	80.07	80.72
Number of high and medium pollution incidents attributable to NI Water	nr	28	21
Sewerage activity - Length of sewers replaced or renovated	km	11	17
Delivery of improvements to nominated UIDs as part of a defined programme of work	nr	27	26
Delivery of improvements to nominated WwTWs as part of a defined programme of work	nr	4	3
Small wastewater treatment works delivered as part of the rural wastewater investment programme	nr	1	4
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	0	0
WwTWs upgraded to comply with PPC Regulations	nr	0	0
Impermeable surface water collection area removed from the combined sewerage network	m^2	27,000	28,560
Number of sustainable WwTW solutions delivered (p.e. ≥ 250)	nr	0	1
Number of sustainable WwTW solutions delivered (p.e. < 250)	nr	0	0

Chapter 2
Financial Performance Measures
Table C

2.1 Financial Performance

Summary Statement of Comprehensive Income

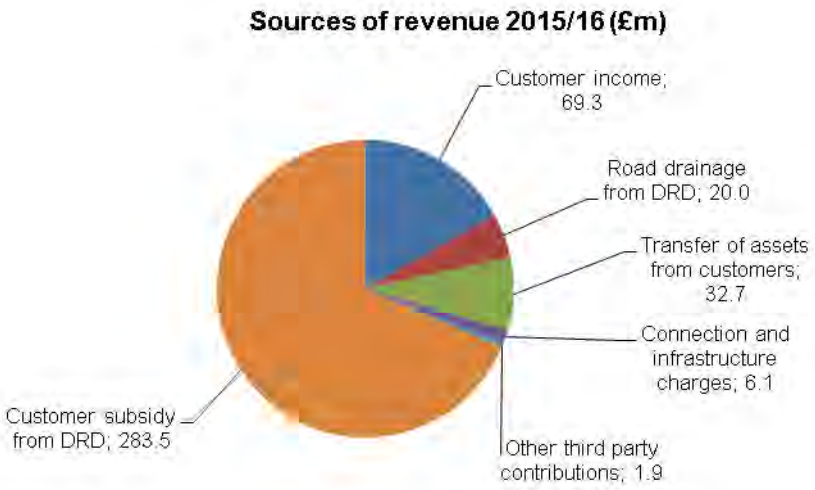
	Year to 31 March 2016 (£m)	Year to 31 March 2015 (£m)
Revenue	**413.5**	425.6
Results from operating activities	**163.4**	193.1
Net finance charges	**(64.3)**	(61.6)
Profit before income tax	**99.1**	131.5
Income tax credit / (expense)	**2.3**	(24.1)
Profit for the year	**101.4**	107.4
Other comprehensive income/(expenditure) net of income tax	**4.3**	(11.1)
Total comprehensive income for the period	**105.7**	96.3

Revenue

Domestic consumers are not charged directly for water and sewerage services. As a result, NI Water is dependent on government subsidy for over 69% of its funding.

Revenue was £413.5m for the year to 31 March 2016 (2015: £425.6m). Included in revenue was £303.5m (2015: £298.8m) received from DRD, being subsidy of £283.5m and road drainage charges of £20.0m. The remaining components of revenue are shown in the pie-chart below.

The increase in the customer subsidy in 2015/16 was due to a combination of changes in the notional household tariffs (water tariff decrease and sewerage tariff increase) and a re-assessment of the value of domestic allowance subsidy payable to NI Water.

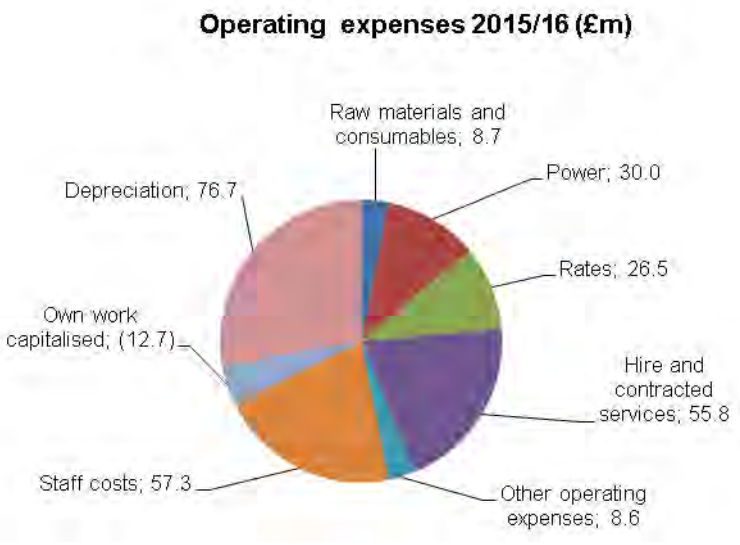


2.2 Costs (capital and operating) against expectations

Operating activities

Operating expenses in 2015/16 of £251m (2015: £233.1m) increased from last year. The increase primarily resulted from higher rates, depreciation and staff costs offset in part by lower hired & contracted costs and other operating costs.

Results from operating activities before interest for the year was £163.4m (2015: £193.1m).



Finance income and costs

The net finance costs are primarily due to interest on our borrowings of £43.9m (2015: £41.5m) and on our PPP liabilities of £20.1m (2015: £20.4m) and net finance costs on the pension fund of £0.4m (2015: net finance income £0.2m) partly offset by bank interest received of £0.1m (2015: £0.1m).

Taxation

The tax credit for the year was £2.3m (2015: charge of £24.1m) driven largely by the reduction in the rate of corporation tax. The effective tax rate for the year to 31 March 2016 was (2.3%) (2015: 18.4%).

Distributions

The Board will consider a proposal to declare a dividend of £23m in July 2016 (2015: £25m).

Capital Structure

The Statement of Financial Position at 31 March 2016 is summarised below.

Total assets increased by 3.9% to £2,816m (2015: £2,711m).
Our net debt[3] figure was £1,193.1m at 31 March 2016 (2015: £1,162.8m).
Gearing (the ratio of net debt to equity and net debt) decreased to 48.4% (2015: 49.4%).

[3] Refer to notes 18 and 20 in the Statutory Accounts. Net debt consists of loans of £983.6m (2015: £947.6m) and finance leases of £212.7m (2015: £216.1m) less cash and cash equivalents of £3.2m (2015: £0.9m).

The main movements in the financial position items were increases in property, plant and equipment of £106.1m (2015: £144.4m) relating to our Capital Investment Programme offset by increases in net debt.

Summary Statement of Financial Position

	At 31 March 2016 (£m)	At 31 March 2015 (£m)
Total non-current assets	**2,776.2**	2,672.7
Total current assets	**39.5**	38.1
Total Assets	**2,815.7**	2,710.8
Equity	**1,274.4**	1,193.4
Total non-current liabilities	**1,404.2**	1,376.9
Total current liabilities	**137.1**	140.5
Total liabilities	**1,541.3**	1,517.4
Total equity and liabilities at 31 March	**2,815.7**	2,710.8

Liquidity

Operating activities generated a net cash inflow of £195.8m (2015: £220.2m). Net cash outflows of £134.8m (2015: £169.2m) related to investing activities. Net financing activities created a cash outflow of £58.8m (2015: £52.7m).

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 £136.6m (2015: £170.6m), proceeds from the sale of property, plant and equipment of £1.7m (2015: £1.0m) and interest received of £0.1m (2015: £0.1m).

Dividends

Dividends paid to DRD during the year totalled £25m in respect of the previous financial year (2015: £24m in respect of 2014).

Pension funding

The pension scheme was valued at a liability of £7.2m at 31 March 2016 (2015: liability of £11.6m). This was made up of a total market value of assets of £207.6m (2015: £204.1m) less actuarial value of liabilities £214.7m (2015: £215.7m). The reduction in the liability has been driven primarily by actuarial gains arising from an increase in the discount rate assumption on fund obligations offset somewhat by actuarial losses on the assumptions on performance of fund assets.

Capital

We delivered c. £140m of capital investment during 2015/16.

2.2.1. Atypical operating expenditure items

We consider the following items to represent atypical and reorganisational operating expenditure in accordance with Regulatory Accounting Guideline 3.06 (RAG 3).

Atypical and re-organisational operating expenditure items:

Description	**Amount**	**Table 21/22 location**
Business Improvement Programme	£1.6m	General & Support – all activities
Voluntary Early Retirement Scheme \ Voluntary Severance (VER \ VS)	£0.7m	Employment Costs and General & Support – all activities
Total	**£2.3m**	

2.3 PPP contracts

Project 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 2016 is £117.68m and £91.86m respectively (2015: £116.17m, £93.92m). The amount included in PPP Creditors at 31 March 2016 is £92.50m (2015: £94.39m).

Project Omega

A contract with Glen Water Limited was signed on 6 March 2007 for the provision of sewage treatment and sludge disposal at seven 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.

Kinnegar Wastewater Treatment Works

A contract with Coastal ClearWater Limited was signed on 30 April 1999 for the provision of sewage treatment which covered the upgrading of the Kinnegar Wastewater 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.

2015/16 PPP Cash Payments[4]

On Balance Sheet ***Alpha***	**£k**
Opex	8,225
Interest	6,701
Total P&L Impact	**14,926**
Capital Repayment	1,888
Life Cycle Maintenance	1,516
Total Balance Sheet Impact	**3,404**
Total PPP Payments	**18,330**

Effective Interest Rate used to calculate Alpha finance charge	**3.57%**

Off Balance Sheet	***Omega (£k)***	***Kinnegar (£k)***
Opex	22,818	2,278
Residual Interest	3,287	269
Total PPP Payments	**26,105**	**2,547**

Estimated Residual Value at End of Contract

Alpha	£84m
Omega	£113.5m
Kinnegar	£5.98m

[4] Details of PPP contractual performance failures are set out in the commentary for AIR table 42.

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 2015/16 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.

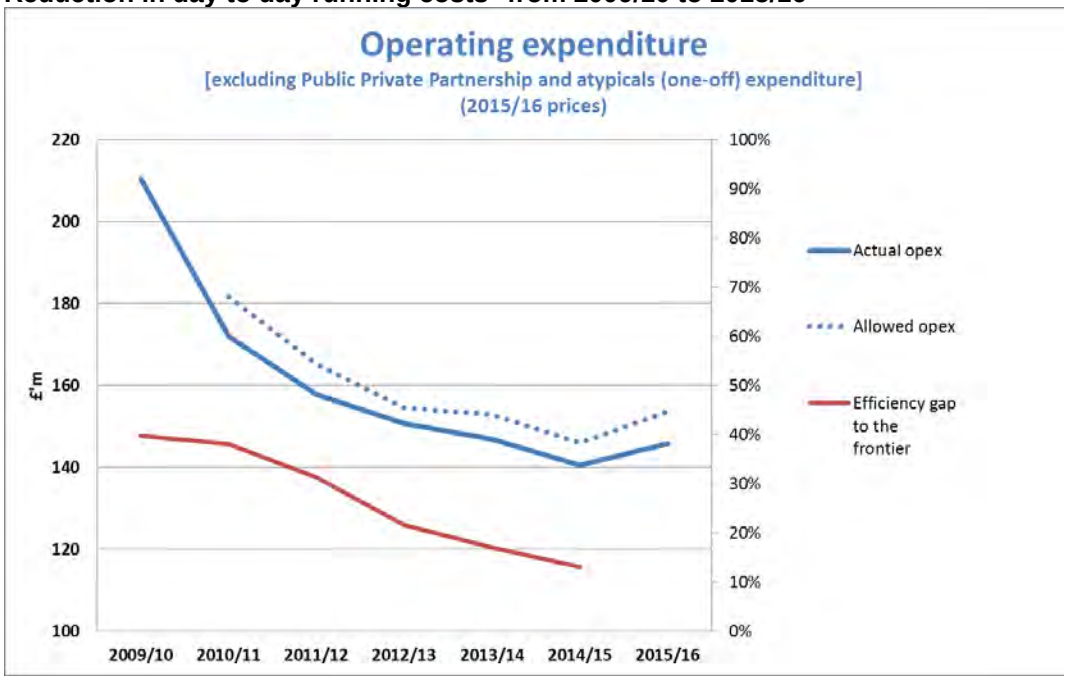
	At 31st March 2016 £m	At 31st March 2015 £m
Prior Year Closing RCV	2,045.5	1,948.8
Indexation and other adjustments	22.0	38.2
Opening RCV	2,067.50	1,987.0
Capital expenditure	127.9	129.2
Infrastructure renewals expenditure	24.6	33.8
Infrastructure renewals charge	(24.6)	(33.8)
Grants & contributions	(6.1)	(6.0)
Depreciation (including capital grants)	(54.8)	(42.3)
Disposal of assets	(1.2)	(6.6)
Closing RCV (pre adjustments)	2,133.3	2,061.3
Regulatory adjustments	0.0	(15.8)
Closing RCV (post adjustments)	**2,133.3**	**2,045.5**
Average RCV	2,089.4	1,997.2
Regulatory Adjustments for PC13 period		
Notified Index		3.3
Logging up / down		(22.7)
Asset disposals		3.6
Total PC13 Regulatory Adjustments		**(15.8)**

The PC15 Final Determination includes a number of regulatory adjustments within the roll forward of the PC13 RCV at 31st March 2015. These adjustments are set out in the Utility Regulator's PC15 Final Determination Annex A 'Financing Investment'. Similar adjustments for the PC15 period will be included at 31st March 2021.

Chapter 3
Efficiencies

Our focus on controlling operating expenditure and working more efficiently contributed towards a reduction in day to day running costs of 4.7% (£5.9m[5]) in 2015/16, and a 31% (£65m[6]) reduction in running costs since 2009/10. We have more than halved the efficiency gap with the leading edge (frontier) water and wastewater companies in England and Wales from 49% in 2007/08 to 13%[7] in 2014/15.

Reduction in day to day running costs[8] from 2009/10 to 2015/16



Some of the measures we have taken over 2015/16 to deliver the 4.7% (£5.9m) reduction in day to day running costs are as follows:

- optimising wastewater treatment processes to reduce energy consumption without compromising the quality of treated effluent;
- changing how we buy our energy to achieve lower purchase prices;
- targeting known 'hot-spots' to deliver a 35% reduction in the number of desilting jobs;
- using category councils to sustainably reduce major areas of expenditure. The councils consist of cross directorate teams comprising staff with expertise in relevant expenditure categories.
- adopting new technology in recent years has assisted us in delivering better quality services in more efficient ways. With ever increasing challenges on sustainability, efficiency and cost, we will continue to look to science and technology to seek innovative and practical sustainable solutions to improve our services and minimise costs.

[5] Based on an approach used by the Utility Regulator. Details of this approach are contained within the Utility Regulator's Cost and Performance Report.
[6] Based on a reduction in operational costs between 2009/10 (baseline year) and 2015/16 using 2015/16 prices.
[7] Subject to determination by the Utility Regulator. Measured 1 year in arrears.
[8] Operating Expenditure (Opex) stated in 2015/16 prices and excluding PPP aa-typical costs

3.3 Risk of Failure to Deliver

On 23 March 2016, DRD wrote to NI Water confirming the final 2016-17 budget position for NI Water of £109.1m DEL Resource Cash (including £0.5m ring-fenced VES funding) and £146.1m DEL Capital. Compared to the funding set within the Utility Regulator's challenging PC15 Final Determination, this results in a cumulative shortfall in DEL Capital of £26m over the first two years of PC15.

NI Water has worked with the Utility Regulator to adjust outputs for 2016/17 due to this shortfall in Public Expenditure funding. Following consultation with stakeholders the Utility Regulator wrote to NI Water on 1 June advising their acceptance of our proposals, concluding that our proposals are in line with the PC15 Final Determination, taking account of efficiency and lower than forecast inflation.

NI Water has prepared a one-year public facing Monitoring Plan for 2016/17. The indication from DfI of a 4-year Capital DEL budget is welcome news. A medium-term financial settlement will allow NI Water to plan efficiently and deliver the programme of work to improve services to customers and reduce costs out to March 2021.

Since its inception in 2007, NI Water has made significant improvements to water and wastewater services. We have achieved the highest ever levels of quality in drinking water delivered to customers and wastewater compliance in Northern Ireland. Underpinning much of these improvements is the delivery of a £1.7bn investment programme since 2007/08 maintaining and improving our infrastructure.

We are proud that these improvements in performance have been achieved against a background of improving cost control, efficiency and cost improvement. As a result customers in Northern Ireland are experiencing improved service and quality and more is being delivered for less than when we embarked as NI Water in 2007.

We do, however, raise a significant concern as to the impact that the reduction in funding has in terms of undermining momentum of delivery and on the real risk of ongoing regression in outputs and service levels experienced by customers.

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 2016

Section 2

Tables and Commentary

Promoting the Efficient Use of Water

Range of activities undertaken by the company over household and non-household

NI Water has during this year continued its efforts to promote water efficiency to its customers. These efforts have included using the methods successful to date i.e. education schemes, distribution of water saving devices and working in partnership with other organisations on new projects, and by designing and introducing new strategies.

The Water Education Team (WET) consists of two personnel serving schools, community and specialist groups, stakeholders and partners. Sixty percent of their 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, dishwashers and care as to the machine selected (water saving)
   d) use of showers rather than baths and shower timers to reduce time spent in the shower
   e) shower heads 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 water butts

WET have attended a variety of external public events:-

- Older Persons Event – Ulster Museum (May)
- Suffolk Community Garden (June)
- Balmoral Agricultural Show (May)
- Upperlands Community Summer Fair (August)
- Moneydig Rural Community Group (September)
- European Heritage Open Day (September)
- New Mums Group (September, December, April & May)
- Supporting Communities NI Conference (October)
- Glenbrook Sure Start (October & March)
- Coleraine ‘Bag It and Bin It’ campaign (October)
- Winter Information for Older People (October & November)
- Forglen Community ‘Be Safe, Be Well’ Dungiven (November)
- Cookstown Community Forum (December)
- Bangor Mental Health Group (January)
- Carrickfergus Youth Group (February)

Events that were attended on request:

- The Chartered Institution of Water and Environmental Management, April 2015
- CBI - Confederation of British Industry, April 2015
- Hagan Home Ltd, Ballyclare, May 2015

Staff who attended these events promoted the practice of water conservation by means of distributing leaflets, promotional items and giving advice on using water wisely.

During the reporting year, NI Water treatment sites have been utilised as an academic resource by Queens University Belfast, Ulster University, South Eastern Regional College, Lisburn and Methodist College Belfast. We also facilitated a site visit to a water treatment works for one of our leading businesses 'Delta Packaging'. The reason for this was to help establish a better understanding of the significant importance of water usage within the business community.

NI Water attended STEM (Sustainable Together through Environmental Management) World Oceans day Celebration at W5, Belfast on the 8 June 2015. This event promoted the importance of water conservation, including how much animals and people depend upon water.

Talks are delivered twice a month to community groups including:-

- Sure Start - mother and toddler groups
- Health Visitors and New Mother Groups
- Seniors Citizens groups
- Church groups
- Allotment and gardening groups

The WET promotes water efficiency at their Education Centre and Silent Valley where sessions take place in alternating weeks. Specific classroom talks on conservation are given to primary school children supporting the Eco Schools initiative or at their request. Monthly educational visits to the Wastewater and Water Treatment Centres for both schools and the general public are organised by the team.

We have seen a large increase in demand for Key Stage 3 classroom visits with 2,123 pupils receiving visits through the Home Economics strand over the last reporting period. We expect this to grow in the new school term given the high level of interest and request.

A variety of water efficiency promotional items are used whilst delivering all these types of talks which include:

- Water-butt leaflets
- Drought resistant gardening leaflets and seeds
- Promotional and educational leaflets
- School water audits
- Interactive games encouraging conservation
- Hippo bags and instructions
- Save-a-Flush
- Shower timers (5mins)
- Fridge magnets
- Water cycle poster (teacher's aide)

All of the water efficiency leaflets are available for download from the NI Water website along with a printable poster "Stop those drips".

Household

1. Cistern Displacement Devices (CDD's)

These can be requested by the customer directly through NI Water's Customer Relations Centre (CRC) or from communication to the Education Team. For 2015/16 NI Water has distributed 889 CDD's at school visits, community talks, shows and at the request of an organisation. Each teacher we came into contact with was also issued with a sample.

Community Groups receiving presentations on conservation also received a hippo bag or save-a-flush.

The calculation for the water savings achieved in 2015/16 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 2010-11 to 2014-15 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 5. This figure is the average savings per flush achieved through the installation of Hippo Bags and save-a-flush which are the CDD 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*(889*0.7) = 19,446.875 l/per day = 0.019447 Ml/d

2. Distribution of Water Butts

For the report year 2015/16 NI Water distributed water butts to community groups, schools and allotment groups the total for this year is 20.

The calculation for the water savings achieved in 2015/16 report year is as follows:

S=V*F*1*N

S= savings per butt, V=volume of waterbutt, F= fills per year I= instillation rate, N= number of Water butts Using the OFWAT Efficiency Report the volume is company based (NI Water supplied 29, 190l butts) the fills per year is estimated at 6 and the installation rate is 100%.

Calculation:
190*6*1*20 = 22800 l per year:
22800/365 days = 62.465753 l per day = 0.00006247 Ml/day

3. Household Water Audits

During 2015/16 the self-water audit for domestic households which can be accessed through the company's website, there have been 89 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.

Domestic Self Water Audit Packs

Over the report year 2015/16 WET continued its conservation campaign "Spread the Word" to distribute self-audits to the parents of school children. For each school visited by the Team, the Principal was asked to distribute NI Water Domestic Water Audits to all families within their school. Every school that entered received Hippo Bags for their toilets. A school returning 75% completed audits received a water saving pack including a water butt, trigger hose and gel bag. The school with the highest percentage of returns will

receive a cash prize. This initiative will run until the end of May 2016, for completed audits, 253 have been received to date.

To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets 2010-11 to 2014-15). The percentage acted upon is assumed to be 70%. It has been assumed that completed audit achieved savings of 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.

The number of audits distributed was 423 through Spread the Word
Calculation:
423 * 0.70 *10 = 2961 l/per day = 0.00296 Ml/d

From the figures supplied by IT division of the Corporate Affairs Team, 89 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 2010-11 to 2014-15). The percentage acted upon is assumed at 10% saving 10 litres per property per day:

Calculation: 89 * 0.10 * 10 = 89 l/per day = 0.000089 Ml/d

4. Shower Timers

Over the reporting year 5716 shower timers were distributed at schools, shows, events and presentations by NI Water staff. The installation rate of these can be assumed at 23% (Ofwat Water Efficiency Targets 2010-11 to 2014-15) a saving of 5 litres per property per day can also be assumed. The calculation for the savings achieved in 2015-16 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: 5716* 0.23 * 5 = 6573.4 l/per day = 0.006573 Ml/d

D*I *S= Savings in litres

5. Trigger Guns

23 trigger guns were distributed through allotment talks and at staff water efficiency stands.

Using the Ofwat Water Efficiency Targets 2010-11 to 2014-15) a saving of 2 litres per property per day can also be assumed and 100% installation if requested i.e. at staff stands or through CRC.

The calculation for the savings achieved in 2015/16 report year is as follows:

D*I *S= Savings in litres

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

Calculation 23*1* 2 = 46 l/per day= 0.000046 Ml/d

6. Water Audits Completed by Company

No audits were completed in the homes of customers 2015/16

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, for example by reducing the number of showers they have in a week or 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 be seen to be 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)

Work was carried out on NI Water's website; an area was developed to deal with promoting 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.

7. Water Audits

During 2015/16 423 Water Audits for Schools were distributed by WET through Teachers Packs.

To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets 2010-11 to 2014-15). 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: 423*0.20*10 = 846 l/per day = 0.000846 Ml/d

No Commercial Audits were distributed as the document is available on line as an advice leaflet for business customers during the year "Advice for Business Customers" with an additional document "Business Water Audit". Due to cost restrictions these leaflets have not been published but are 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 the cost will be charged to the customer.

Water Efficiency Methods

The majority of NI Water's other Water Efficiency Methods are education based. As already mentioned NI Water has a dedicated Water Education Team consisting of two full time employees. The Environmental Education Manager and the Outreach and Learning Officer, who deliver presentations to a variety of community and youth groups, organise/attend external events as well as attending educational establishments at all levels. Conservation classroom presentations are delivered weekly and we work with the Eco Schools Award scheme. The double decker Waterbus, a mobile education unit provides displays, experiments, quiz, demonstrations, DVD, and computer facilities. This exhibition aims to make children aware of a range of water issues such as the water cycle, water for health, water sources, water /wastewater cleaning and water efficiency. The Waterbus programmes have been written for Key Stage 2 (P5-P7) and we work closely with the revised curriculum. The service is well received by Education and Library Boards and we have been in contact with over 19,447 pupils during 2015-16. NI Water has a Wastewater Heritage Centre sited at Duncrue in Belfast. This site provides an insight into the history of water supply and removal of waste along with the importance and techniques of wastewater management. We consider contact with school children to be the vital link with parents, bringing news and promotional items home and encouraging them to become water efficient and to be aware of the value of water management. Ever since the introduction of the Key Stage 3 talks by NI Water's Education Team, 2,123 pupils have availed of this service which is delivered through the Home Economics strand.

New interactive Education & the Community section on NIWater.com

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

We have launched an updated Education & Community section with rich, informative content focused on informing water users with our key messages. The extensive new interactive content is used to not only educate users but also to position NI Water as a key stakeholders 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 about how much water households are wasting.

- **Silent Valley**
  www.niwater.com/silent-valley/

This sub section sells 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.
- Visitor information, downloads, podcasts.

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 also 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 fitted to houses and business, which would help them to be more efficient in the future.

NI Water has 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 tag line “Beat the Freeze” ran throughout the campaign. The campaign generated 92 articles between September 2015 and February 2016, generating £76,265.97 of PR value.

The specific message of preparing your property for winter was highlighted in the general ‘Beat the Freeze’ release which featured in 47 releases generating a PR value of £31,478.86. This message was a strong one as it was a call to action by property owners to protect their properties from the freeze. A new venture for this year was a joint Utilities Winter Readiness regional advertising campaign which was the subject of 7 articles and produced a PR Value of £8,078.64.

A large number of winter meetings were attended, targeting specifically ones aimed at the elderly in preparation for winter, council organised events and stakeholder events. Distribution was to school children, to estate agents and commercial businesses, each was told what to do to prevent frozen pipes and what to do if they got a burst. It was positively received.

In support of this campaign several videos are downloadable from NI Water on U-Tube: “Protect your Pipes”; Insulation; Winter Proof Your Home; “How to locate your Stop Valve”; “If a pipe burst” and “Don’t Wait Insulate”. WaterSafe also produced videos and a blog which NI Water promoted through its website.

NI Water also participated in a UK wide campaign organised by WaterSafe, an online register for approved plumbing businesses in the UK and the MetOffice. This involved the greater use of social media activity advising people to protect their properties in advance of winter.

Efficiency Method	Total	Cost	Savings per Ml/ day
Household			
Measurable Methods			
Cistern Devices (0.57p each)	889	506.73	0.019447
Water butts (£38.16 each)	20	763.20	0.000062
Self-audit (Spread the Word)(0.04p each)	423	16.92	0.000296
Self-audit (On Line)	89		0.000063
Total		1286.85	**0.019868**
Other Measurable Methods			
Shower timers (£1.10 each)	5718	6,287.60	0.006573
Gel Bags (£4.75 each)	0	0.00	0.000000
Trigger Guns (£4.83 each)	23	111.09	0.000046
Shower Heads (£27.90 each)	0	0.00	0.000000
Education Depart (UKWIR)		56,759.16	0.265000
Total			**0.278192**
2.Leaflets			
How water wise are you (0.10peach)	24238	2,423.80	
Hippo Bag Leaflet (0.13p each)	889	115.57	
Freezing Pipe (0.017p each)	11921	202.66	
Total leaflets		**2742.03**	
3.PR items			
Bookmark- “Flo” kids (0.07p each)	13904	973.28	
Game: Snakes and Ladders (0.18p each)	503	90.54	
Stop Tags (0.43p each)	11812	5079.16	
Tap cover (£4.66 each)	326	1519.16	
Ice scraper (0.73p each)	447	326.31	
Thermometer (0.76p each)	223	169.48	
Total PR		**8157.93**	
Non Household			
School Audits(0.19p each)	423	80.37	0.000846
Total			0.298906

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 stand at £12589.81.

The calculation of costs due to staffing has been calculated using accepted methodology from the AIR12 return.

Assumed Savings

Household-Water Efficiency Methods	=	0.019868
Other Water Efficiency Methods	=	0.278192
Non Household-Water Efficiency Methods	=	0.000846
The total recorded savings are	**=**	**0.298906** 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 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	0.249
Medium	0.013
Totals	**0.262**

The increase in the contact with schools through the Waterbus to four days a week (high level engagement) has ensured the Ml/day increased to 0.262 in comparison to 2014/15 figure of 0.229MI/day.

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 M/l day
2012/13	0.227 M/l day
2013/14	0.219 Ml/day
2014/15	0.304 Ml/day
2015/16	0.299 Ml/day

NI Water concentrated on an increased activity in Waterbus visits up to sixteen visits per month for the ten school months available for visits, which attributes to a higher level of engagement and also a high level of savings for this element.

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										
2	Properties below reference level at start of year	nr	0	1,748	B3	1,420	B3	1,257	B3	1,082	B3										
3	Properties below reference level at end of year	nr	0	1,420	B3	1,257	B3	1,082	B3	900	B3										
4	Properties receiving low pressure but excluded from DG2	nr	0	0	B3	0	B3	0	B3	0	B3										
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										
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										
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										
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										
6	More than 6 hours	nr	0	10,487	B3	6,742	B3	43,767	B3	8,699	A3										
7	More than 12 hours	nr	0	2,607	B3	1,195	B3	25,693	B3	841	A3										
8	More than 24 hours	nr	0	1,554	B3	12	B3	13,788	B3	32	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										
10	More than 6 hours	nr	0	20,674	B3	18,454	B3	19,127	B3	13,767	A3										
11	More than 12 hours	nr	0	0	B3	0	B3	44	B3	0	A3										
12	More than 24 hours	nr	0	0	B3	0	B3	0	B3	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										
14	More than 6 hours	nr	0	561	B3	121	B3	974	B3	476	A3										
15	More than 12 hours	nr	0	1	B3	33	B3	1	B3	0	A3										
16	More than 24 hours	nr	0	0	B3	0	B3	0	B3	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										
18	More than 12 hours	nr	0	60	B3	20	B3	16	B3	159	A3										
19	More than 24 hours	nr	0	0	B3	5	B3	0	B3	140	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										
D	**DG4 RESTRICTIONS ON USE OF WATER**																				
21	% population - hosepipe restrictions	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1										
22	% population - drought orders	%	1	0.0	A1	0.0	A1	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										

Table 2 – Key Outputs - Water Service 2

Line 1 - Total Connected Properties at Year End

Northern Ireland Water's (NIW) property data is provided via a data download of the property database tables held within the RapidXtra billing system. The data is then manipulated within Microsoft SQL to produce the Rapid Property Summary Report.

In AIR12 we introduced an automated tool to populate the figures within Table 2 - (Rapid Property Summary as the input). Our methodology for AIR16 has remained consistent.

The difference between the AIR15 and the AIR16 figures is 11650. The breakdown can be explained as follows:

1) New Connections during the 2015/16 reporting year.
2) Added as a result of a customer contact. E.g. septic tank empty request, no water complaint, blocked sewer etc.
3) Removal of duplicates/properties as a result of data quality initiatives
4) The decreased number of properties within the no water/well water category (further detail provided within the Table 7 Commentary)

In addition to the above, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout. The work on data validation has commenced, with new validations 'live' as a result of Phase 1 & 2 implementation further validations will be implemented as Phase 3 & 3a are during 2016/17 & 2017/18.

Annex A details the Line Methodology followed for each of the figures calculated in Table 2.

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 1082, as reported in line 3 of the AIR15 submission.

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

As per the 2015 regulatory guidance, as issued and directed by NIAUR, this line includes properties within a 10m height of service reservoirs, there are currently 86 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 900.

The year-end figure is the direct result of removals due to Company Action and better information. 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.

The reductions arising from capital schemes are captured within reports received following the completion of water main rehabilitation or infrastructure improvements. In total NI Water processed 1 Post Project Rehabilitation Appraisal (PPRA) reports and 5 DG2 investigation (DIR) report resulting in 171 properties being removed from the DG2 register due to company action in AIR16, see Table 1 and scheme summaries below.

Regular updates of DG2 properties continue to be uploaded onto the CARtoMAP system ensuring that this information is readily available throughout the company. This has proved to be of particular benefit to the Contact Centre to assist in the handling of low pressure complaints.

Table 1

Company Action Removal Scheme	DG2 Properties Removed
The Glens	10
Casaeldona	21
Altmore	69
Lisburn	32
Ballintemple	37
Killylane/Dunore East	2
Total	**171**

The Glens PPRA - This scheme covers an area of 171.2km^2 situated in a predominately rural area close to Ballymena. The work package supplies an estimated 3850 properties and contains 236km of water mains. As a result of work completed, 10 DG2 properties were removed from the register.

Casaeldona DIR – The properties under investigation were identified within the Casaeldona DMA as properties receiving pressures below 15m head. Casaeldona DMA covers an area of 0.22 km^2 and is a mainly urban area with 4.01 km of water mains.
As recommended during a DMA Optimisation study, the installation of a pressure management scheme, in conjunction with network rezoning, facilitated the removal of 21 properties from the register.

Altmore DIR –The WP104 Altmore Phase 3 study boundary is located in and around the Dungannon and Coalisland area of mid-ulster and supplies some 20,000 properties through 990km of mains. Following successful improvements to the infrastructure in the area a total of 69 properties were successfully removed from the register.

Lisburn DIR –The Lisburn South Rural and Dunmurry study boundary is located to the south-west of Belfast and supplies some 45,800 properties through 884km of mains. Following successful improvements to the infrastructure in the area a total of 32 properties were successfully removed from the register.

Ballintemple DIR – The Ballintemple work package covers an area of 355km^2 and is a predominantly rural area to the West of Newry. The work package supplies an estimated 11,906 properties and contains 613km of water mains. An earlier DIR completed April 2014 concluded that a number of the construction schemes were not yet completed but following investigation, follow-up and completion 37 properties were successfully removed from the register.

Killylane and Dunore East DIR – The Killylane and Dunore East Phase 1 work package covers an area of 309.2km^2 and is a predominantly rural area that includes Antrim and Larne. The work package supplies an estimated 25,380 properties and contains 759.9km of water mains. Following successful improvements to the infrastructure in the area a total of 2 properties were successfully removed from the register.

As a result of the relogging of work package areas, a total of 11 properties were removed from the register due to better information and which could not attributed to Company Action infrastructure improvements. All removals were processed based on the provision of 7 day logged data. The existing Register maintains links to reports, supporting documentation and location maps, all of which are held electronically. These are identified in Table 2 below and aligned to their corresponding Work Package.

Table 2

Better Information Removals	**DG2 Properties Removed**
Casaeldona	0
The Glens	5
Altmore	0
Ballintemple	0
Lisburn	3
Killylane\Dunore	3
Total	**11**

The total DG2 movements during the year are summarised in Table 3 below.

Table 3

Year Start	**1082**
Additions due to Better Information	0
Removals due to Company Action	171
Removals due to Better Information	11
DG2 Properties Remaining	**900**

Line 4 – Properties receiving low pressure but excluded from DG2

As per NIAUR direction, 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 current guidance notes. 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 126 properties experience a pressure below the 7.5 m 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 both Rehabilitation schemes and Infrastructure improvements.

Table 4

Removals Due to Company Action	**Number**
Rehabilitation Schemes	150

Infrastructure Improvements	21
Total	**171**

The final number of properties removed due to Company Action is recorded in Table 4 above as 171. This has exceeded the annual target of 92 by 79.

Lag in Confirming Removal from Register

There is a time lag of approximately one year between the completion of the construction phase of a Work Package and confirmation that properties can be removed from the register, in general. There will be a longer lag in areas where there are multiple phases in a Work Package under construction, or a neighbouring Work Package has a significant effect on the normal operation of the system. In general, the PPRA report for a multi-phase Work Package will be completed one year after the final phase of the Work Package is constructed. This is consistent with the process included in the company PC15 Business Plan.

Work Packages awaiting PPRA

Documentation listing the Work Packages awaiting the completion of PPRA reports identifies the estimated number of DG2 properties to be removed during 2015/16 using predicted pressure from Hydraulic Modelling. The actual pressure will be confirmed by logging before formal removal of properties from the register. Table 5 below lists the Work Packages and the predicted number of properties identified for removal.

Table 5

Work Package Name	No. of Props to be Removed
Lough Ross	29
Omagh	33
Total	**62**

Removals Pending

It should be noted that there were 7 properties identified in Killylane for removal from the register in 15/16 with increased pressure at the time of logging but which were unable to be removed from the register as the achieved pressure was a result of temporary works. The removal of these properties will by necessity be moved to a future date.
The total number of properties planned for removal during the 16/17 year is 62.

Table 6

Work Packages Outstanding	No. of Props to be Removed
Killylane	7
Total	**7**

These removals however are subject to the completion of rehabilitation works, collation of pressure data and submission of completed reports. The AIR17 target for DG2 removals is 29.

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

The Utility Regulator issued guidance in April 2011 for AIR11 Table 2 which included additional reporting lines for average cost of removing DG2 properties from the Register as a result of Company Action.

This is the fifth year that the company has reported this figure and it will allow the benchmarking of NI Water costs. The UR Final Determination Document indicated an average cost per property removed, which appears to be based on historic figures from England and Wales, but the appropriateness of this comparison without a factor to account for the much longer length of main per property in Northern Ireland needs further discussion. 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. (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 report was produced. The costs 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.

PPRA reports covering part of Altmore Phases 2 and 3, Lisburn South Rural, The Glens, Ballintemple and Dunore East/Killylane were produced during 2015-16 which removed a total of 156 properties from the register. These are detailed in the Table below.

Table 7

WP Title	DG2 Properties Removed	Total Cost	Cost Per Removal
Altmore Phases 2 and 3 (Completed and verified Schemes)	69	£1001070.60	£14.5K
Lisburn South Rural	32	£185873.45	£5.8K
The Glens	10	£55269.40	£5.5K
Ballintemple	37	£657907.30	£17.7K
Dunore East/Killylane	2	£185316.12	£92.6K
Casaeldona (Leakage Scheme)	21	Through Leakage Budget	N/A
TOTAL Pro Active NIW DG2 Removals 2015-2016	**171 against 92 target**	**£2085437.67**	
Remove Casaeldona (Leakage Team) from the total EP removals for the final calculation	150	**£2085437.67**	
Average Cost per DG2 Removal		**£13,902.91**	

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.

Therefore the average overall cost of removing a DG2 property from the register is obtained by dividing the total cost £2085437.67 by the total number of properties removed (150) utilising the EP Budget (Casaeldona is left out as Leakage proactively removed these through their Budget ,therefore to include these in the total would give an incorrect average.. Average removal cost is therefore

Average cost per DG2 removal = £13,902.91

Work Package Descriptions

WP 119 Altmore Phases 2 and 3

The Altmore study boundary is located in and around the Dungannon and Coalisland areas of mid-ulster and supplies some 20,000 properties through 990km of mains. This PPRA was required because the schemes covered under it had not been fully constructed when the previous PPRA was completed last year. By completing this further PPRA in the area another 69 properties were able to be removed from the DG2 register.

WP 123 Lisburn South Rural

The Lisburn South Rural and Dunmurry study boundary is located to the south-west of Belfast and supplies some 45,800 properties through 884km of mains.

WP 14 The Glens

The Glens work package is located between Antrim and Cushendun and covers an area of 171.2 km2 most of which is rural zones with 236km of water mains
The PPRA for this area was planned to be completed in 2014/15 financial year but due to a delay in the construction of some rehabilitation schemes in the area the PPRA was put back to 2015/16 year.

WP 72 Ballintemple

The Ballintemple work package covers an area of 355km2 and is a predominantly rural area to the West of Newry. The work package supplies an estimated 11,906 properties and contains 613km of water mains. A further study will be required in this area to confirm the planned removal of an additional 7 properties from the DG2 register after the completion of a new pumping station scheme.

WP120 Dunore East/Killylane

The Killylane and Dunore East Phase 1 work package covers an area of 309.2km2 and is a predominantly rural area that includes Antrim and Larne. The work package supplies an estimated 25,380 properties and contains 759.9km of water mains. The high relative cost of these removals is related to the fact that only 2 properties were removed in this scheme

Further Work Packages to be reviewed next year

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 2016/17 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 with further investigation throughout the year)
This will give a 2 year cumulative total of 171 + 69 (240) DG2 removals delivered against a target of 92 + 108 (200) for 2015-2017

Table 8

Work Package Name	No of properties to be removed

Omagh	33
Lough Ross	29
Ballintemple	7
TOTAL	**69 against 108 target**

Removals Pending

It should be noted that there are currently 69 properties identified for removal from the register in 2016/17 to a target of 108 in the plan following the submission of PPRA Reports.
However the 2015/16 target was for the removal of 92 DG2 properties and the actual achieved removals greatly surpassed this figure leaving 29 DG2 removals necessary to average out the target removal numbers. And so in reality the totals are 69 planned for next year against a 29 target to get NIW up to the planned cumulative target for end of next year.

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 EP, Asset Performance and the Reporter 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).

Individual scheme outputs are provided separately to show how each calculation was carried out.

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 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 839,710 as confirmed by Customer Systems in AIR16 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**	**2013/14**	**2014/15** Inc. Industrial Action	**2014/15** Exc. Industrial Action	**2015/16**

Table 2: Line 5	More than 3 hours	41,412	112,653	72,859	**105,235**
Table 2: Line 6	More than 6 hours	6,742	43,767	10,243	**8,699**
Table 2: Line 7	More than 12 hours	1,195	25,693	805	**841**
Table 2: Line 8	More than 24 hours	12	13,788	1	**32**

Last year, NI Water's outturns were heavily influenced by the impact of industrial action. With the impact of industrial action removed, the Company still reported an increase in the number of properties that experienced an unplanned, unwarned interruption lasting more than 3 hours and evidence linked this to an increase in the number of unplanned, unwarned interruptions involving more than 2,000 properties. A further factor was believed to have been the introduction of the Central Incident Management System (CIMS) on 4 July 2014.

In 2015/16, the number of properties that experienced an unplanned, unwarned interruption lasting more than 3 hours was 105,235. A review of the monthly outturns for this measure indicates that in the last quarter of 2015/16, there was a notable increase in the average number of properties affected per month, 15,375 compared to an average of 6,568 for the first three quarters. In the last quarter there was also an increase in the average number of interruption events per month, 77 compared to an average of 61 for the first three quarters. And there was an increase in the average number of 'no water' complaints received per month, 2,283 compared to an average of 1,658 for the first three quarters. These increases are consistent across several independent data sources and are attributed to a number of difficult repairs in rural areas with no options to rezone.

The Company also believes that the introduction of CIMS has been a factor, in part because the new system ensures that more unplanned, unwarned interruptions are being captured than would previously have been the case and in part because the information is less robust for interruptions lasting between 3 and 6 hours. Since the introduction of the new system, the focus has been on unplanned, unwarned interruptions lasting more than 6 hours as they represent the interruptions on which NI Water's performance is measured. Now that CIMS has had an adequate bedding-in period and staff are more familiar with the system and associated change in methodology, the Company aims to address this issue. A new phase of CIMS is currently at the testing stage and will be implemented in 2016/17 to improve the usability and functionality of the current system, so making time for staff to spend on shorter duration interruptions.

This year, 8,699 properties experienced an unplanned, unwarned interruption lasting more than 6 hours, 2,076 of which were associated with a burst 12 inch main at [redacted] Ballygowan on 13 November. 31 of the properties experienced an unplanned, unwarned interruption lasting more than 24 hours. Due to poor weather conditions and health and safety considerations, the burst was difficult to locate and repair. The incident was the subject of Upward Report 016.

In 2015/16, the number of properties that experienced an unplanned, unwarned interruption lasting more than 12 hours was 841, the lowest outturn for this measure since the 2011/12 outturn of 765.

Planned and Warned Interruption Events

DG3 Interruption Events	**2013/14**	**2014/15**	**2015/16**
More than 3 hours	815	545	**263**
More than 6 hours	531	300	**110**

More than 12 hours	0	3	**0**
More than 24 hours	0	0	**0**

The majority of planned and warned interruption events continue to be attributed to mains rehabilitation. The table above relates to annual numbers of planned and warned interruption events. The outturns have gradually reduced over the last three years and this is consistent with a decrease in the meterage installed under the Water Mains Rehabilitation Programme. Water main distribution meterage installed in 2015/2016 was 112km compared to 212km in 2014/15, and 235km in 2013/14.

Properties Affected by Planned and Warned Interruption Events

AIR	DG3 Properties Affected	2013/14	2014/15	2015/16
Table 2: Line 9	More than 3 hours	35,468	47,216	**33,929**
Table 2: Line 10	More than 6 hours	18,454	19,127	**13,767**
Table 2: Line 11	More than 12 hours	0	44	**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. Although the outturns have reduced for this measure, reductions have been lower and less consistent than for the numbers of events. This is because of a shift in the amount of mains rehabilitation carried out from rural to urban areas which has resulted in more affected properties per length of main. In AIR14, the Company confirmed that work packages had commenced in the Belfast area where the density of housing is greater than elsewhere in the province and that this had resulted in an increase in the percentage of work carried out in urban areas.

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

Time Band		2013/14	2014/15	2015/16
More than 3 hours	Properties	21,163	28,049	23,655
	Events	647	389	187
	Properties per Event	33	72	126
More than 6 hours	Properties	12,072	14,061	11,290
	Events	512	275	126
	Properties per Event	24	51	90

These figures indicate that there has been a further increase in the number of properties affected per interruption event and is again consistent with an increase in the percentage of work carried out in urban areas.

This year, no properties experienced a planned and warned interruption lasting more than 12 hours. Whenever possible, NI Water tries to avoid planned and warned interruptions exceeding 12 hours.
No properties have been affected by a planned and warned interruption lasting more than 24 hours since the Company began making regulatory returns in 2007/08.

Interruptions caused by Third Parties

AIR	DG3 Properties Affected	2013/14	2014/15	2015/16

Table 2: Line 13	More than 3 hours	2,452	4,710	**4,739**
Table 2: Line 14	More than 6 hours	121	974	**476**
Table 2: Line 15	More than 12 hours	33	1	**0**
Table 2: Line 16	More than 24 hours	0	0	**0**

This year's outturn for properties affected by unplanned interruptions lasting more than 3 hours caused by third parties was similar to the AIR15 outturn. However, the number of events informing this measure increased by 36%, from 25 in 2014/15 to 34 in 2015/16. Four events in the year involved more than 500 properties. The most significant event occurred on 12 May 2015 when a damaged main in Antrim affected supplies to 761 properties for more than 3 hours and a further 144 properties for more than 6 hours.

This year's outturn for properties affected by unplanned interruptions lasting more than 6 hours caused by third parties was approximately half of the AIR15 outturn and slightly higher than the 9-year average of 445. The number of events informing this measure increased from 5 in 2014/15 to 11 in 2015/16. One event involved more than 100 properties and is described above.

In 2015/16, no properties experienced an unplanned interruption lasting more than 12 hours caused by a third party.

And for the fifth year in succession, no properties experienced an unplanned interruption lasting more than 24 hours caused by a third party.

Unplanned Interruptions (Overruns of Planned Interruptions)

AIR	**DG3 Properties Affected**	**2013/14**	**2014/15**	**2015/16**
Table 2: Line 17	More than 6 hours	1,004	2,521	**1,141**
Table 2: Line 18	More than 12 hours	20	16	**159**
Table 2: Line 19	More than 24 hours	5	0	**140**

In 2015/16, 1,141 properties experienced an interruption where the warned time plus the overrun time was more than 6 hours. The total number of interruptions informing this measure continues to be low, 12 in total giving an average of 95 properties per interruption.

The following table provides a summary of the numbers of planned and warned interruptions that overran in the last 3 years together with the corresponding numbers of affected properties.

	2013/14			2014/15			2015/16		
	Planned >6hrs	Planned Which Overran	%	Planned >6hrs	Planned Which Overran	%	Planned >6hrs	Planned Which Overran	%
Interruptions	551	20	3.63	314	16	5.10	141	12	8.51
Properties	19,458	1,004	5.16	21,648	2,521	11.65	14,908	1,141	7.65

In 2015/16, 159 properties were affected by an overrun of a planned and warned interruption lasting more than 12 hours. The most significant event occurred on 10 November 2015 when 140 properties in Doagh experienced an interruption of 30.5 hours when a tie-in connection on the [redacted] failed as supply was being restored. It was intended to complete the work during a routine planned and warned interruption but due to the unforeseen issues encountered, the interruption overran considerably. The incident was the subject of Upward Report 015.

Additional information on performance against alternative standards

NI Water has three Key Performance Indicators relating to Supply Interruptions (DG3):-

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	13/14 Outturn		13/14 KPI Target		14/15 Outturn Inc. Industrial Action		14/15 Outturn Exc. Industrial Action		14/15 KPI Target		**15/16 Outturn**		**15/16 KPI Target**	
	(Props)	(%)	(Props)	(%)	(Props)	(%)	(Props)	(%)	(Props)	(%)	**(Props)**	**(%)**	**(Props)**	**(%)**
>6 hrs	6,742	0.817	7,473	0.91	43,767	5.285	10,243	1.237	7,273	0.88	**8,699**	1.04	**7,223**	0.860
>12 hrs	1,195	0.145	1,600	0.19	25,693	3.103	805	0.097	1,550	0.19	**841**	0.10	**1,500**	0.179
>24 hrs	12	0.001	80	0.01	13,788	1.665	1	0.000	80	0.01	**32**	0.004	**80**	0.010

Note 1: Percentage outturns are based on total connected properties as follows: 824,974 (AIR14); 828,060 (AIR15); 839,710 (AIR16)

The yearend outturns for properties affected by unplanned, unwarned interruptions confirm that NI Water missed its 2015/16 DG3 >6hr KPI target. There were a number of contributory factors including a trunk main burst in November which was difficult to locate and repair due to poor weather conditions and health and safety considerations. In January, there were a number of difficult repairs in rural areas with no options to rezone. These and other incidents which had an impact on DG3 performance are discussed in the section on Major Incidents.

In 2014/15, all three DG3 KPI targets were missed. Target failure was largely attributed to the period of industrial action in December and January although the Company would still have failed its >6hr target because of a non-visible burst main in Londonderry on 15 August, a burst main in Coleraine with limited rezoning opportunities on 20 November, and a delayed response by the repair contractor to a burst main in Gilford on 6 February.

In 2013/14, all three yearend outturns were better than the KPI targets. The outturns are thought to have benefited from a mild winter with fewer bursts.

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: For the purposes of reporting on this requirement of the commentary, NI Water has considered only those interruptions lasting longer than 3 hours and has assumed that 'night' falls between the hours of 12 midnight and 7am.

The following table provides a summary of those interruption records in 2015/16 whose Interruption Start Date/Time and Supply Restored Date/Time fell within the hours of 12 midnight and 7am.

Interrupt Type	Interrupt No.	Interruption Start		Supply Restored		Duration (Hours)	Properties Affected		
		Date	Time	Date	Time		>0hrs	>3hrs	>6hrs
Unplanned	Event 23438; DG3 13008	07/05/15	02:00	07/05/15	07:00	5 Hrs 0 Mins	12	12	0
Planned & Warned	EP021	13/05/15	0:00	13/05/15	06:00	6 Hrs 0 Mins	167	167	0
Unplanned	Event 23597; DG3 13146	27/05/15	01:40	27/05/15	07:00	5 Hrs 20 Mins	39	39	0
Unplanned	Event 33967; DG3 13452	09/07/15	00:14	09/07/15	06:00	5 Hrs 46 Mins	34	34	0
Planned & Warned	EP010	07/11/15	01:00	07/11/15	06:00	5 Hrs 0 Mins	48	48	0
Unplanned	Event 55778; DG3 35054	23/02/16	00:45	23/02/16	05:30	4 Hrs 45 Mins	4,602	4,602	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 records and 2 planned and warned interruption records have been identified where customers would not have noticed the loss of service because it occurred at night. All 6 of the interruptions lasted 6 hours or less. The number of properties affected by unplanned interruptions was 4,687 representing 4.5% of the total number of properties that experienced an unplanned interruption lasting more than 3 hours in 2015/16. The number of properties affected by planned and warned interruptions was 215 representing 0.6% of the total number of properties that experienced a planned and warned interruption lasting more than 3 hours in 2015/16.

Unplanned: (4,687/ 105,235) x 100 = **4.5%**
Planned and Warned: (215 / 33,929) x 100 = **0.6%**

NI Water reported in its AIR15 commentary that there were 4 unplanned interruptions and 3 planned and warned interruptions where customers would not have noticed the loss of service because it occurred at night. The number of properties affected by unplanned interruptions was 106, representing 0.1% of the total number of properties experiencing unplanned interruptions lasting more than 3 hours in 2014/15. The number of properties affected by planned and warned interruptions was 328, representing 0.7% of the total number of properties experiencing planned and warned interruptions lasting more than 3 hours in 2014/15.

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

The following table provides a summary of the 11 overruns of planned and warned interruptions lasting between 3 and 6 hours in 2015/16.

	Interrupt. No.	Month	Duration (hrs)	Properties Affected		Duration Of Overrun (hrs)
				> 0 hrs	> 3 hrs	
1	Event 23174; DG3 ID 12781	Apr 15	4 Hrs 45 Mins	4	4	0 Hrs 30 Mins
2	Event 24039; DG3 ID 13528	Jul 15	6 Hrs 0 Mins	261	261	0 Hrs 30 Mins
3	Event 23903; DG3 ID 13589	Jul 15	3 Hrs 50 Mins	20	20	0 Hrs 20 Mins
4	Event 34237; DG3 ID 13701	Aug 15	6 Hrs 0 Mins	69	69	1 Hr 0 Mins
5	Event 34293; DG3 ID 13747	Aug 15	4 Hrs 2 Mins	108	108	0 Hrs 47 Mins
6	Event 34316; DG3 ID 13763	Aug 15	3 Hrs 37 Mins	69	69	0 Hrs 15 Mins
7	Event 45299; DG3 ID 14616	Jan 16	5 Hrs 5 Mins	1	1	0 Hrs 20 Mins
8	Event 45514; DG3 ID 24803	Jan 16	3 Hrs 15 Mins	74	74	0 Hrs 30 Mins
9	Event 55797; DG3 ID 35079	Feb 16	4 Hrs 50 Mins	425	425	0 Hrs 20 Mins
10	Event 55958; DG3 ID 35226	Mar 16	4 Hrs 45 Mins	11	11	2 Hrs 45 Mins
11	Event 55998; DG3 ID 35256	Mar 16	4 Hrs 34 Mins	117	117	0 Hrs 4 Mins

In 2015/16, there were 11 overruns of planned and warned interruptions lasting between 3 and 6 hours. The number of properties affected by was:
4 + 261 + 20 + 69 + 108 + 69 + 1 + 74 + 425 + 11 + 117 = **1,159**

This number is small compared to the number of properties that experienced a planned and warned interruption of between 3 and 6 hours (20,162).

T2: L9 = 33,929; T2: L10 = 13,767; 33,929 - 13,767 = **20,162**

NI Water reported in its AIR15 commentary that there were 21 overruns of planned and warned interruptions lasting between 3 and 6 hours. The number of properties affected by these overruns was 990.

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

Interrupt No.	Date of Incident	Duration (Hours)	Properties Affected						Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs	Interruption Type	
Event 23214; DG3 ID 12812	08/04/15	3 Hrs 44 Mins	55	55	0	0	0	Unplanned, Unwarned	Electricity supply failure
		2 Hrs 44 Mins	74	0	0	0	0		
Event 23265; DG3 ID 12867	17/04/15	5 Hrs 0 Mins	51	51	0	0	0	Planned, Unwarned	Planned electricity supply outage
Event 23266; DG3 ID 12868	17/04/15	5 Hrs 0 Mins	32	32	0	0	0	Planned, Unwarned	Planned electricity supply outage
Event 23536; DG3 ID 13172	20/05/15	5 Hrs 0 Mins	39	39	0	0	0	Planned, Unwarned	Planned electricity supply outage
Event 23732; DG3 ID 13263	12/06/15	3 Hrs 30 Mins	45	45	0	0	0	Unplanned, Unwarned	Electricity supply failure
Event 33971; DG3 ID 13457	09/07/15	6 Hrs 18 Mins	366	366	366	0	0	Planned & Warned	Planned electricity supply outage
Event 34024; DG3 ID 13619	20/07/15	10 Hrs 0 Mins	14	14	14	0	0	Planned & Warned	Planned electricity supply outage
Event 34372; DG3 ID 13837	04/09/15	10 Hrs 0 Mins	83	83	83	0	0	Planned, Unwarned	Planned electricity supply outage
Event 34371; DG3 ID 13838	04/09/15	10 Hrs 0 Mins	67	67	67	0	0	Planned, Unwarned	Planned electricity supply outage
Event 34167; DG3 ID 13644	10/08/15	10 Hrs 0 Mins	17	17	17	0	0	Planned, Unwarned	Planned electricity supply outage
Event 34456; DG3 ID 13896	16/09/15	6 Hrs 0 Mins	255	255	0	0	0	Planned, Unwarned	Planned electricity supply outage
Event 34452; DG3 ID 13905	17/09/15	8 Hrs 30 Mins	71	71	71	0	0	Planned, Unwarned	Planned electricity supply outage

Interrupt No.	Date of Incident	Duration (Hours)	Properties Affected					Interruption Type	Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs		
Event 34659; DG3 ID 14071	12/10/15	4 Hrs 10 Mins	47	47	0	0	0	Planned & Warned	Planned electricity supply outage
Event 34724; DG3 ID 14196	27/10/15	11 Hrs 0 Mins	40	40	40	0	0	Planned & Warned	Planned electricity supply outage
Event 45088; DG3 ID 14436	06/12/15	9 Hrs 43 Mins	1	1	1	0	0	Unplanned, Unwarned	Electricity supply failure
		5 Hrs 43 Mins	64	64	0	0	0		
Event 45456; DG3 ID 24758	21/01/16	3 Hrs 47 Mins	131	131	0	0	0	Unplanned, Unwarned	Electricity supply failure
Event 45555; DG3 ID 24848	31/01/16	4 Hrs 14 Mins	1,348	1,348	0	0	0	Unplanned, Unwarned	Electricity supply outage
Event 45556; DG3 ID 24849	31/01/16	5 Hrs 18 Mins	345	345	0	0	0	Unplanned, Unwarned	Electricity supply failure
Event 55938; DG3 ID 35200	04/03/16	7 Hrs 4 Mins	296	296	296	0	0	Unplanned, Unwarned	Electricity supply outage
Event 56044; DG3 ID 35303	15/03/16	8 Hrs 0 Mins	43	43	43	0	0	Unplanned, Unwarned	Electricity supply failure
Event 56094; DG3 ID 35351	22/03/16	6 Hrs 45 Mins	91	91	91	0	0	Unplanned, Unwarned	Electricity supply failure

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

The table on the previous page provides a summary of the 9 records in 2015/16 relating to unplanned, unwarned water supply interruptions caused by electricity supply failures/outages and lasting more than 3 hours. Also included are 12 records relating to planned electricity supply outages, 8 of which resulted in planned, unwarned water supply interruptions and 4 of which resulted in planned and warned water supply interruptions, each with durations of more than 3 hours.

No incidents were of particular significance this year in terms of duration and no properties experienced an interruption of more than 12 hours. The most significant incident in terms of numbers of properties affected was when a power outage on 31 January caused 1,348 properties in Belfast to lose their water supply for more than 4 hours.

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/Outages	2,419	431	0	0
Number of Properties Affected by Planned, Unwarned Water Supply Interruptions caused by Planned Electricity Supply Outages	615	238	0	0
Total	3,034	669	0	0
Number of Properties Affected by Unplanned Interruptions	105,235	8,699	841	32
Percentage Impact	2.88%	7.69%	0.00%	0.00%

The impact of the electricity supply failures and planned outages was greatest on the >6hr outturn, accounting for 7.69% of the total number of properties affected by unplanned interruptions.

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

	> 6 Hrs	**> 12 Hrs**	**> 24 Hrs**
Percentage of Connected Properties Affected by Electricity Supply Failures	0.080%	0.000%	0.000%
KPI Target	0.867%	0.180%	0.010%
Percentage of Annual Target	9.26%	0.00%	0.00%

The impact of the electricity supply failures and planned outages was greatest on >6hr KPI target compliance, amounting to 9.26% of the annual target.

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

The following table provides a summary of the 41 supply interruption incidents during 2015/16 that lasted more than 3 hours and which 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 23381; DG3 12959	28/04/15	Burst main, [redacted], Dromore affecting properties in [redacted] DMA	9 Hrs 19 Mins	8	8	8	0	0	P
				6 Hrs 0 Mins	163	163	0	0	0	
				5 Hrs 58 Mins	7	7	0	0	0	
				5 Hrs 32 Mins	39	39	0	0	0	
002	Event 23569; DG3 13123	21/05/15	Burst main, [redacted] Ahoghill	21 Hrs 26 Mins	55	55	55	55	0	3
003	Event 23620; DG3 13158	29/05/15	Burst 10" dia. main, [redacted], Donaghadee	5 Hrs 55 Mins	3,007	3,007	0	0	0	3
				5 Hrs 46 Mins	27	27	0	0	0	
004	Event 23775; DG3 13315	17/06/15	Burst main, [redacted], Templepatrick	4 Hrs 0 Mins	25	25	0	0	0	3
005	Event 23901; DG3 13405	18/06/15	Third party damaged main at [redacted], Bushmills	6 Hrs 36 Mins	39	39	39	0	0	3
	Event 33956; DG3 13443			4 Hrs 15 Mins	597	597	0	0	0	
006	Event 23927; DG3 13421	03/07/15	Burst main, [redacted], Banbridge	4 Hrs 54 Mins	1,190	1,190	0	0	0	3
007	Event 33952; DG3 13442	07/07/15	Burst trunk main, [redacted] Artikelly, Coleraine	12 Hrs 0 Mins	51	51	51	0	0	3
008	Event 33967; DG3 13452	09/07/15	Burst main, [redacted] Newry affecting properties in Armagh Brague SR distribution area, Craigavon	5 Hrs 46 Mins	34	34	0	0	0	3
				2 Hrs 46 Mins	435	0	0	0	0	
009	Event 34128; DG3 13584	03/08/15	Burst on Moys SR to Ballykelly 12" dia. trunk main, [redacted] Limavady	3 Hrs 30 Mins	9	9	0	0	0	3
				1 Hrs 30 Mins	402	0	0	0	0	
010	Event 34465; DG3 13925	18/09/15	Burst on Tattenbar SR to Glenchuil SR 14" dia. SI trunk main, [redacted], Fivemiletown	22 Hrs 11 Mins	1	1	1	1	0	3
				9 Hrs 54 Mins	1	1	1	0	0	
				5 Hrs 37 Mins	81	81	0	0	0	

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
011	Event 34577; DG3 13999	30/09/15	Burst 12" dia. trunk main at junction of [redacted] & [redacted], Draperstown affecting properties in Mormeal DMA	6 Hrs 0 Mins	135	135	0	0	0	3
012	Event 34662; DG3 14084	13/10/15	Burst main, [redacted] Randox, Crumlin	3 Hrs 59 Mins	2,679	2,679	0	0	0	3
013	Event 34787; DG3 14190	27/10/15	Loss of telemetry communications between Ballyleighery WPS and Ballyleighery SR. Airlock on outlet of Ballyleighery SR, Magilligan, Coleraine resulting in low level alarm.	15 Hrs 50 Mins	59	59	59	59	0	3 - P
014	Event 44863; DG3 14243	08/11/15	Burst main at [redacted] / [redacted] Portaferry resulting in low level alarm at Ballyridley SR	16 Hrs 45 Mins	3	3	3	3	0	P
				12 Hrs 45 Mins	4	4	4	4	0	
				7 Hrs 15 Mins	2	2	2	0	0	
				5 Hrs 45 Mins	793	793	0	0	0	
				3 Hrs 45 Mins	46	46	0	0	0	
015	EP004	10/11/15	Tie-in failure resulting in an overrun of a planned & warned interruption, [redacted] Doagh	30 Hrs 30 Mins	140	140	140	140	140	3
016	**Manual Input**	**13/11/15**	**Burst 12" dia. trunk main, [redacted], Ballygowan**	**>24hrs**	**31**	**31**	**31**	**31**	**31**	**3**
				>12hrs	**197**	**197**	**197**	**197**	**0**	
				>6hrs	**1,848**	**1,848**	**1,848**	**0**	**0**	
017	Event 44942; DG3 14326	20/11/15	Burst 10" dia. trunk main, Altmore affecting properties in Altmore Ten DMA and burst 200mm dia. PVC main at private site between [redacted] and [redacted] Dungannon.	22 Hrs 42 Mins	21	21	21	21	0	3
018	Event 45051; DG3 14403	01/12/15	Burst 300mm dia. trunk main at junction of [redacted] and [redacted], Omagh	3 Hrs 30 Mins	1,394	1,394	0	0	0	3
019	Event 45074; DG3 14425	03/12/15	Burst main, [redacted] Drumahoe, Londonderry	5 Hrs 50 Mins	22	22	0	0	0	3
020	Event 45166; DG3 14493	15/12/15	Burst trunk main, [redacted] Kilkeel	5 Hrs 10 Mins	68	68	0	0	0	3

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
021	Event 45250; DG3 14575	01/01/16	Two bursts on 6" dia. main at [redacted] and one burst on 3" dia. main at [redacted] Newtownbutler. Properties affected in Ballagh Magheraveeley DMA.	18 Hrs 47 Mins	38	38	38	38	0	3
				3 Hrs 40 Mins	32	32	0	0	0	
022	Event 45254; DG3 14571	02/01/16	Loss of supply to properties in Croppy Hill Pump DMA due to firefighting	5 Hrs 57 Mins	703	703	0	0	0	3
023	Event 45255; DG3 14576	02/01/16	Burst Main, [redacted] Newtownbutler	10 Hrs 55 Mins	45	45	45	0	0	3
				4 Hrs 55 Mins	27	27	0	0	0	
024	Event 45287; DG3 14611/ Event 45291; DG3 14609 / Event 45298; DG3 14610	07/01/16	Number of bursts in Cookstown Area including Cullion SR to Mormeal SR trunk main, Lough Fea area and Pomeroy SR outlet. Properties affected in [redacted] and [redacted] DMAs.	6 Hrs 34 Mins	155	155	155	0	0	3
				5 Hrs 37 Mins	516	516	0	0	0	
				4 Hrs 10 Mins	88	88	0	0	0	
025	Event 45335; DG3 24640	11/01/16	Two burst mains, [redacted] and [redacted], Armagh	6 Hrs 27 Mins	1	1	1	0	0	3
				5 Hrs 27 Mins	1,797	1,797	0	0	0	
026	**Event 45460; DG3 24746**	**16/01/16**	**Burst on Killylane – Glenburn 10" dia. IC trunk main at [redacted], Doagh**	**21 Hrs 0 Mins**	**282**	**282**	**282**	**282**	**0**	**2**
	Event 45459; DG3 24745			**2 Hrs 7 Mins**	**585**	**0**	**0**	**0**	**0**	
027	Event 45493; DG3 24781	23/01/16	Burst 200mm dia. PVC main, [redacted] Antrim affecting properties in Dunloy and Galdanagh DMAs	6 Hrs 30 Mins	31	31	31	0	0	3
028	**Event 45564; DG3 24855**	**23/01/16**	**Burst Main, [redacted] Ballymena affecting properties in Ballykeel DMA.**	**8 Hrs 5 Mins**	**313**	**313**	**313**	**0**	**0**	**3**
				5 Hrs 35 Mins	**171**	**171**	**0**	**0**	**0**	
029	Event 45597; DG3 24884	05/02/16	Burst on Corrody to Creggan 600mm dia. trunk main, [redacted], Londonderry	5 Hrs 45 Mins	229	229	0	0	0	3
030	Event 45635; DG3 24918	10/02/16	Burst on 21" dia. AC trunk main, [redacted] Ballinrees	5 Hrs 55 Mins	28	28	0	0	0	3
031	Event 45662; DG3 24938	12/02/16	Burst main, [redacted], Dunmurry	5 Hrs 50 Mins	436	436	0	0	0	3
032	**Event 55766; DG3 35050**	**22/02/16**	**Sewer contractor damaged a 9" dia. PVC main and a 4" dia. PVC main, [redacted], Armagh**	**10 Hrs 1 Min**	**404**	**404**	**404**	**0**	**0**	**3**
				5 Hrs 46 Mins	**2,697**	**2,697**	**0**	**0**	**0**	
033	Event 56040; DG3 35297	26/02/16	Burst main, [redacted] Downpatrick	10 Hrs 10 Mins	55	55	55	0	0	4
				5 Hrs 40 Mins	103	103	0	0	0	

Ref	Interrupt No.	Date	Description of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
	Event 55831; DG3 35210			2 Hrs 53 Mins	31	0	0	0	0	
034	Event 55941; DG3 35199	04/03/16	Burst on 6" dia. AC main off [redacted], Brookeborough and adjacent to Brookeborough trunk main, Enniskillen	5 Hrs 45 Mins	151	151	0	0	0	3
035	Event 55980; DG3 35241	09/03/16	Burst on 200mm dia. DI outlet main from Lough Macrory Hill SR, [redacted] Sixmilecross, Omagh	5 Hrs 17 Mins	398	398	0	0	0	3
036	Event 56070; DG3 35332	21/03/16	Burst on Cavanacross SR to Drumharvey SR trunk main, [redacted] Irvinestown	4 Hrs 4 Mins	132	132	0	0	0	3
037	Event 56079; DG3 35336	21/03/16	Third party damaged main at junction of [redacted] and [redacted], Annalong	5 Hrs 58 Mins	10	10	0	0	0	3
038	Event 56093; DG3 35350	22/03/16	Burst on Mullaghanagh WPS to Castlehill SR 8” dia. PVC pumping main, [redacted] Dungannon	4 Hrs 30 Mins	1,348	1,348	0	0	0	3
039	Event 56094; DG3 35351	22/03/16	Electricity supply failure resulted in plant shutdown at Lough Fea WTW. Properties affected in Cookstown area.	6 Hrs 45 Mins	91	91	91	0	0	3
040	Event 56119; DG3 35380	25/03/16	Burst trunk main, [redacted] Londonderry	5 Hrs 45 Mins	5	5	0	0	0	3
041	Event 56132; DG3 35386	28/03/16	Burst on 8" dia. CI main, [redacted] Belfast affecting properties in [redacted] and [redacted] DMAs	9 Hrs 51 Mins	40	40	40	0	0	3
				9 Hrs 6 Mins	60	60	60	0	0	
				4 Hrs 36 Mins	1,579	1,579	0	0	0	

NI Water assumes a monthly target allowance of one seventeenth of the yearend target from April to October and a monthly target allowance of two seventeenths of the yearend target from November to March. The allowance is doubled from November to March to account for freeze-thaw conditions and an associated rise in the numbers of bursts.

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

KPI	2015/16 Target		Monthly Target Allowance			
			Apr to Oct		Nov to Mar	
	%	Properties	%	Properties	%	Properties
>6hrs	0.867	7,223	0.051	425	0.102	850
>12hrs	0.180	1,500	0.011	88	0.021	176
>24hrs	0.010	80	0.001	5	0.001	9

In order to determine the unplanned interruption events which had the greatest negative impact on performance in 2015/16, the Company compared the monthly actuals with the three KPI target profiles and identified **9** instances where a target was exceeded. These instances are highlighted in bold text in the table below.

		Jul	Sep	Nov	Jan	Feb	Mar
>6 hour	Actual	**506**	**462**	**2,635**	**1,089**	**1,068**	**1,330**
	Target	425	425	850	850	850	850
>12 hour	Actual	0	1	**257**	**389**	0	0
	Target	88	88	176	176	176	176
>24 hour	Actual	0	0	**31**	0	0	0
	Target	5	5	9	9	9	9

The Company then reviewed its DG3 Register and identified the 7 incidents responsible for the underperformance. The incidents are summarised below.

Major Incidents

Burst main, [redacted], Sixmilecross
(Ref: CIMS Event ID 33978; DG3 ID 13463)

In July 2015, the >6hr in-month actual was 506 properties compared to a target of 425. July's underperformance was attributed to a burst main at [redacted], Sixmilecross on 9 July. As a result of this incident, 262 properties experienced an unplanned interruption of 8 hours 32 minutes.

The impact of this incident in terms of percentages of connected properties affected was 0.031% >6hrs.

Burst main, [redacted], Dungiven
(Ref: CIMS Event ID 34391; DG3 ID 13831)

In September 2015, the >6hr in-month actual was 462 properties compared to a target of 425. September's underperformance was attributed to an increase in unplanned interruption events involving more than 50 properties and not to one particular incident. Of the 5 incidents involving more than 50 properties, the most significant was a burst main at [redacted] Dungiven on 5 September. As a result of this incident, 89 properties experienced an unplanned interruption of 8 hours 40 minutes.

The impact of this incident in terms of percentages of connected properties affected was 0.011% >6hrs.

Burst 12 inch trunk main, [redacted] Ballygowan
(Ref: Due to the complexities of rezoning, this record was manually created)

In November 2015, the >6hr in-month actual was 2,635 properties compared to a target of 850, the >12hr in-month actual was 257 compared to a target of 176 and the >24hr in-month actual was 31 compared to a target of 9. November's underperformance was

attributed to a burst 12 inch trunk main at [redacted] Ballygowan on 13 November. The burst was difficult to locate and repair due to poor weather conditions and health and safety considerations.

As a result of this incident, 2,076 properties experienced an unplanned interruption of more than 6 hours, 228 properties experienced an unplanned interruption of more than 12 hours and 31 properties experienced an unplanned interruption of more than 24 hours. This incident was the subject of Upward Report 016.

The impact of this incident in terms of percentages of connected properties affected was 0.247% >6hrs, 0.027% >12hrs and 0.004% >24hrs. In 2015/16, NI Water failed its >6hrs full year target of 7,223 properties. Had it not been for this incident, the target would have been achieved as the difference between the target and outturn was 1,476 which was less than the number of properties interrupted for more than 6 hours.

Burst on Killylane – Glenburn 10 inch trunk main at [redacted] Doagh
(Ref: CIMS Event 45460; DG3 ID 24746 / CIMS Event 45459; DG3 ID 24745)

In January 2016, the >6hr in-month actual was 1,089 properties compared to a target of 850 and the >12hr in-month actual was 389 properties compared to a target of 176. January's underperformance was attributed to a number of difficult repairs in rural areas with no options to rezone. Several of these incidents are described below.

The first incident related to a burst on the Killylane – Glenburn 10 inch trunk main at [redacted] Doagh on 16 January. The main supplies Ballybracken Service Reservoir which went to empty as a result of the burst. Due to poor weather conditions, tankering was not possible. As a result of this incident, 282 properties experienced an unplanned interruption of 21 hours. And a further 585 properties experienced an unplanned interruption of less than 3 hours. This incident was the subject of Upward Report 026.

The impact of this incident in terms of percentages of connected properties affected was 0.034% >6hrs and 0.034% >12hrs.

Burst Main, [redacted] Ballymena
(Ref: CIMS Event ID 45564; DG3 ID 24855)

The second incident related to a burst main at Orkney Drive, Ballymena on 23 January. As a result of this incident, 313 properties in Ballykeel DMA experienced an unplanned interruption of 8 hours 5 minutes. An additional 171 properties experienced an unplanned interruption of 5 hours 35 minutes. This incident was the subject of Upward Report 028.
The impact of this incident in terms of percentages of connected properties affected was 0.037% >6hrs.

Burst Main, [redacted], Armagh
(Ref: CIMS Event ID 55766; DG3 ID 35050)

In February 2016, the >6hr in-month actual was 1,068 properties compared to a target of 850. February's underperformance was attributed to burst 9" and 4" mains at [redacted] Armagh on 22 February. The mains were accidentally damaged by a sewer contractor who was working for NI Water at the time. As the bursts were located at bends in the pipework and required concrete to stay, the repairs took longer than usual. As a result of this incident, 404 properties experienced an unplanned interruption of 10 hours. An additional 2,697 properties experienced an unplanned interruption of 5 hours 46 minutes. This incident was the subject of Upward Report 032.

The impact of this incident in terms of percentages of connected properties affected was 0.048% >6hrs.

Burst Main, [redacted] Kilrea
(Ref: CIMS Event ID 55901; DG3 ID 35174)

In March 2016, the >6hr in-month actual was 1,330 properties compared to a target of 850. March's underperformance was attributed to a burst main at [redacted] Kilrea on 2 March. As a result of this incident, 646 properties experienced an unplanned interruption of 7 hours.
The impact of this incident in terms of percentages of connected properties affected was 0.077% >6hrs.

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

Justification of Reliability Band 'A'

This year, the Company has assigned a reliability band of 'A' to all lines relating to DG3. The Company has taken the decision to increase the reliability assessment of its outturns from 'B' to 'A' because this is the first complete year that the Central Incident Management System (CIMS) has been used in place of the Operations Management Information System (OMIS) to capture the details of supply interruptions. CIMS 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

There was no reliance on unconfirmed verbal reports, cursory inspections or analysis. Every record in the DG3 Register represents an interruption to supply where the cause has been identified by experienced field staff or contractors.

There was no reliance on extrapolation from a limited sample for which Grade A or B data was available. The outturns reported in Table 2 Lines 5 to 19 have been derived in their entirety from the interruption records in the DG3 Register. 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 outturns were derived without any reliance on old assessment, unconfirmed reports or extrapolation. CIMS ensures that all interruption events are captured and fully documented to a consistent standard and that all the relevant data fields are complete.

CIMS ensures that any records of interruptions are both sound and textual. The Company considers its procedures, investigations and analysis to be properly documented and recognised as the best method of assessment.

Justification of Accuracy Band '3'

CIMS ensures that more unplanned, unwarned interruptions are being captured than would previously have been the case and this is helping to improve the accuracy of NI Water's return. However, it would be wrong to say that since the introduction of CIMS, the accuracy of the outturn for properties affected by unplanned, unwarned interruptions between 3 and 6 hours has improved. So far, the focus has been on interruptions with durations of more than 6 hours because they represent the interruptions on which NI Water's performance is measured. The Company accepts that the information is less robust for interruptions between 3 and 6 hours and aims to address the issue going forward.

Now that there has been a sufficient transition period to enable staff to become familiar with the new system and associated change in methodology, the focus will shift to interruptions between 3 and 6 hours. In 2016/17, the Company will test and implement an updated version of CIMS, the first major update of the system since its implementation on 4 July 2014. The aim of the modifications is to improve the usability and functionality of the system which in turn will enable more time to be spent on improving the accuracy of the information.

In view of this and the AIR09 Reporter's recommended use of consistent accuracy bands, the decision has been taken to assign an accuracy band of '3' to all lines relating to DG3.

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 1,000 records of interruptions lasting more than 3 hours (some relating to the same events). 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 CIMS and that no records had been inadvertently deleted or duplicated during migration between worksheets.

During the year, EP generated a total of 194 records of interruptions lasting more than 3 hours. A random sample of 43 records, averaging 4 per month, was checked against the corresponding Interruption Record Sheets to ensure that the details had been accurately transcribed. This represents 22.2% of records.

Throughout 2015/16, 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 CIMS and the Upward Reporting process relating to unplanned interruption events lasting more than 3 hours.

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.

The following table provides a summary of the numbers of bed-spaces sold per month for hotel, guesthouse and B&B establishments in Northern Ireland from October 2014 to December 2015. The information was derived from Table 1.3 of the NISRA publication *'Hotel, Guesthouse, Bed and Breakfast and Guest Accommodation Occupancy Statistics 2011-2015'*, available as a download from the Department of Enterprise, Trade and Investment *(DETINI)* website. NI Water has used the information to calculate the percentage of bed-spaces sold per month in 2015.

MONTH	HOTEL BED-SPACES SOLD	GUESTHOUSE & B&B BED-SPACES SOLD	TOTAL BED-SPACES SOLD	PERCENTAGE OF BED-SPACES SOLD IN 2015
Oct-14	256,094	40,897	296,990	
Nov-14	228,139	30,785	258,924	
Dec-14	202,407	26,169	228,576	
Jan-15	194,498	20,279	214,777	5.75%
Feb-15	237,608	23,256	260,864	6.99%
Mar-15	256,167	29,628	285,795	7.65%
Apr-15	276,827	34,304	311,131	8.33%
May-15	314,694	53,004	367,698	9.85%
Jun-15	301,770	56,416	358,185	9.59%
Jul-15	319,739	67,533	387,272	10.37%
Aug-15	350,566	75,417	425,983	11.41%
Sep-15	282,200	49,872	332,071	8.89%
Oct-15	264,735	41,369	306,104	8.20%
Nov-15	214,487	24,805	239,292	6.41%
Dec-15	222,699	22,505	245,204	6.57%
Total	**3,235,988**	**498,388**	**3,734,376**	**100.00%**

The following statistic was derived from Table 1.4 of the NISRA publication *'Northern Ireland Tourism Statistics October 2013 – September 2015 Additional Tables'*, available as a download from the DETNI website.

	Date Range	Overall Nights
All Visitors (exc. NI Residents)	Oct 14 – Sep 15	**10,695,413**

This year, the outturn for Line 20 has been calculated ahead of the publication of annual tourism statistics for 2015 *(due to be published on 26 May 2016)*. As such, it has been necessary to estimate the annual number of outside NI visitor nights in 2015. Taking available data for the period October 2014 to September 2015, the number of outside NI visitor nights was found to be 10,695,413 and the number of bed-spaces sold for all hotel, guesthouse and B&B establishments was found to be 3,728,267. Based on the assumption that there is a direct relationship between visitor nights and bed-spaces sold, amounting to 2.87 visitor nights for every bed-space sold, the number of outside NI visitor nights in 2015 was estimated as follows:

Bed-spaces sold (Jan 15 to Dec 15) = 3,734,376
Estimated outside NI visitor nights in 2015 = 3,734,376 x 2.87 = 10,712,941

Using the statistics on the previous page and the estimated number of non-resident visitor nights above, the number of non-resident winter visitor nights was estimated as follows:

Assumption: The regulatory guidance for AIR Table 2 Line 20 does not define the meaning of *'winter'*. For the purposes of this calculation, the winter months are deemed to be the six months in the year with the lowest percentage bed-spaces sold i.e. January, February, March, October, November and December. The percentage bed-spaces sold during the winter is the summation of the percentages for these six months.

Percentage bed-spaces sold during winter =
5.75 + 6.99 + 7.65 + 8.20 + 6.41 + 6.57 = 41.56%

Estimated non-resident winter visitor nights =
= (10,712,941 / 100) x 41.56 = 4,452,381

According to AIR16: Table 7: Line 17, the baseline resident population was 1,850.27 x 10^3.

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

Estimated average non-resident winter visitors per night =
4,452,381 / (31 + 28 + 31 + 31 + 30 + 31) = 24,464

Population (winter) = 1,850,270 + 24,464 = **1,874,734**.

Changes in Methodology

Each year, NI Water reviews all of the latest tourism publications and adopts a methodology which best utilises the information available at the time. Last year, the Company used the NISRA publication *'Northern Ireland Annual Tourism Statistics 2014 Additional Tables'* which listed the estimated annual number of non-resident visitor nights in 2014 and removed the need to estimate this figure using available data for the last quarter of 2013 and the first three quarters of 2014.

This year, because the 2015 annual tourism statistics are not due to be published until 26 May 2016, the Company has reverted to its AIR14 methodology by making use of the NISRA publication *'Northern Ireland Tourism Statistics October 2013 to September 2015 Additional Tables'* which lists the estimated number of non-resident visitor nights for the period October 2014 to September 2015.

For the purposes of calculating the non-resident winter visitor nights, the methodology is still based on the assumption that there is a relationship between the occupancy of hotels and guesthouses/B&Bs and visitor nights.

Last year, the Company recalculated the AIR14 outturn using updated data for overseas plus RoI tourists combined for the entire twelve-month period of 2013 and confirmed a change from 1,850.54 x 10^3 to 1,850.25 x 10^3 (0.02%). Next year, it will be necessary to recalculate the AIR16 outturn when updated data becomes available for the entire twelve-month period of 2015.

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

AIR14	CG	AIR15	CG	AIR16	CG
1,850.54 x 10^3	C2	1,862.72 x 10^3	C2	**1,874.73 x 10^3**	**C2**

The revised estimated winter population has increased from 1,862.72 x 10^3 in AIR15 to 1,874.73 x 10^3 in AIR16, an increase of 12.02 x 10^3 (0.65%). This slight increase can be attributed to changes in the component figures that make up this figure.

The estimated number of hotel bed-spaces sold in 2015 (3,235,988) was higher than the estimate for 2015 (2,939,483). The estimated number of non-resident visitor nights in 2015 (10,712,941) was also higher than the estimate for 2014 (10,016,208). According to the 'Hospitality Review NI' website, Northern Ireland's tourism performance was strong in the first eight months of the year and hotel bed-spaces sold were the highest recorded for the period from January to August.

Confidence Grade

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

1. The NISRA publication '*Hotel, Guesthouse, Bed and Breakfast and Guest Accommodation Occupancy Statistics 2011-2015*' provides 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 October 2013 – September 2015 Additional Tables'* provides only an estimate of the annual number 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 only be 34,398 (+1.83%). *(see calculation below)*

10,712,941 / (31 + 28 + 31 + 31 + 30 + 31) = 58,862 non-resident visitors
1,850,270 + 58,862 = 1,909,132 residents + non-resident visitors
1,909,132 - 1,874,734 = 34,398
(34,398 / 1,874,734) x 100 = 1.83%

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 in 2015/16 and therefore, the percentage population experiencing DG4 Restrictions on Use of Water is 0.0% for Lines 21, 22 and 23.

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 no orders were made during the reporting year.

Future Reporting

Northern Ireland Water has yet to develop a series of revised DG4 procedures which will clarify the reporting requirements and definitions and the responsibilities of those involved in the reporting process.

Annex A – Line Methodology for Table 2

A) Properties Receiving Pressure/Flow Below Reference Level

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 2015/2016 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 AIR16 (dated 31st March, 16) as attached.

Rapid Property Summary - Mar 2016

Total Connected properties at Year End	AIR16
Extant Property Total	873450
less	
Domestic no water / well water	12338
Domestic sewerage only	6
Non-domestic no water / well water	5530
Non-domestic sewerage only	18
Non-domestic measured – not charged (test meters)	904
Non-domestic site meters	14240
Non-domestic trade effluent	83
Non-domestic unmeasured – not charged	599
Invalid Classification	22
Total Connected Properties at Year End	**839710**

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										
	(I) OVERLOADED SEWERS																				
2	Properties flooded in the year (overloaded sewers)	nr	0	189	B3	6	B2	28	B2	3	B2										
3	Flooding incidents in the year (overloaded sewers)	nr	0	189	B3	6	B2	29	B2	4	B2										
4	Flooding incidents (overloaded sewers attributed to severe weather)	nr	0	181	B3	5	B2	3	B2	1	B2										
4a	Properties flooded in the year attributed to severe weather	nr	0	181	B3	5	B2	3	B2	1	B2										
5	Props. where flooding limited to uninhabited cellars only (o/loaded sewers)	nr	0	0	B3	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										
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										
8	Flooding incidents (other causes - equipment failures)	nr	0	15	B3	14	B2	2	B2	1	B2										
9	Flooding incidents (other causes - blockages)	nr	0	22	B3	36	B2	38	B2	34	B2										
10	Flooding incidents (other causes - collapses)	nr	0	4	B3	5	B2	12	B2	3	B2										
11	Props. where flooding limited to uninhabited cellars only (other causes)	nr	0	0	B3	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										
13	1 in 10 register at end of year	nr	0	10	B3	8	B2	8	B2	7	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										
15	1 in 20 register at end of year	nr	0	153	B3	120	B3	108	B2	94	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										
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										
17	Properties which have not flooded internally but suffer restricted toilet use (RTU)	nr	0	0	B2	0	B2	0	B2	0	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										
23	Removed because of better information	nr	0	2	B3	0	B2	0	B2	2	B2										
24	Added because of better information (actually flooded)	nr	0	16	B3	33	B2	0	B2	3	B2										
25	Added because of better information (modelled)	nr	0	0	A1	0	B2	4	B2	0	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										
	(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										
31	Removed because of better information (1 in 20)	nr	0	24	B3	45	B2	16	B2	11	B2										
32	Added because of better information (actually flooded - 1 in 20)	nr	0	53	B3	3	B2	25	B2	1	B2										
33	Added because of better information (modelled - 1 in 20)	nr	0	0	A1	17	B3	4	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										

Table 3 - Key Outputs – Sewerage Service – Internal Flooding

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. This process went live in April 2012. This process ensures a robust investigation is carried out for all internal flooding reports. An expert panel (the DG5 Panel) examines the evidence for each incident and governs the addition of properties to and removal of properties from the register.

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 AIR16, 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.

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

Northern Ireland Water’s (NIW) property data is provided via a data download of the property database tables held within the RapidXtra billing system. The data is then manipulated within Microsoft SQL to produce the Rapid Property Summary Report.

In AIR12 we introduced an automated tool to populate the figures within Table 3. (Rapid Property Summary as the input). Our methodology for AIR16 has remained consistent.

The difference between the AIR15 and the AIR16 figure is 8079. The breakdown can be explained as follows;

1) New Connections during the 2015/16 reporting year. As detailed in the associated Line Methodology and as per Annex A, an issue with the system report has resulted in a change in methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with the New Connections reported by the Customer Connections Team.
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:
    - The adding of properties NI Water allegedly didn't know about and the adding of duplicates as the customers address couldn't be found on Rapid. (For example, 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. Another scenario - The street name may have changed from the time of New Connection to that of customer contact – street names can change in the early stages of site development.)
    - The work on data validation has commenced, with new validations 'live' as a result of Phase 1 & 2 implementation, further validations will be implemented in Phase 3 & 3a during 2016/17 & 2017/18.
3) Removal of duplicates/properties as a result of data quality initiatives
4) The increased number of properties within the no water/well water category. Further detail provided within the Table 7 commentary.

In addition to the above, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout.

Annex A details the methodology followed for the figure calculated in Table 3 Line 1.

Calculation Process - Lines 2 to 11,15a & 17

Data gathering and calculation is as described below.

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 2015 to March 2016 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 16 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 which have not been fully investigated and categorized i.e. 2 for 2015/16.
8. The required information to populate Line 17 is extracted directly from the monthly spreadsheet completed by the contractor.

Changes in Methodology over the Previous Year

During this reporting period as per the Reporters recommendation no. 30 WwBU has amended the CG for Table 16 Lines 13a – 13c from A2 to B4
NIW are now being more proactive in their approach to repeat blockages. NIW Customer Field Managers (CFM) now have the resource of designated field technicians who are carrying out CCTV investigations on sewers which have repeat blockage complaints and any faults found are being remedied this has helped reduce the number of repeat sewer blockage complaints by almost 5% on last year's total.

The FIR has been amended (November 15) after the delivery of further training day for MUL contractors and NIW Field Managers and a completed copy is included (see appendix B.) The Business Unit is proactively ensuring 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 and the Customer and Regulation manager (all NIW) and the MUL Contracts Manager which ensures 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 and 17

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 Customer where appropriate, therefore the confidence grade on the figures reported for lines 2, 3, 4,4a, 5, 6, 7, 8, 9, 10, 11, 15A and 17 is now deemed to be B2.

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

PC15 Outputs Year 1

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

Year	15/16	16/17	17/18	18/19	19/20	20/21	Total
Nr	8	8	22	8	8	8	62

The number was reduced to 6 in the Monitoring Plan due to reduced expenditure. The number of removals achieved in 15/16 was 7. It should be noted 13 properties were also removed due to better information, giving a total of 20 properties being removed from the DG5 Register.

Additions to the Register

In year 15/16, 2 no. properties were added to the flooding register due to better information.

- 1 property at Glengaw Park, Londonderry (1 in 20)
- 1 property at Sheelin Park, Londonderry (1 in 10)

Two properties changed from the (1 in 10) Register to the (2 in 10) Register.

- 1 Greystown Avenue, Belfast
- 3 Greystown Avenue, Belfast

Confidence grades

Confidence grades for lines 12–16, 22–26 and 30–34 have remained 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 2016).

This figure is based on the 31st March 2016 Rapid Property Summary for AIR16, as attached.

Rapid Property Summary - Mar 2016

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 2016
Total Gross Household Sewerage Properties	**638,109**

APPENDIX B – Incident Report Form Contractor

Northern Ireland Water – Flooding Incident Report

Work Order Ref No: 04773244 Name: Drainaway

Location: [redacted] CARNLOUGH [redacted]

Date: 24/03/2016 Arrival time: 09:53:00

1) Conversation with Home Occupier: Yes Access Refused: No

2) Photographs Taken:

3) 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	☐

4) External Flooding: ☒

Main Sewer	☒	Lateral Sewer	☐
Public road/footpath	☐	Public area	☐
Agricultural land	☐	Curtilage	☒
Detached garage flooded	☐	Detached shed or store flooded	☐

5) Comments on cause of reported incident: (Select only one category below)

Blockage	☒	Collapsed sewer	☐
Defective road gulley	☐	Defective private drain	☐
M&E equipment failure	☐	Further investigation by NIW required	☐
Other:			

6) Clean up operations:

Not Required	☐	Further Action Required	☐	Completed	☒

7) Previous History:

Yes	☐	No	☒	Not Aware	☐

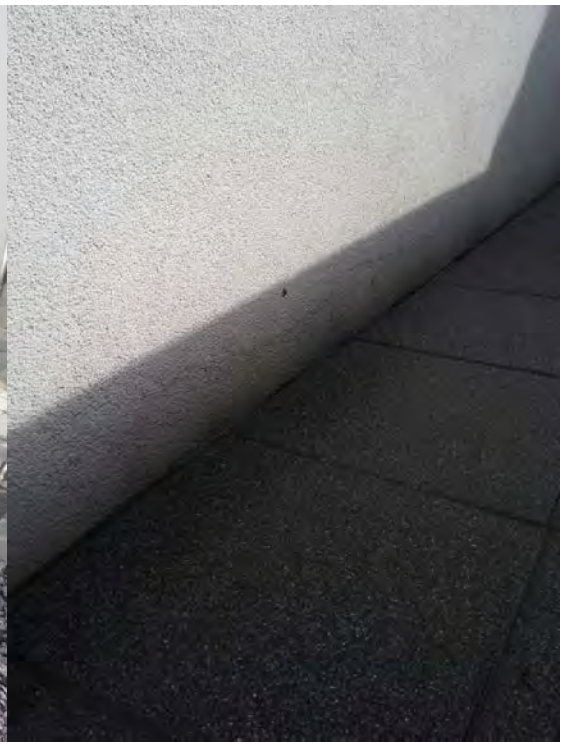
8) Weather Conditions:

Dry	☐	OR	Wet	☒:	Heavy	☐	Medium	☐	Light	☒

Comments: Especially for Flooded jobs or Follow on jobs

Cleared- removed rocks from Sewer- CCTV & Desilt may be required-clean up [redacted]

PHOTO FOR FLOODED JOBS:



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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										
2	Curtilege flooding incidents in the year (overloaded sewers)	nr	0	97	D6	70	D6	86	D6	17	D6										
3	Highway flooding incidents (overloaded sewers)	nr	0	32	D6	23	D6	26	D6	6	D6										
4	Other flooding incidents (overloaded sewers)	nr	0	96	D6	22	D6	20	D6	0	D6										
5	Total flooding incidents (overloaded sewers)	nr	0	225	D6	115	D6	132	D6	23	D6										
6	External flooding incidents (overloaded sewers attributed to severe weather)	nr	0	29	D6	1	D6	14	D6	6	D6										
6a	Areas flooded externally attributed to severe weather	nr	0	29	D6	1	D6	14	D6	6	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										
8	Areas which have flooded more than once in the last 10 years (other causes)	nr	0	N/C		N/C	0	N/C		N/C	0										
9	Flooding incidents (other causes - equipment failure)	nr	0	19	D6	23	D6	25	D6	19	D6										
10	Flooding incidents (other causes - blockages)	nr	0	3,526	D6	3,293	D6	4,269	D6	3,773	D6										
11	Flooding incidents (other causes - collapses)	nr	0	31	D6	73	D6	85	D6	97	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										
13	1 in 10 register at end of year	nr	0	213	D6	7	D6	20	D6	20	D6										
14	1 in 20 register at end of year	nr	0	0	D6	16	D6	84	D6	86	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										
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	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										
21	Removed by company action (external linked)	nr	0	0	A1	0	A1	0	A1	0	A1										
22	Removed because of better information	nr	0	0	A1	113	A1	0	A1	0	A1										
23	Added because of better information (actually flooded)	nr	0	213	A1	113	A1	103	A1	16	A1										
24	Added because of better information (modelled)	nr	0	0	A1	0	A1	0	A1	0	A1										
25	Transferred from external to internal register	nr	0	0	A1	0	A1	0	A1	0	A1										

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

Introduction

The processing of external flooding incidents has continued as it did in year 2014-15. 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 2015-16'; the figures within Table 3a have been transferred from that spreadsheet.

The total number of 'overloaded sewers' incidents for the year 2015-16 was 23.

The total number of 'other causes' incidents have decreased from 4379 in 2014/2015 to 3889, in 2015/2016.

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 two years.

Lines 12-25 - At Risk Register

The total number of areas, on the Register at the start of year 2015/16 was 316.

The processing of external flooding incidents has continued as it did in year 2014/15, resulting in 16 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 332.

Capital schemes which address external flooding only, are in general, not funded – hence the zero entry for removals by company action.

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

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										
2	Number dealt with within 5 working days	nr	0	77,118	B2	78,398	B2	75,520	B2	75,462	B2										
3	Number dealt with in more than 10 working days	nr	0	26	B2	30	B2	9	B2	11	B2										
4	DG6 Percentage dealt with within 5 working days	%	2	100.09	B2	99.92	B2	99.97	B2	99.96	B2										
5	Percentage dealt with in more than 10 working days	%	2	0.03	B2	0.04	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										
7	Number of properties connected for water and sewerage services	nr	0	665,189	A2	669,910	B2	670,800	A2	678,719	A2										
8	Number of properties connected for sewerage services only	nr	0	25	A2	24	B2	25	A2	24	A2										

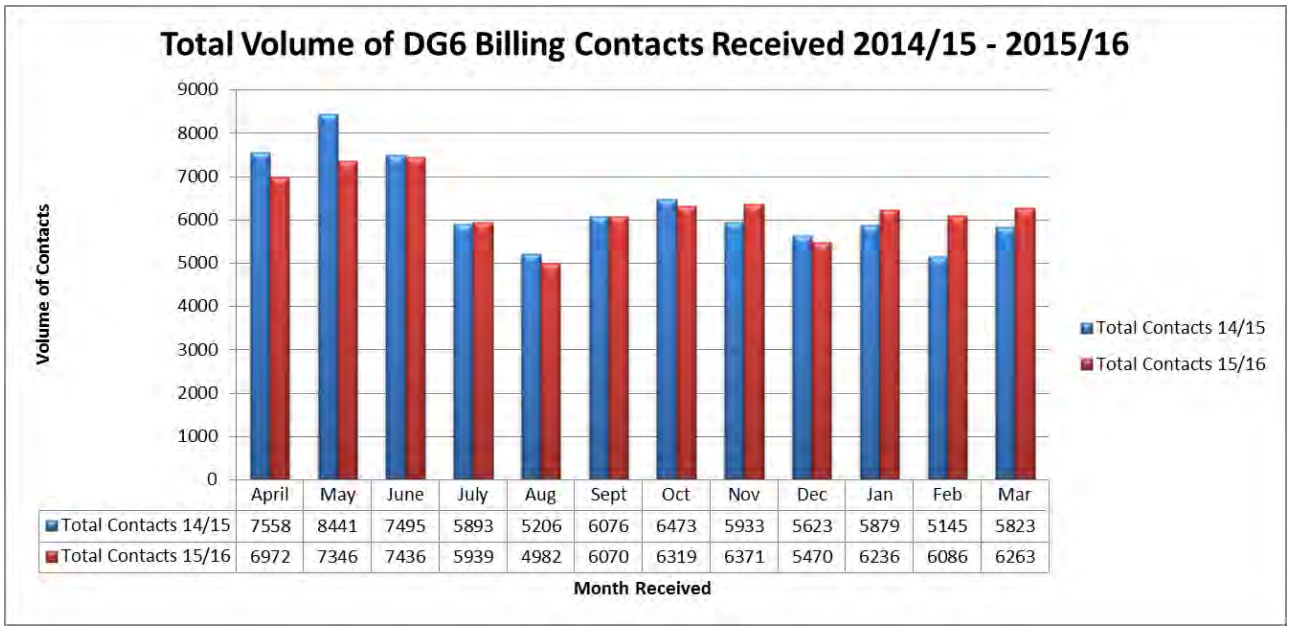
Table 4 – Customer Service 1

DG6 – Response to Billing Contacts

This was the ninth year of non-domestic billing by Northern Ireland Water (NIW). Following decision of Northern Ireland Executive, domestic charges continued to be deferred for 2015/16 charging year.

No material changes, other than tariff changes, were made to billing in 2015/16.

A monthly profile of DG6 contacts received during 2015/16 is displaced in Chart 1.



	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Total Contacts 14/15	7558	8441	7495	5893	5206	6076	6473	5933	5623	5879	5145	5823
Total Contacts 15/16	6972	7346	7436	5939	4982	6070	6319	6371	5470	6236	6086	6263

Chart 1 – DG6 Billing Contacts Received 2015/16

The increased volume during quarter one was due to the annual bill run whereby unmeasured bills were issued for the start of April with recovery notices being issued as per policy, 28 days later where bills remained unpaid. This reflects the normal profile expected following the annual bill run.

Top Reasons for Customer Contact

Table 1 lists the top 5 reasons for billing contacts in 2015/16

Debit / Credit Card Payment	22%
Promise Of Payment	10%
Checking Payment Recd	6%
High Cons Advice Given	4%
Disputd Liab Supply	4%

Table 1 – Top 5 DG6 contact types 2015/16

Debit/credit card payments and promises to pay remain the top reasons for billing contacts due to continued focus on debt collection activities during the year. These would be seen as “wanted” contacts.

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 NIW 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 NIW Account Services 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.

No current plans to reduce the holding response period during AIR 17.

NB The majority of DG6 contacts which cannot be resolved within 5 days require a site visit by a Meter Query Technician (MQT). It is not unusual that the requirement for remedial meter maintenance work is identified during these site visits. The 40day 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 40-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, “Account Services - Re-categorisation of written contacts”, is embedded as Document 1 for reference purposes.

NIW_ACS_Re-categ
orisation of written cc

Document 1 - Re-categorisation of written contacts

Email and Faxes

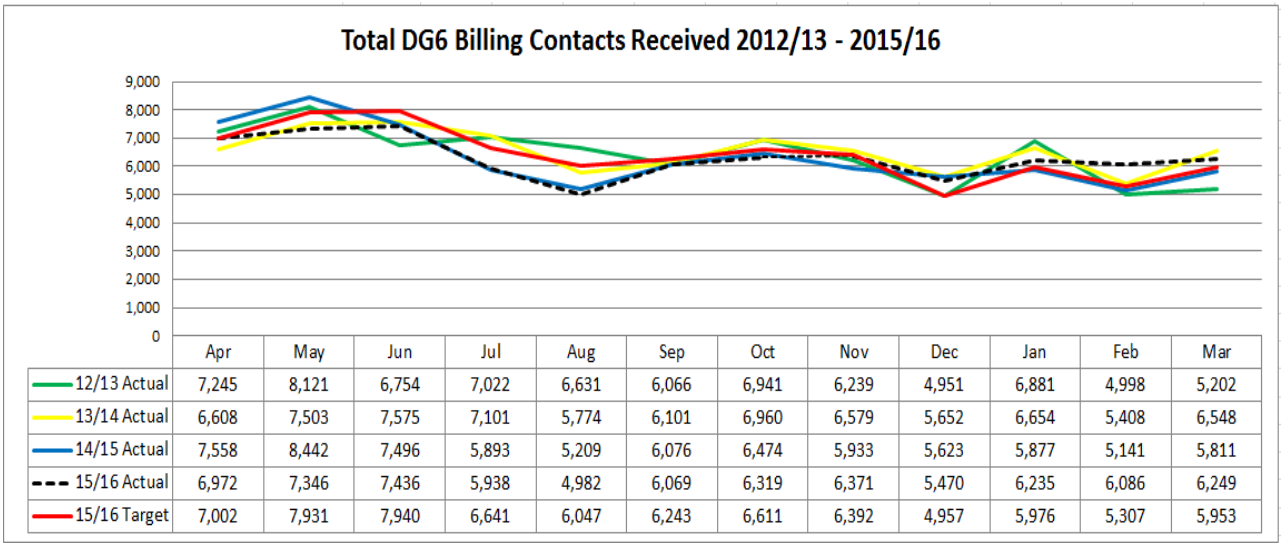
Systems remained in place to ensure that the receipt date of email/fax contacts is recorded as the date it is delivered to the company with the following working day being recorded as Day 1.

Payment Cards

NIW does not issue payment cards to non-domestic customers.

DG6 Volumes Year-on-year

DG6 received volumes from 2012/13 to 2015/16 is displayed in Chart 2.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
12/13 Actual	7,245	8,121	6,754	7,022	6,631	6,066	6,941	6,239	4,951	6,881	4,998	5,202
13/14 Actual	6,608	7,503	7,575	7,101	5,774	6,101	6,960	6,579	5,652	6,654	5,408	6,548
14/15 Actual	7,558	8,442	7,496	5,893	5,209	6,076	6,474	5,933	5,623	5,877	5,141	5,811
15/16 Actual	6,972	7,346	7,436	5,938	4,982	6,069	6,319	6,371	5,470	6,235	6,086	6,249
15/16 Target	7,002	7,931	7,940	6,641	6,047	6,243	6,611	6,392	4,957	5,976	5,307	5,953

Chart 2 - DG6 received 2012/13 to 2015/16

The total received volume for 2015/16 is 75,473 there is a slight reduction when compared with 2014/15 total 75,533. The final total of 75,473 is 1527 less than the volumetric target for 2015/16.

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

Based on data extracted on 22.04.16

- 308 DG6 contacts received during 15/16 were open;
- the oldest open DG6 contact received during 15/16 was 240 working days old;
- 308 DG6 contacts received during 15/16 were open for more than 5 working days, each pending completion of agreed actions as outlined in substantive holding responses;
- The average age of an open DG6 contact received during 15/16 was 46 working days.

Self Service Platform

On 9th February 2015, NIW announced the provision of additional 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, customers are able to:

- view their account balance;
- view the payment plan of individual schedules;
- view bill and payment history;
- view desludging request history;
- process a new desludging request;
- pay a bill; and
- manage their account details.

Northern Ireland Water's (NIW) property data is taken from the RapidXtra billing system and manipulated within Microsoft SQL to produce the Rapid Property Summary Report.

Line 6 – Number of Properties Connected for Water Supply Only

AIR15 figure – 157260
AIR16 figure - 160991

There has been a net increase of circa 3700 properties during the 15/16 year which are connected only for water.

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 2015/16 reporting year. As detailed in the associated Line Methodology and as per Annex A, an issue with the system report has resulted in a change in methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with the New Connections reported by the Customer Connections Team.
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:
    1. The adding of properties NI Water allegedly didn't know about and the adding of duplicates as the customers address couldn't be found on Rapid. For example, 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.
    2. Another scenario - The street name may have changed from the time of New Connection to that of customer contact – street names can change in the early stages of site development.
        - The work on data validation has commenced, with new validations 'live' as a result of Phase 1 & 2 implementation, further validations will be implemented in Phase 3 & 3a during 2016/17 & 2017/18.
3. Removal of duplicates/properties as a result of data quality initiatives
4. The increased number of properties within the no water/well water category. Further detail provided within the Table 7 commentary.

In addition to the above, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout.

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

AIR15 figure – 670800
AIR16 figure – 678719

There has been a net increase of circa 7900 properties connected for water and sewerage services during the 15/16 year – refer to Line 6 commentary for further detail.

Line 8 - Number of Properties Connected for Sewerage Services Only

AIR15 figure – 25
AIR16 figure – 24

The number of properties connected for sewerage only has decreased by 1 property during the 15/16 reporting year.

Annex A details the methodology followed for the figures calculated in Table 4 Lines 6-8.

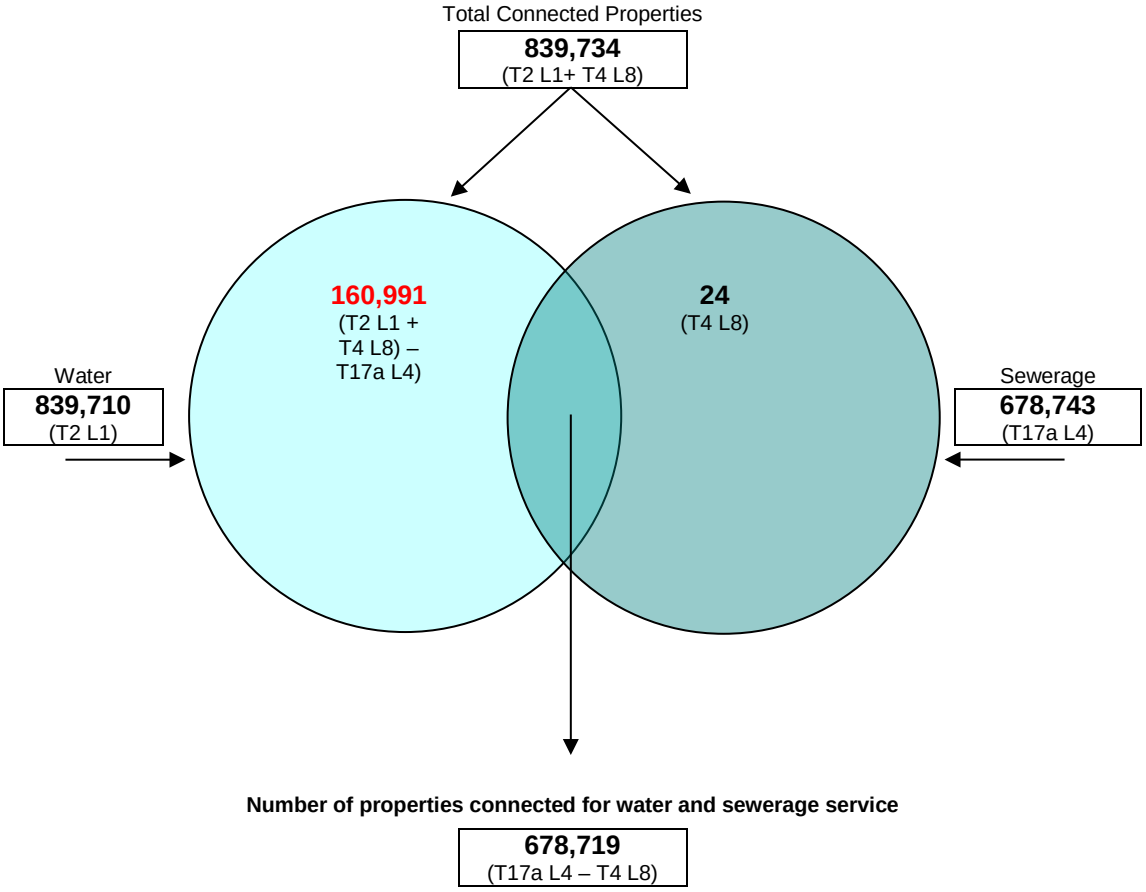
Annex A – Line Methodology for Table 4

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 AIR16 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 AIR16 and is displayed in the diagram below:



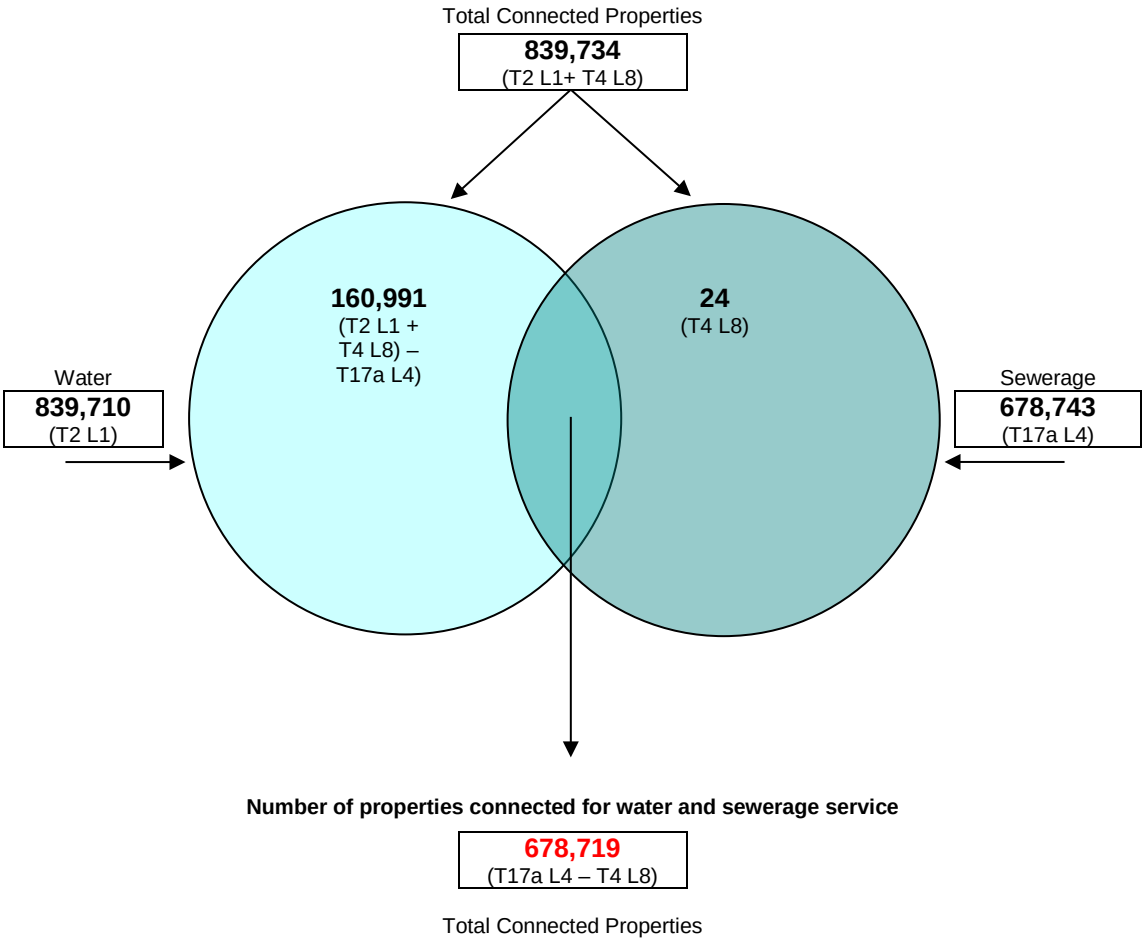
Therefore:-

	End March 2016
Total Connected Properties (T2 L1 + T4 L8)	839734
less	
Total Connected Properties for Sewerage (T17a L4)	678743
Total Connected for Water Only	**160,991**

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 AIR16 and is displayed in the diagram below:



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 AIR16.

	End March 2016
Domestic sewerage only	6
plus	
Non-domestic sewerage only	18
Total Properties Connected for Sewerage Only	**24**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

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

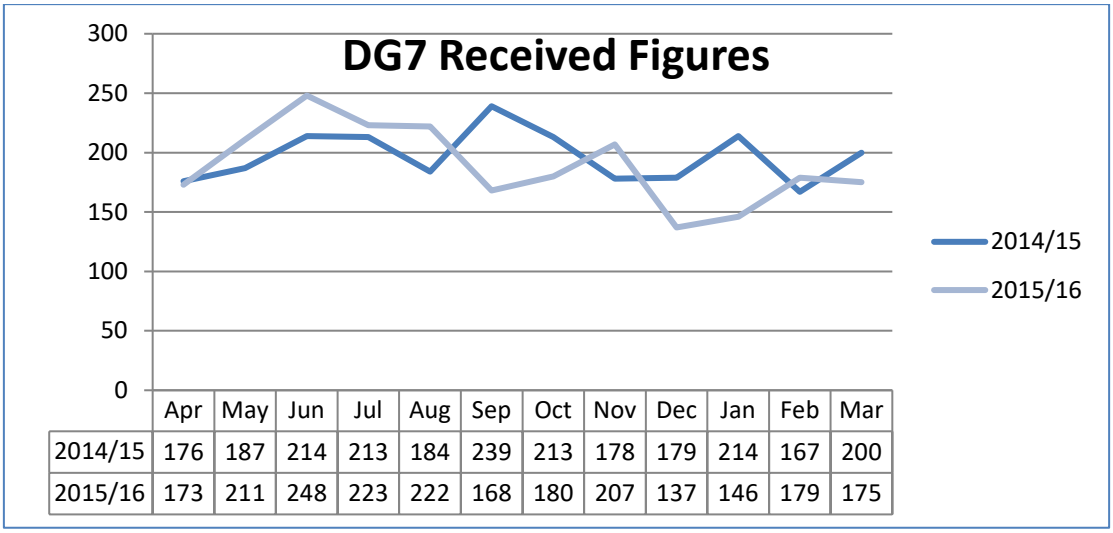
	DESCRIPTION	UNITS	DP	1 REPORTING YEAR 2012-13	CG	2 REPORTING YEAR 2013-14	CG	3 REPORTING YEAR 2014-15	CG	4 REPORTING YEAR 2015-16	CG	5 REPORTING YEAR 2016-17	CG	6 REPORTING YEAR 2017-18	CG	7 REPORTING YEAR 2018-19	CG	8 REPORTING YEAR 2019-20	CG	9 REPORTING YEAR 2020-21	CG
A	**DG7 RESPONSE TO WRITTEN COMPLAINTS**																				
1	Total written complaints	nr	0	3,173	B2	2,505	B2	2,364	B2	2,269	B2										
2	Number dealt with within 10 working days	nr	0	3,166	B2	2,498	B2	2,363	B2	2,266	B2										
3	Percentage dealt with within 10 working days	%	2	99.78	A1	99.72	A1	99.96	A1	99.87	A1										
4	Number dealt with in more than 20 working days	nr	0	1	B2	2	B2	0	B2	2	B2										
5	Percentage dealt with in more than 20 working days	%	2	0.03	A1	0.08	A1	0.00	A1	0.09	A1										
B	**DG8 BILLS FOR METERED CUSTOMERS**																				
6	Total metered accounts	nr	0	110,164	A1	115,227	A1	118,732	A1	123,763	A1										
7	Metered accounts excluded from indicator	nr	0	42,688	A1	47,784	A1	51,214	A1	55,875	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										
9	Company or customer readings (or both)	nr	0	66,622	A1	66,840	A1	66,916	A1	67,366	A1										
	(ii) NUMBER OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING:																				
10	Estimated bills only	nr	0	550	A1	433	A1	548	A1	426	A1										
11	No bills received during the report year	nr	0	304	A1	170	A1	54	A1	96	A1										
12	Unread by company for 2 years	nr	0	310	A1	186	A1	164	A1	207	A1										
C	**DG9 TELEPHONE CONTACT and new CM/SAT**																				
13	Total calls received on customer contact lines	nr	0	219,399	A2	226,881	A2	230,847	A2	210,487	A2										
14	All lines busy	nr	0	0	A2	0	A2	32	A2	159	A2										
15	Total of calls not abandoned	nr	0	216,006	A2	223,256	A2	226,204	A2	209,284	A2										
16	Call Handling Satisfaction	nr	2	4.54	A1	4.63	A1	4.65	A1	4.59	A1										
16a	Net Promoter Score	nr	2																		
17	Total telephone complaints	nr	0	73,158	A2	74,316	A2	76,536	A2	61,316	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										

Table 5 – Customer Service 2

Lines 1-5 – Response to Written Complaints

DG7 Received Volumes

The chart below shows the DG7 received volumes during 14/15 and 15/16.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
2014/15	176	187	214	213	184	239	213	178	179	214	167	200
2015/16	173	211	248	223	222	168	180	207	137	146	179	175

The chart shows a decrease in the overall volume of written complaints received in 15/16 compared to the previous year: 2269 in total received in 15/16 compared with a total of 2364 received in the previous reporting period.

Received volumes in May-August 2015, and later in November 2015, were above average monthly received figures.

The increased volumes in these months can be partially attributed to the reasons listed below.

- In May 2015, the complaints in the “Charges & Billing” and “Water Services” categories were higher than average.
- In June 2015, the complaints in the “Charges & Billing” category were significantly higher than average with almost half of them being linked to disputed liability for charges.
- Above average “Charges & Billing” complaints continued into July 2015; again, disputed liability featured heavily as a theme.
- August 2015 saw an increase in complaints in the “Sewerage Services” category with almost half of these complaints being linked to blocked sewers and malodours from treatment works.
- The increase in complaints received during November 2015 can be linked, in part, to above average “Charges & Billing” complaints. As in June and July 2015, disputed liability for charges contributed to this volume.

As in previous years, the number of written complaints in the “Charges & Billing” category was highest, representing approximately 40% of the total received over the reporting period.

These were for a variety of causes, some of which are summarised below:

- Over four hundred and fifty complaints were recorded as being from customers disputing liability for charges.

- Over one hundred complaints were recorded as being about leak allowances or high consumption.

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

Based on data extracted on 27th April 2016:

- 6 DG7 contacts received during 15/16 complaints remained open;
- the oldest open DG7 complaint received during 15/16 was 42 working days old;
- 6 DG7 contacts received during 15/16 were open for more than 10 working days, each pending completion of agreed actions as outlined in substantive holding responses; and
- the average age of the open DG7 contacts received during 15/16 was 25 working days

For the purposes of Table 5 and (Table 5a) reporting, those complaints which are open at end of year are included in the reported figures for the number dealt with within 10 working days. This is based on the assumption that a holding response has been issued within 10 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 complaints still open at yearend were closed in line with the aforementioned methodology with a reported closure date within 10 working days of receipt.

Petitions

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

CCNI Annual Complaints Assessment

The 4th formal assessment was held on 31 March 2016. Recommendations will be agreed as part of the ongoing process, likely by the end of Q1 of 2016/17.

E-mail and Faxes

Systems remained 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.

1552, or 68.40%, of the total DG7 received volume were recorded with a document type of “email”.

Only 1 DG7 was recorded as having a document type of “fax”.

Self-Service Portal

The “Contact Us” section of the online self-service portal, launched in February 2015, 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 https://selfservice.niwater.com/ContactForm#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 15/16.

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

Complaints about HVCA

There were no written complaints recorded as being related to the High Volume Call Answering system.

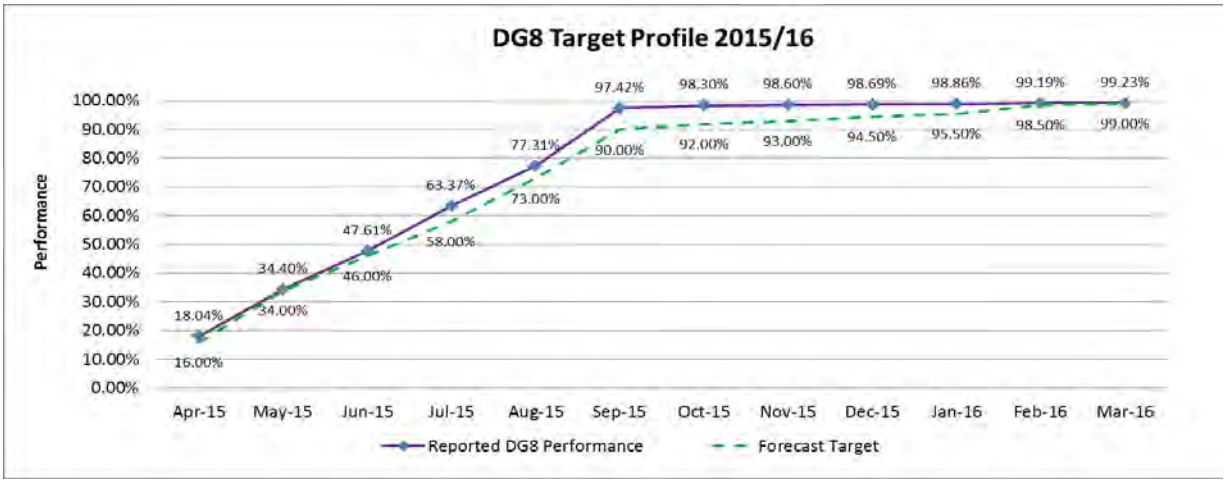
Exclusions

A total of 18 written customer complaints have been excluded from DG7 reporting during 15/16 for a variety of exclusion reasons as per the Level of Service Methodology.

Lines 6-12 DG8 – Bills for metered customers

The 15/16 outturn for DG8 was 99.23% of meters read and billed. This was against a target of 99%. Although the company was well ahead of target within the first 6 cycles, achieving the target of 99% proved difficult due to external influences such as road maintenance schemes, Public Realm activity and businesses that had closed which NIW were unaware of. The target for 16/17 remains fixed at 99%.

Graph 1: DG8 Meters Read and Billed Performance (%)



Graph 1.0 Cumulative increase in DG8 reads throughout the course of the 15/16 year. The graph is based on actual meter reads out of the total meter stock base.

As can be seen from graph 1.0, within the first read cycle, 97.42% of the meters contributing to the DG8 target were read, against an internal company target of 90.00%. Within the second half of the year the continuing targeted approach and skip management has resulted in an improved number of skips in 2015/16 of 2303, from 2600 in 2014/15. Further management of skips in the coming year should improve on this figure again.

In conjunction with the BAU processes, further data integrity work along with the gradual introduction of Automatic Meter Reading (AMR) equipment was continued that will improve the information associated with NIW's meter stock, thus improving the capacity for greater numbers and accuracy of DG8 reads, whilst further reducing the number of skips.

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 but a message on bill and recovery envelopes to highlight the importance of customers ensuring they check and read their own meter where possible. Customer reads can be registered for billing purposes by using the On-line facility available on our website, email or by calling our billing line.

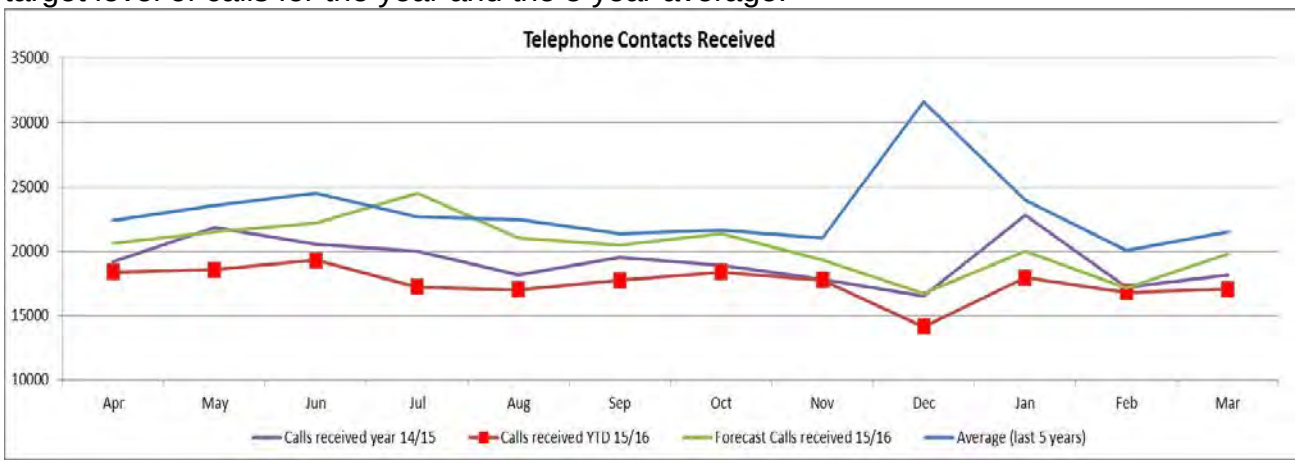
The Confidence grade of A1 has been applied for lines 6-12.

Lines 13 – 17 - DG9 Telephone Contact

DG9 Introduction

During the reporting year a total of 210,487 calls were made to the advertised Company telephone numbers.

The graph below shows a comparison against the previous year (2014/15) and against our target level of calls for the year and the 5 year average.



The deployment of an High Volume Call Answering (HVCA) 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. Power NI. HVCA was available to handle overflow calls for customers reporting faults on the Waterline.

Call received in the winter period where lower in comparison to previous years, due mainly to milder weather conditions.

All Lines Busy

There were 159 instances of All lines busy during the reporting period. During July 2015 All lines busy peaked at 64. From 20th – 28th July, 62 engaged calls were identified from Waterline, Aged Debt, Debt Line and Leakline. Plus 2 were to a non-PACC inbound number. The issue was identified after the porting of Geo and Non-Geo numbers completed on the 10th March 2015. As a solution, BT provided NIW with a block of 30 new DDI numbers. These numbers were routed to existing PACC lines overnight. Existing Call Media campaigns were kept.

HVCA

The High Volume Call Answering (HVCA) 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.

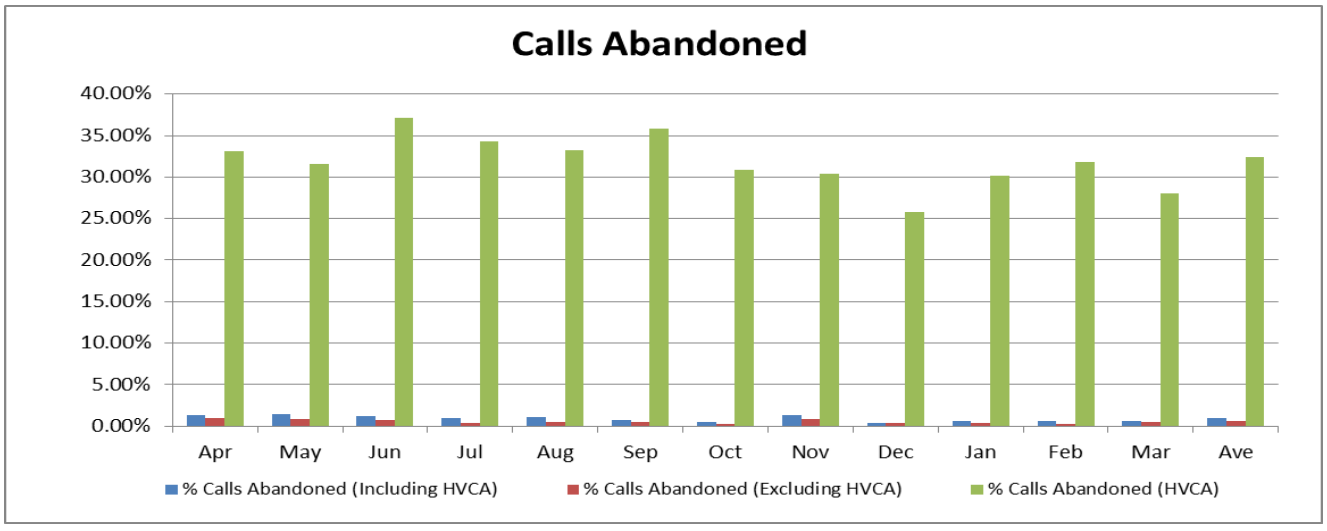
Since the 5th March 2013 the HVCA system has been deployed in Agent First Mode, which means all calls to the Waterline are still diverted to the Cable and Wireless Network IVR system. The caller is presented with the menu selection and depending on the option selected and if a CRC agent available, passed to a CRC call Agent. If no Agents are available then the caller will enter into the HVCA call routing plan to have their issue logged.

Calls Abandoned

There were 1203 calls abandoned on the CallMedia system during the year leading to a reportable Company performance of 99.43% of 'calls not abandoned', which met the 99% target set for the year.

All calls abandoned on HVCA 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 HVCA 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 HVCA 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 772 abandoned on the HVCA system and the details on calls abandoned, including and excluding the HVCA system, are set out in Table 1 in Annex A.

As reported previously to the Regulator, 32.42% of all calls transferred to the HVCA 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.

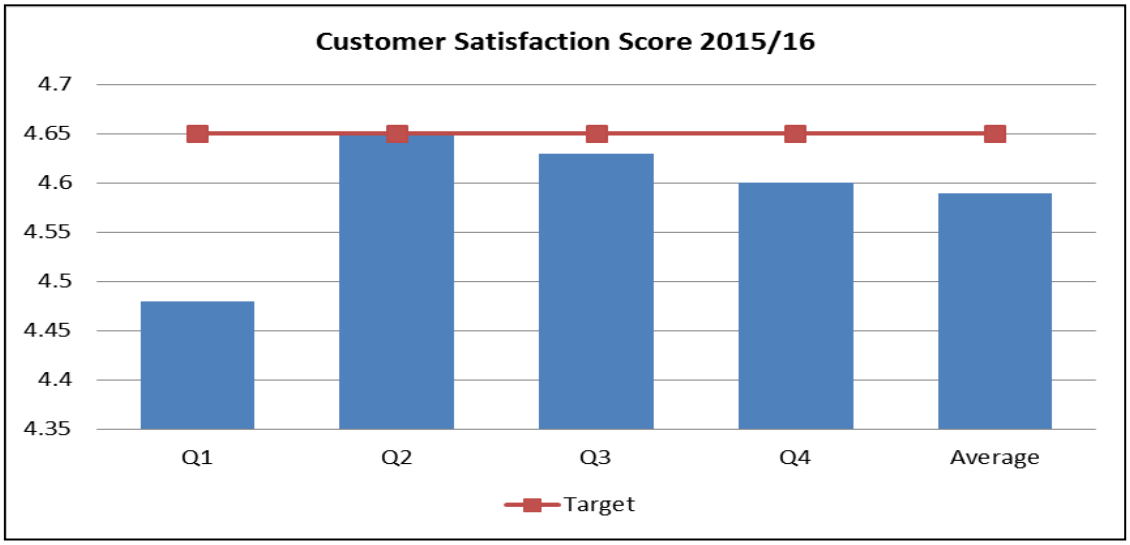


Call Handling Satisfaction

Customer's satisfaction with regards call handling is assessed independently by McCallum Layton, a market research company who has also undertaken similar call satisfaction assessments in England and Wales.

McCallum Layton carry out quarterly customer survey of 100 customers who have called the Company for any reason. The Company achieved an overall score of 4.59/5.0 for the reporting year, down from 4.65/5.0 in 14/15.

The graphs below show the quarterly scores for the 2015/16 year and the overall average for each year since 2007/8. The company analyses this research to determine areas of customer dissatisfaction, identifying root causes and proposing plans for corrective action and increased customer satisfaction.



The Company has also commenced qualitative surveys using the SIM methodology, which is based on a survey of 800 resolved contacts per annum. The Company is engaged with the Utility Regulator and other key stakeholders in developing a new Customer Satisfaction measure for the PC15 period, based on a Net Promoter Score (NPS) approach.

Sampling Methods

Samples of calls are listened to on a monthly basis and any issue feed back to our outsource partners Echo through the monthly operational reporting mechanism.

In addition to this and in line with all other UK water companies NI Water employs McCallum Layton to survey 100 and 200 customers who have called the Company each quarter for OPA and SIM CSAT qualitative reporting.

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 have fallen to 61,316, a decrease compared with the 76,536 received during 2014/15 reporting period.

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 427 work orders were received by the Company from FIL.

Confidence Grades

Call volume data is derived using a combination of telephony systems, the HVCA system for automated calls and Call Media that draws information from the Avaya system for agent handled calls.

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 HVCA; however the confidence grade assigned to the data remains at ‘A2’, as per the AIR guidance.

Call Handling Satisfaction retains the confidence grade of ‘A2’ as it is conducted independently and the results are provided to NI Water by McCallum Layton.

Table 1: HVCA (2015/16)

Annex A

Calls received/answered to HVCA

Details	YTD	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
Total calls received (HVCA)	**2381**	208	333	229	271	319	120	152	214	62	139	195	139
Total calls answered (HVCA)	**1609**	139	228	144	178	213	77	105	149	46	97	133	100
% Calls transferring to HVCA based on total calls received	**Ave 1.05%**	1.05%	1.66%	1.10%	1.45%	1.72%	0.62%	0.77%	1.12%	0.40%	0.71%	1.05%	0.82%

Abandoned on HVCA

Total of Abandoned Calls (Call Media)	**1203**	179	158	148	71	84	83	55	161	59	72	46	87
Total of Abandoned Calls (HVCA)	**772**	69	105	85	93	106	43	47	65	16	42	62	39
Total of Abandoned Calls	**1975**	248	263	233	164	190	126	102	226	75	114	108	126
% Calls Abandoned (Including HVCA)	**0.94%**	1.35%	1.42%	1.21%	0.95%	1.12%	0.71%	0.55%	1.27%	0.53%	0.63%	0.64%	0.63%
% Calls Abandoned (Excluding HVCA)	**0.57%**	0.97%	0.85%	0.77%	0.41%	0.49%	0.47%	0.30%	0.91%	0.42%	0.40%	0.27%	0.51%
% Calls Abandoned (HVCA)	**32.42%**	**33.17%**	**31.53%**	**37.12%**	**34.32%**	**33.23%**	**35.83%**	**30.92%**	**30.37%**	**25.81%**	**30.22%**	**31.79%**	**28.06%**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

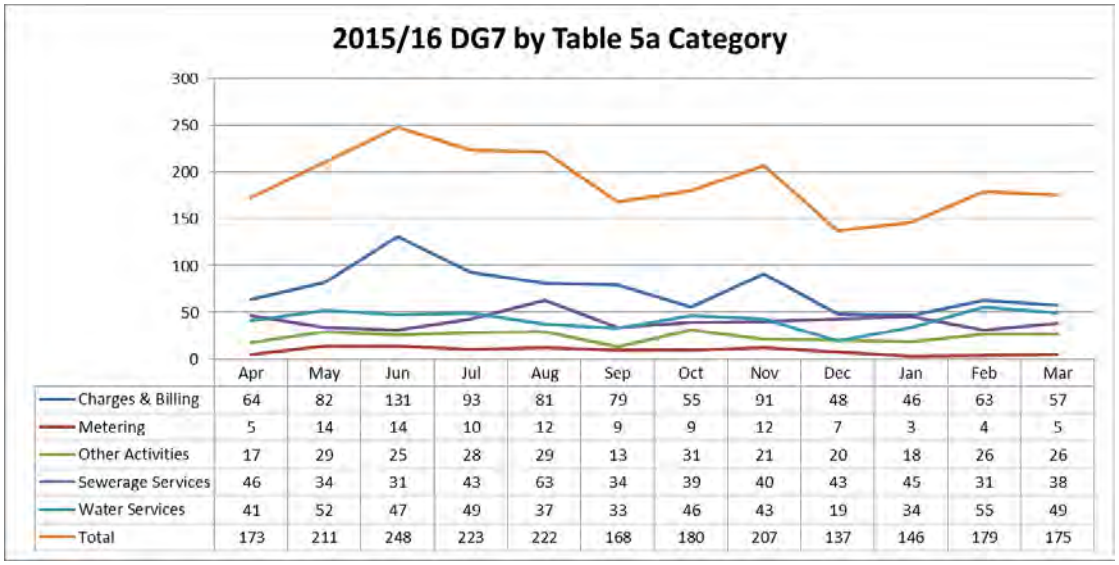
ANNUAL INFORMATION RETURN - TABLE 5A KEY OUTPUTS
CUSTOMER COMPLAINTS DATA FOR CONSUMER COUNCIL FOR NORTHERN IRELAND (TOTAL)

	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	Number dealt with within 10 working days	nr	0	3,166	B2	2,498	B2	2,363	B2	2,266	B2										
3	Number dealt with in more than 20 working days	nr	0	1	B2	2	B2	0	A1	2	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										
5	Total written complaints about charging and billing issues escalated to second stage review	nr	0	381	B2	149	B2	124	B2	92	B2										
	(ii) Water Service																				
6	Total written complaints about water service issues	nr	0	448	B2	552	B2	555	B2	505	B2										
7	Total written complaints about water service issues escalated to second stage review	nr	0	71	B2	52	B2	52	B2	33	B2										
	(iii) Sewerage Service																				
8	Total written complaints about sewerage service issues	nr	0	689	B2	493	B2	434	B2	487	B2										
9	Total written complaints about sewerage service issues escalated to second stage review	nr	0	82	B2	42	B2	31	B2	29	B2										
	(iv) Metering																				
10	Total written complaints about metering issues	nr	0	123	B2	133	B2	107	B2	104	B2										
11	Total written complaints about metering issues escalated to second stage review	nr	0	25	B2	28	B2	11	B2	4	B2										
	(v) Other activities																				
12	Total written complaints about other service issues or activities	nr	0	346	B2	488	B2	362	B2	283	B2										
13	Total written complaints about other service issues or activities escalated to second stage revi	nr	0	82	B2	124	B2	51	B2	18	B2										
C	**OTHER CUSTOMER RESPONSE MEASURES**																				
14	Number of holding responses issued	nr	0	695	B4	351	B4	294	B4	413	B2										
15	Consumer Council investigations	nr	0	27	B2	40	B2	28	B2	34	B2										

Table 5a – Customer complaints data for Consumer Council Northern Ireland (Total)

DG7 Received Annual Profile & Explanation

The volume of DG7 complaints received each month during 15/16 by type is shown in the chart below.



	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Charges & Billing	64	82	131	93	81	79	55	91	48	46	63	57
Metering	5	14	14	10	12	9	9	12	7	3	4	5
Other Activities	17	29	25	28	29	13	31	21	20	18	26	26
Sewerage Services	46	34	31	43	63	34	39	40	43	45	31	38
Water Services	41	52	47	49	37	33	46	43	19	34	55	49
Total	173	211	248	223	222	168	180	207	137	146	179	175

In line with previous years, those falling into the “Charges & Billing” category remain the principal written complaint type.

Above average complaint volumes falling into this category also contributed to the increased total complaints received between May-August 2015 and in November 2015. The predominant reason recorded for these complaints was disputed liability for charges.

Second Stage Complaints

Systems remained in place to enable the reporting of complaints escalated to second stage review throughout 15/16.

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

Within the PC10 Final Determination, stakeholders agreed to introduce monitoring systems 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 15/16.

System-based report data was used to derive the number of holding responses issued between 01/04/15 and 31/03/16.

The figure reported in Line 14 is the total recorded number of holding responses issued to customers during 15/16 owing to pending investigations linked to open DG7 contacts which were received in 15/16. It does not include holding responses issued within 15/16 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										
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										
31	Revenue outstanding < 3 months (measured non households)	£m	3	6.891	A2	7.189	A2	7.525	A2	5.530	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										
33	Revenue outstanding 3 - 12 months (measured non households)	£m	3	0.952	A2	0.928	A2	0.960	A2	0.758	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										
35	Revenue outstanding 12 - 24 months (measured non households)	£m	3	0.012	A2	0.039	A2	0.088	A2	0.435	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										
37	Revenue outstanding 24 - 36 months (measured non households)	£m	3	0.117	A2	0.104	A2	0.166	A2	0.497	A2										
38	Number of measured non households with outstanding revenue 24 - 36 months	nr	0	786	A2	498	A2	423	A2	656	A2										
39	Revenue outstanding 36 - 48 months (measured non households)	£m	3			0.000		0.000		0.000											
40	Number of measured non households with outstanding revenue 36 - 48 months	nr	0			0		0		0											
41	Revenue outstanding > 48 months (measured non households)	£m	3			0.000		0.000		0.000											
42	Number of measured non households with outstanding revenue > 48 months	nr	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										
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										
45	Revenue outstanding <3 months (unmeasured non households)	£m	3	0.111	A2	2.349	A2	2.350	A2	2.282	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										
47	Revenue outstanding 3 -12 months (unmeasured non households)	£m	3	0.025	A2	0.165	A2	0.070	A2	0.154	A2										
48	Number of unmeasured non households with outstanding revenue 3 - 12 months	nr	0	256	A2	697	A2	195	A2	190	A2										
49	Revenue outstanding 12-24 months (unmeasured non households)	£m	3	0.241	A2	0.005	A2	0.116	A2	0.113	A2										
50	Number unmeasured non households with outstanding revenue 12 - 24 months	nr	0	894	A2	184	A2	448	A2	662	A2										
51	Revenue outstanding 24-36 months (unmeasured non households)	£m	3	0.025	A2	0.108	A2	0.030	A2	0.055	A2										
52	Number of unmeasured non households with outstanding revenue 24 - 36 months	nr	0	237	A2	407	A2	68	A2	588	A2										
53	Revenue outstanding 36 -48 months (unmeasured non households)	£m	3			0.000		0.000		0.000											
54	Number of unmeasured non households with outstanding revenue 36 - 48 months	nr	0			0		0		0											
55	Revenue outstanding >48 months (unmeasured non households)	£m	3			0.000		0.000		0.000											
56	Number of unmeasured non households with outstanding revenue > 48 months	nr	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										
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										
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										
i	Employment costs	£m	3	3.673	A2	3.408	A2	3.188	A2	3.501	A2										
ii	Hired and contracted costs	£m	3	3.139	A2	3.392	A2	3.188	A2	3.018	A2										
iii	Other	£m	3	0.611	A2	0.739	A2	0.819	A2	0.738	A2										
iv	Adjustments	£m	3	-1.005	B3	-0.772	B3	-0.911	B3	-0.920	B3										
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										
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										

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 2016 NI Water had no actual revenue from households as this is received by way of a subsidy from Department for Regional Development ("DRD"). There was £1.25m due to NIW from DRD for subsidy at 31 March 2016. This figure varies to the Statutory Accounts as Septic Tank subsidy is not reported in AIR as it is classified as non-appointed income under UKGAAP.

Box B – Revenue Outstanding – Unmeasured Households

As above, income is received by way of a subsidy from DRD.

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 2016.

At 31 March 2016 the closing trade debtor balance was £7.220m. Trade Debtors decreased this year largely due to the setting aside of provisions against income to cover both recent back-billing as well as possible additional refunds arising from the TE review exercise.

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 £2.8m and is made up of the following:

- £0.2m for debt over 4 years
- £0.2m for debt 3 - 4 years
- £0.4m for debt 2 – 3 years
- £0.8m for debt 1 – 2 years
- £1.0m for debt 90 – 365 days
- £0.2m 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. £2.2m more than the detailed debtors listing provided by Echo. This was due to the following:

- Future system adjustments (£1.7m)
- Mixed Supply written-off (£0.5m)

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 2015/16 outstanding from measured non households for less than 48 months. Balance as at 31 March 2016 was £7.220m.

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 2016 was 17,091. 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 £1.7m. The £1.7m is approximately 12% of total outstanding debtors at 31 March 2016 of £14.4m. An assumption was made to apply a 12% 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 2015/16 that has been outstanding from measured non households for less than 3 months. Balance as at 31 March 2016 was £5.530m.

Row 32 – Number of Measured Non-Households with Outstanding Revenue < 3 months: The number of measured non households at end of 2015/16, with revenue outstanding for less than 3 months. As at 31 March 2016 this totalled 10,405.

Row 33 – Revenue Outstanding 3-12 months (Measured Non Households): The total amount of revenue at the end of 2015/16 that has been outstanding from measured non households for at least 3 months but less than 12 months. Balance as at 31 March 2016 was £0.758m.

Row 34 – Number of Measured Non-Households with Outstanding Revenue 3-12 months: The number of measured non households at end of 2015/16 with revenue that has been outstanding for at least 3 months but less than 12 months. At 31 March 2016 this totalled 4,889.

Row 35 – Total Revenue Outstanding 12-24 months (Measured Non Households): The total amount of revenue at the end of 2015/16 outstanding from measured non households for at least 12 months but less than 24 months. At 31 March 2016 this totalled £0.435m.

Row 36 – Number of Measured Non-Households with Outstanding Revenue 12-24 months: The number of measured non households at end of 2015/16 with revenue that has been outstanding for at least 12 months but less than 24 months. At 31 March 2016 this totalled 1,142.

Row 37 – Total Revenue Outstanding 24-36 months (Measured Non Households): The total amount of revenue at the end of 2015/16 outstanding from measured non households for at least 24 months but less than 36 months. At 31 March 2016 this totalled £0.497m.

Row 38 – Number of Measured Non-Households with Outstanding Revenue 24-36 months: The number of measured non households at end of 2015/16 with revenue that has been outstanding for at least 24 months but less than 36 months. At 31 March 2016 this totalled 656.

Row 39 – Number of Measured Non-Households with Outstanding Revenue 36-48 months: The number of measured non households at end of 2015/16 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 2016 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 2016.

- At 31 March 2016 the closing trade debtor balance was £2.604m (31 March 2015, £2.566m).

The debtor balance reported figure is made up of unmeasured water and sewerage debtors less bad debt provision. The bad debt provision is £0.115m and is made up of the following:

- £0.006m for debt over 4 years
- £0.007m for debt 3 - 4 years
- £0.017m for debt 2 – 3 years
- £0.034m for debt 1 – 2 years
- £0.044m for debt 90 – 365 days
- £0.007m 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 2015/16 outstanding from unmeasured non households for less than 48 months. Balance at 31 March 2016 was £2.604m.

Row 44 – Numbers of Unmeasured Non-Households with Outstanding Revenue < 48 months: The number of unmeasured non households at the end of 2015/16 with revenue that has been outstanding for less than 48 months. Total at 31 March 2016 was 9,664.

Row 45 – Revenue Outstanding < 3 months - Unmeasured Non Households: The total amount of revenue at the end of 2015/16 outstanding from unmeasured non households for less than 3 months. Balance at 31 March 2016 was £2.282m.

Row 46 – Numbers of Unmeasured Non-Households with Outstanding Revenue < 3 months: The number of unmeasured non households at the end of 2015/16 with revenue outstanding for less than 3 months. Total at 31 March 2016 was 8,224.

Row 47 – Revenue Outstanding 3-12 months - Unmeasured Non Households: The total amount of revenue at the end of 2015/16 outstanding from unmeasured non households for at least 3 months but less than 12 months. Balance at 31 March 2016 was £0.154m.

Row 48 – Numbers of Unmeasured Non-Households with Outstanding Revenue 3-12 months: The number of unmeasured non households at end of 2015/16 with revenue outstanding for at least 3 months but less than 12 months. Total at 31 March 2016 was 190.

Row 49 – Revenue Outstanding 12-24 months - Unmeasured Non Households: The total amount of revenue at the end of 2015/16 outstanding from unmeasured non households for at least 12 months but less than 24 months. Balance at 31 March 2016 was £0.113m.

Row 50 – Numbers of Unmeasured Non-Households with Outstanding Revenue 12-24 months: The number of unmeasured non households at end of 2015/16 with revenue outstanding for at least 12 months but less than 24 months. Total at 31 March 2016 was 662.

Row 51 – Revenue Outstanding 24-36 months - Unmeasured Non Households: The total amount of revenue at the end of 2015/16 outstanding from unmeasured non households for at least 24 months but less than 36 months. Balance at 31 March 2016 was £0.055m.

Row 52 – Numbers of Unmeasured Non-Households with Outstanding Revenue 24-36 months: The number of unmeasured non households at end of 2015/16 with revenue outstanding for at least 24 months but less than 36 months. Total at 31 March 2016 was 588.

Row 53 – Revenue Outstanding 36-48 months - Unmeasured Non Households: The total amount of revenue at the end of 2015/16 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 2016 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 £1.321m (2014/15, £0.776m). The increase is a result of a management focus in reducing overall debt levels.

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)	DFP/DRD * (External)
Value			N/A
Up to £100	Agent	Billing & Collection L4.	
>£100 to £1,000	Senior Agent / Team Manager		
>£1,000 to £5,000	Service Delivery Manager		
>£5,000 to £10,000	Head of Service Delivery	Head of Metering & Billing L3 or Billing & 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 DRD 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 2015/16 was £1.237m (2014/15, £0.666). The increase is a result of a management focus in reducing overall debt levels.

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 2015/16 was £0.083m (marginally lower than the 2014/15 figure of £0.110m).

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. The company view this methodology as providing an appropriate estimate of the provisioning required and reflects the current economic climate. 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	180-365 days	1 - 2 years	2 - 3 years	3 - 4 years	4+ years
High	5%	5%	10%	10%	35%	65%	80%	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%
Test meters	75%	75%	75%	75%	75%	75%	75%	100%	100%	100%	100%

Allocation of High, Medium and Low

A review of the total debtors (debit balances) was carried out at the end of March 2016. Account balance and aged debt taken into consideration when applying risk of default. Data was filtered by VAT SIC code and the following steps were taken:

- Top customers were reviewed by name.
- All public sector accounts reviewed e.g. Health Trusts, Education Boards, Schools - <30 days Low; if >30days, Med.
- Agricultural customers grouped and reviewed - >£5K reviewed individually and set to HIGH. £1k to £5k reviewed individually and set to HIGH if debt > 180 days, or MED if <180 days. DD customers low.
- Retail customers grouped and reviewed.
- Hotels, bars and restaurants reviewed - Final account no fwd add high.

- Charities, voluntary groups, housing associations, churches grouped and reviewed.
- Construction companies, quarries grouped and reviewed.
- Accounts with STD VAT code reviewed individually, direct debit payers on MED (these accounts are mainly new customers who have not yet completed VAT questionnaire, so we can't be sure of activity).
- Manufacturers grouped and reviewed by name (high value) and activity (lower value).
- Food processors grouped and reviewed.
- Unmeasured customers in sic code 6 classified as HIGH.
- Unmeasured customers in sic code 8 (Banks and professional services) classified as LOW or MED.
- Banks all at MED risk.
- All final accounts classified as HIGH risk.
- VAT code:
  1 Energy as low unless debt greater than £180 days then med.
  2 Minerals - <30days med. > 30 days high.
  3 Metal Goods and Engineering - DD - Low. >180days High
  4 Other manufacturing - >180 days high if not Key account or DD.
  5 Construction < 30 days med. > 30days high
  6 Distribution/Catering <30days Med. > 30days High
  7 Transport > 60days High. <60days med
  8 Banking & Finance - DD Low
  9 Other services:
    - DD Low, >£1k, Med
    - Std Vat Rate unknown > 180 days high.
    - DD Med unless final a/c <180 days, if >£1k high.
    - Domestic Property - > 180 days high, <180days and <£100 low.
    - Redundant zero Vat - Med.
- Mitigation accounts set as HIGH
- RPA accounts set as HIGH.

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 £1.7m of future system adjustments.

Debtors were reduced by £2.2m in March 2016 to include future system adjustments of £1.7m and £0.5m mixed supply written off in month. The bad debt provision calculated on the reduced debt has decreased by £1.5m from March 2015 and reflects the reduction in aged debt.

Bad Debt Provision Summary

The following is a summary of the bad debt provision at 31 March 2016 and 31 March 2015:

	2016	**2015**

	£m	£m
Measured water & sewerage	2.631	3.887
Unmeasured water & sewerage	0.115	0.114
Trade effluent	0.104	0.387
Total	**2.850**	**4.388**

Subsidy

NI Water received £264.2m subsidy in relation to household customers in 2015/16 with nothing outstanding from DRD at 31 March 2016.

NI Water received £15.48m subsidy in relation to non-household customers and at 31 March 2016 an amount of £1.25m was outstanding from DRD. The total subsidy for non-households for the year ended 31 March 2016 was £16.73m. This figure varies to the Statutory Accounts as Septic Tank subsidy is not reported in AIR as it is classified as non-appointed income under UKGAAP.

Line 59 – General customer services operating expenditure

The line 59 total of £6.337m in AIR16 is a £0.05m increase (0.8%) against the costs of £6.284m in AIR15. This arises for the following reasons:

- Employment costs (increase of 0.3m (10%)).
- Hired and contracted costs (decrease of 0.2m (5%)).
- Other costs (decrease of 0.1m (10%)).
- Adjustments (decrease of 0.01m (1%)).

None of the variances are material, as per the definition (i.e. +/- 30%).

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 a high-level estimate from Echo of the split of their monthly service charge relating to collection activity. In addition, an estimate of some internal NIW collection costs was included. There is a confidence grading of DX, as there was no formal system in place to gather these costs.

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										
2	Non-household properties connected during the year	000	3	0.195	B2	0.204	B2	0.26	B2	0.366	B2										
B	**BILLING**																				
3	Households billed unmeasured water	000	3	681.095	A2	688.832	B2	694.934	A2	703.772	A2										
4	Households billed measured water (external meter)	000	3	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										
6	Households billed water	000	3	681.095	A2	688.832	B2	694.934	A2	703.772	A2										
7	Household properties (water supply area)	000	3	721.698	A2	729.182	B2	734.976	A2	743.090	A2										
8	Non-households billed unmeasured water	000	3	10.896	A2	10.271	A2	9.589	A2	8.861	A2										
9	Non-households billed measured water	000	3	69.158	A2	69.567	A2	69.645	A2	69.813	A2										
10	Non-households billed water	000	3	80.054	A2	79.838	A2	79.234	A2	78.674	A2										
11	Non-household properties (water supply area)	000	3	92.466	A2	92.286	A2	91.541	A2	90.796	A2										
12	Void properties	000	3	53.015	A2	52.798	B2	52.350	A2	51.439	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										
14	Population - households billed measured water	000	2	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										
16	Population - non-households billed measured water	000	2	102.7	B3	102.28	B3	102.4	B3	98.08	B3										
17	Population - total	000	2	1,819.47	B2	1,827.79	B2	1,840.54	B2	1,850.27	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 report 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 report 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. Blocks are completed by the CSD Services - CS MI & Data (Blocks A & B) and Leakage DMU (Block C) teams.

The information in this table is used in a number of core corporate calculations such as the water balance calculation and also in tariff, charging analysis and determination (water delivered unit cost).

Definition of 'Billed' Properties

Domestic customers were originally due to be charged for water and sewerage charges from April 2007. However this was deferred in April 2007 and has not been implemented since. There are no apparent plans for charges to be implemented during 2016/17. NI Water is subsidised for these domestic customers by Department for Regional Development (DRD) (note: DRD is the Department for Infrastructure).

In April 2008, NI Water extended the charging in the non-domestic sector to include unmeasured non-households in addition to the measured non-household customer base. These charges are based on the NAV of the non-household property, derived from annual information provided by Land and Property Services (LPS).

As per previous AIR submissions, for clarity, where reference is made in Table 7 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 DRD (domestic customers).

Classification of Farms

As per Utility Regulator guidelines, farms were reclassified as billed non-households for AIR09 – this has remained for AIR16. Previously, in AIR08, farms had been classified and reported as 'billed' households on the principle of their status and allocation of 'domestic allowance'.

Data Sources, Data Validation and Data Quality Projects

The primary source of information for the new connections and property data in Table 7 is the customer billing database, RapidXtra.

Customer/Property information is updated through;

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

Under the Water & Sewerage Services (2006) Order, NI Water is required to install meters on all new household connections since April 2007. However, 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 property counts and classifications continue to be reported monthly from Rapid. The Rapid Property Summary (RPS) provides us with a snapshot at the end of each month in terms of gross movements; it doesn't support us in the explanation of net movements within the data.

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 of Enterprise, Trade and Investment (DETINI) and the Central Statistics Office (CSO), Ireland

From the Rapid Property Summary there are deemed to be 599 (gross) 'unmeasured – not charged' properties which (based on sample taken) are mostly NI Water properties. NI Water are currently investigating any 'unmeasured – not charged' properties outside of NI Water ownership to ensure they are classified correctly.

Background

As Table 7 is based on averages, please find summary table below for 'End March 2015' and 'End March 16'. The '1st Dec 2015' are actual numbers used in the Principal Statement and Tariff Setting process.

Property Numbers	March 2015	1st Dec 2015	March 2016	Expected Movement
Unmeasured Water Household	697424	706913	710120	Increase
Unmeasured Water Non-Household	9161	8504	8561	Decrease
Measured Water Non-Household	69612	69898	70013	Increase
Voids	51863	51313	51016	

The variances in our property numbers from AIR15 to AIR16 can be explained by the following:

1. New Connections during the reporting year. The figures are based on the same methodology as previous reporting year and are a reconciliation of New Connections extracted directly from Rapid (via CorVu) with the New Connections reported by the Customer Connections Team.
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:

- The adding of properties NI Water didn't know about and
- The adding of duplicates as the customers address couldn't be found on Rapid.

(For example, 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 of duplicates/properties as a result of data quality initiatives.
    a. The decrease is as a result of reclassifications on New Connections in 14/15 as highlighted in last year's commentary as well as the change in the processes within the Customer Connections Team.

4. Change in occupancy status – movement from void/vacant to occupied and vice-versa.

The work on data validation is ongoing, with new validations 'live' as a result of the Customer Billing and Contacts (CBC) Project Phase 1 & 2 implementation. Further validations will be implemented in Phase 3 & 3a during 2016/17 & 2017/18. These validations include Point of Entry controls, System based classification alignment, Intra and Inter table/field alignment, etc. In addition, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout.

The difference between the gross increase in properties and the number of new connections can be attributed to

- movement from the no water/well water category to unmeasured supplied, and
- movement in occupancy status (from void to occupied)

No Water/Well Water

No Water / Well Water and demolished properties aren't included in the Table 7 property count, however, their exclusion does impact on the number of reported 'supplied' properties.

During our work for AIR 15 we highlighted a significant increase in the number of no water/well water properties – from 7900 to 15000 over the course of the 2014/15 year. Our analysis has identified two processes which had caused this increase – new connections and septic tank (albeit the numbers in the latter are small).

The follow-up investigation into the increase in 'no water/well water' as a result of new connection has confirmed that there was an error in the coding process at the start of the year. Properties originally set up as 'Unmeasured – No Water/Well Water' – which is the correct code once the property is initially created but not yet connected to the public water supply system – should have been updated to 'Unmeasured – Supplied' once the connection was made. Since this error was found, we have been working through the affected data records to update the classification, checking that it hasn't already been updated through other BAU processes.
Not all properties are connected to the public water supply system, but some of these have a septic tank and will look to NI Water to avail of the free annual septic tank desludging service.

As of the end of March 2016, the number of 'no water/well water' has reduced by 2,750 and all mis-classifications, as a result of the new connection mis-coding, are expected to be resolved by AIR17.

Household Properties	Mar-14	Mar-15	Mar-16
No Water / Well Water	7980	15088	12338

Test Meters

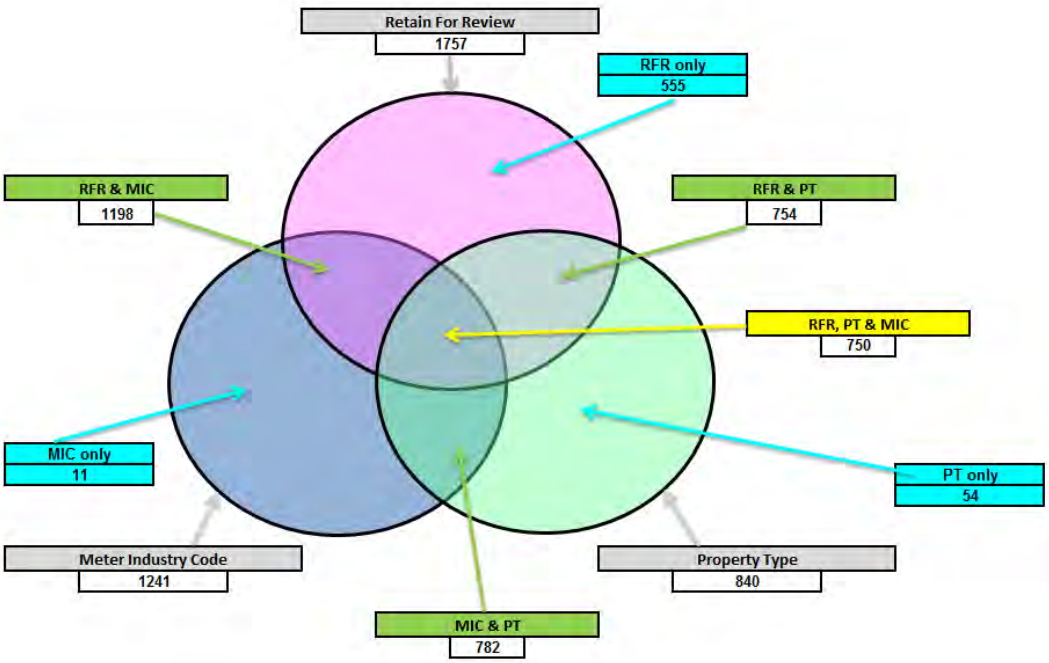
The remaining 'test' and 'retain for review' meters are currently under review within Projects and Business as Usual activity.

The movement within the Test Meter category of the RPS is shown below.

	Test Meters (2015)	Test Meters (2016)	Movement
Household	976	904	72 reduction
Non-Household	389	364	25 reduction

There is an active project to confirm the classification of test and 'retain for review' are currently under review with desktop analysis is planned to be completed by the end of September 16 with all required site visits are planned to be completed by January '17. Billing reviews will take place after this. As of June 16, 534 accounts have been reviewed and closed after the correct account type was determined.

As previously discussed with the Reporter as part of the Principal Statement process NI Water highlighted areas of potential data misalignment within historic records in terms of Property Water Status, Property Type and Meter Industry Code and as such all 3 have to be considered when extracting test meters. See diagram below:



Site Metered Properties

As part of the ongoing data checks, NIW 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 NIW still retain this information for customer record and charging purposes).

There are 708 domestic properties classified as site meters and there will be further investigation and analysis to be completed during 2016/17 to ensure these are classified correctly.

There is an active project to confirm the classification of site metered properties – this is currently targeting the Belfast Harbour Estate and any lessons learned will be considered for other sites and also working closely with LPS to see how we can exploit their data to confirm customers and properties deemed connected to site meters.

Overall, the number of non-domestic site meters has increased by circa 200 during 2015/16. This has resulted from categorisation movements in year such as measured water to site meter and unmeasured water to site meter.

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, with some nett minor 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 2015	1st Dec 2015	March 2016	Expected Movement
Unmeasured Water Gross Household (L7 year end sub calc)	737031	746214	749148	Increase
Unmeasured Water Occupied Household (L3 year end sub calc)	697424	706913	710120	Increase
Unmeasured Water Voids Household	39606	39301	39028	

Household Voids	Voids	Difference (in-year)
March 2016	39028	(-) 579
March 2015	39607	(-) 870
March 2014	40477	

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 2015	1st Dec 2015	March 2016	Expected Movement
Unmeasured Water Gross	16648	15826	15863	

Non-Household				Decrease
Unmeasured Water Occupied Non-Household (L8 year end sub calc)	9161	8504	8561	Decrease
Unmeasured Water Voids Non-Household	7487	7322	7302	

Measured Non-Household Property Movement

Property Numbers	March 2015	1st Dec 2015	March 2016	Expected Movement
Measured Water Gross Non-Household	74381	74588	74699	Increase
Measured Water Occupied Non-Household (L9 year end sub calc)	69612	69898	70013	Increase
Measured Water Voids Non-Household	4769	4690	4686	

Non Household Voids

Non-Household Voids	Voids	Difference (in-year)
March 2016	11988	(-) 268
March 2015	12256	(-) 103
March 2014	12359	(-) 178

Annex A details the Line Methodology followed for the figures calculated in Table 7 Lines 1-12.

Confidence Grades

We have kept the confidence grades consistent with those of AIR15. During the reviews mentioned in the company commentary above, we will retain evidence to support any change in confidence grades. NIW continues to investigate the mis-coding of no water/well water where they were raised as new connections but in fact do not receive a supply. This has had no impact on the reliability and/or accuracy of the confidence grade.

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 AIR16.

Lines 13 – 17 Population

The population data used by NI Water has been derived from 2014 based Population Projections obtained from NISRA (Northern Ireland Statistics & Research Agency) website at http://www.nisra.gov.uk/archive/demography/population/projections/NPP14-coc.xls

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.

The population for unconnected properties has been calculated from two sources:

1. The gross number of unconnected household properties is provided by Customer Services. In AIR14 this figure was reported as the average of the year start and end values of “no water/well water”. In 2014/15 however the figure for “no water/well water” increased from 7,981 to 15,088. NI Water understood that new connections and some other in-year property movements were miscoded as “not supplied”. As a result, NI Water have investigated this issue in 2015/16 however consider it appropriate for the AIR16 calculation of the total water connected population (Lines 13 - 17) to use the reported 2014/15 figure of 7,981 while the process of updating property miscoding continues.

2. The unconnected occupancy is sourced from the NIHE Housing Condition Survey 2011 (statistical annex – Table 5.6)
http://www.nihe.gov.uk/2011_house_condition_survey_annex_tables__published_october_2012_.pdf

The number of unconnected properties is 7,981 and an occupancy rate is calculated at 0.474 (rounded) to determine a total population for unconnected properties of 3,783. The total supplied population for all connected properties is calculated as 1850.27 (x1000). (Line 17).

Non-household population has been calculated by adding the population in communal residence http://www.ninis2.nisra.gov.uk/InteractiveMaps/DataVis/Households2012.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
http://www.nisra.gov.uk/archive/demography/population/household/HHP12_NI.xls

It should be noted that there has been a significant change in the communal population from AIR15 to AIR16 and the average household occupancy rate from 2.45 to 2.53. This is the first publication from NISRA since the 2011 census regarding these figures. The communal population for 2015/16 is 24,110 compared to 32,612 as used in AIR15.

The farm population is 30,903 x 2.53 = 78,445. Therefore with the addition of the communal population, the non-household population is 102.55 (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 1,747.72 (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 (78,445) has been classed as measured. The communal population (24,110) is split based on 8,861 unmeasured customers (18.55%) and 38,910 measured customers which excludes farms (81.45%). This therefore provides a population for measured NHH of 98.08 (x1000) (Line 16) and an unmeasured NHH population of 4.47 (x1000) (Line 15).

Line 17 is calculated by summing Line 13 + Line 14 + Line 15 + Line 16. This gives a figure if 1850.27 (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

A) Properties

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).

An issue with the system report has resulted in a change in methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with the New Connections reported by the Customer Connection Team (CCT), as per embedded document. It is NIW policy to install meters on all New Connections.

AIR16_NCs_1516_5827.xlsx

Therefore, the number of new household connections for the year is 5461.

Household properties connected during the year	5461

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).

An issue with the system report has resulted in a change of methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with the New Connections reported by the Customer Connection Team (CCT), as per embedded document above. It is NIW policy to install meters on all New Connections.

Therefore, the number of new non-household connections for the year is 366.

Non-Household properties connected during the year	366

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 AIR16 (dated 31st March 2016) as attached below.

Rapid Property Summary - Mar 2016

Households Billed Unmeasured Water	End March 2015	End March 2016
Household - Unmeasured	662225	670274
Household - Measured – Not Charged (test meters)	384	361
Household - Measured	34278	38864
Household - Site Meters	517	601
Unmeasured - Not Charged	20	20
Total	697424	710120
Average (Apr15/Apr16)	**703772**	

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 2015	End March 2016
	0	0
Average Apr 15/Apr16	**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 2015	End March 2016
	0	0
Average (Apr15/Apr16)	**0**	

Line 6 - Households Billed Water

Average number of households billed for water within the water supply area.

Calculated by adding AIR15 Table 7 lines 3, 4 and 5

Households Billed Water	Average 15/16
Households billed unmeasured water (Line 3)	703772
Households billed measured water (external meter) (Line 4)	0
Households billed measured water (not external meter) (Line 5)	0
Total	**703772**

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 AIR16 (dated 31st March 2016)

Household Properties (Water Supply Area)	End March 2015	End March 2016
Unmeasured	697838	705231
Measured – Not Charged (Test)	389	364
Measured	38173	42824
Site Meters	610	708
Unmeasured - Not Charged	21	21
Total	737031	749148
Average (Apr15/Apr16)	**743090**	

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 2015 and End March 2016 non-domestic unmeasured properties.

Non-Households Billed Unmeasured Water	End March 2015	End March 2016
	9161	8561
Average (Apr15/Apr16)	**8861**	

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 2015 and End March 2016 non-domestic measured properties.

Non-Households Billed Measured Water	End March 2014	End March 2015
	69612	70013
Average (Apr15/Apr16)	**69813**	

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. Where many customers are served through one site meter, only the landlord or business park management are considered as the customer, the other business are tenants.

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 AIR16, excluding voids.

The sum of AIR16 Table 7 lines 8 & 9

Non-Households Billed Water	Average 15/16
Non-Households Billed Unmeasured Water (Line 8)	8861
Non-Households Billed Measured Water (Line 9)	69813
Total	**78674**

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 2015	End March 2016
Unmeasured	16648	15863
Measured	74381	74699
Total	91029	90562
Average (Apr15/Apr16)	**90796**	

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 2015	End March 2016
Non-Household - Unmeasured	7487	7302

Non-Household - Measured	4769	4686
Household - Unmeasured	35613	34957
Household - Measured	3895	3960
Household – Measured - Not Charged (Test)	5	3
Household – Site Meters	93	107
Household - Not Charged	1	1
Total	51863	51016
Average	**51439**	

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										
2	Meter optants installed	nr	0	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										
4	Meters installed - external meter without boundary box	nr	0	0	A1	0	A1	0	A1	0	A1										
5	Meters installed - internal meter	nr	0	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										
B	**NON HOUSEHOLD METER INSTALLATION**																				
7	Selective meters - installed	nr	0	692	B2	458	B2	509	B2	473	B2										
7a	Number of non household meters renewed	nr	0	4,653	B2	6,772	B2	6,044	B2	9,830	B2										
8	Meter optants installed	nr	0	45	B2	23	B2	18	B2	20	B2										
9	Meters installed - external meter with existing or new boundary box	nr	0	638	B2	396	B2	472	B2	469	B2										
10	Meters installed - external meter without boundary box	nr	0	17	B2	22	B2	37	B2	22	B3										
11	Meters installed - internal meter	nr	0	82	B2	62	B2	18	B2	2	B2										
12	No. of meter installation requests outstanding for greater than three months	nr	0	10	B2	8	B2	1	B2	2	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										

Table 8 – Non Financial Measures – Water Metering

Water Metering Activities

Lines 1 - 6 - Household meter installation

NIW installs meters on newly connected domestic properties as per the obligation associated with Article 81 of The Water and Sewerage Services (Northern Ireland) Order 2006. The company does not install meters in existing domestic premises or at the request of domestic customers (including those over 60 years of age) given the deferral of charging by the Northern Ireland Assembly (NIA) in March 2007. The company does not exercise its power to meter domestic properties upon change in occupancy or ownership for the same reasons as stated above. For these reasons the company has entered zero in lines 2, 4, 5 and 6 of section A table 8. Information is however provided in lines 1 and 3.

Line - 1 Selective meter's installed

NIW seeks to selectively meter all newly connected domestic properties in accordance with Article 81 of the 2006 Order. A total of 5218 water meters were installed at new domestic properties during the reporting period.

NIW issues new connection meter installations jobs in batches and these are usually forwarded to the meter installation contractor on a weekly basis

The vast majority of Non Meter Fits (NMF's) are attributable to boundary boxes being damaged, buried or altered by third parties between the date the connection is completed and the date the meter installation contractor visits the premises. The damage and alterations are such that meter installations cannot be completed in a workmanlike manner or would be prone to physical or climatic damage if completed. NIW is considering options to have damaged boundary boxes replaced and the customer/developer charged for the cost of the replacement boundary box and installation. NIW is also considering incentives to change behaviours and encourage customers to full comply with the companies new connection conditions and guidance.

In total NIW fitted 5218 meters at newly connected domestic premises 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 a water meter fitted within the boundary box several weeks after the connection is completed. A total of 5218 water meters were installed in existing boundary boxes at new domestic properties during the reporting period.

NIW issues new connection meter installations jobs in batches and these are usually forwarded to the meter installation contractor on a weekly basis

The vast majority of NMF's are attributable to boundary boxes being damaged, buried or altered by third parties between the date the connection is completed and the date the meter installation contractor visits the premises. The damage and alterations are such that meter installations cannot be completed in a workmanlike manner or would be prone to physical or frost damage if completed. NIW is considering options to have damaged boundary boxes replaced and the customer/developer charged for the cost of this work. NIW is also considering incentives to change behaviours and encourage customers to fully comply with the new connection guidance notes.

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 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 form part of the Unmeasured Non-Household (UNHH) metering programme. The total selective meter installs for the year was 473 which includes 13 UNHH properties. The additional 460 selective meters installations were as a result of the metering of 22 large and 310 small diameter non-domestic connections and 128 other installations performed by metering section 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 logged on a local database and channelled through a maintenance process. The MMR's are forwarded to the maintenance contractor who has a maximum of 28 days to complete the replacement or remedial work and return the associated data. The returned data is processed by the MCT and meter exchanges are notified to the individual who requested the job, the CRC (for billing purposes) and the Corporate Asset Register (for asset management reasons). The meter maintenance process is an end to end process managed by the metering section using an in house database. During the reporting year NIW meter maintenance section replaced 1666 meters through the MMR process.

NIW also has a Proactive Meter Exchange (PME) programme which is designed to target approximately 6000-7000 small diameter meters each year. The meters selected for exchange are those deemed to be 17 years or more. With legacy data and data quality issues the company is targeting those meters installed prior to 1998 and where possible those meters with a whole life consumption reading >8000m3. During the reporting year NIW exchanged 6920 meters under the PME programme.

An additional 442 meters were replaced through an Engineering and Procurement contract for water mains rehabilitation. A further 802 meters were replaced by meters readers in the course of their daily reading activities.

The total number of meters replaced by NIW in the reporting year combining all of the above work streams was 9830 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 Relations Centre (CRC). 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 20.

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 include the Unmeasured Non Household (UNHH) programme, 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 469.

Line 10 - Meters installed – external meter without boundary box

NI Water Developer Services Co-ordination Team (DSCT) 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 22 in the reporting year.

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 UNHH, selectives and optants metering programmes. The total number of internal non-domestic meter installations completed this reporting year was 2.

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 2.

Line 13 - Average Water Billed - Selective Metered Properties

The meters uploaded to Rapid during the previous reporting year (2014/15) are the focus for this line, along with the consumption usage throughout the 2015/16 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 consumptions which would have skewed the results.

The figure reported for Line 13 is **384.09 l/prop/day,** a decrease of 65.58 l/prop/day from AIR15. To demonstrate the range of consumption for AIR15 and AIR16, please see table below:

Consumption Band (m^3)	**AIR15**	**AIR15**
1-1000	686	1173
> 1000	74	122
Total (excl. zeros)	760	1295

The embedded document below details the meter industry codes of the meters included in this calculation. This will help to explain/justify the decrease in the l/prop/day volume.

AIR15_16
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										
7	Conditioning water supplies to reduce plumbosolvency	Ml/d	3	563.648	A2	562.851	A2	560.429	A2	562.876	A2										
8	Reducing the risk from Cryptosporidium	Ml/d	3	0.000	A1	0.000	A1	0.000	A1	0.000	A1										
9	Other	Ml/d	3	22.952	A2	0.000	A1	106.441	A2	0.000	A1										

Table 9 – Water Quality

Background – Year on Year

The perceived quality of water supplied by NI Water to customers has plateaued between 2014 and 2015:

- 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 fallen slightly from 99.86% in 2014 to 99.83% in 2015 (figure assessed by NI Water - waiting for confirmation from DWI).
- The Drinking Water OPA (based on turbidity, iron, manganese, faecal coliforms, Total Trihalomethanes and aluminium at customer tap) also decreased slightly from 99.56% in 2014 to 99.50% in 2015.
- The percentage compliance measured at Water Treatment Works (WTWs) decreased slightly from 99.94% in 2014 to 99.89% in 2015.
- The percentage compliance measured at Service Reservoir (SR) increased from 99.88% in 2014 to 99.93% in 2015.

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 which were out of service at the end of the reporting period (the calendar year) will have been excluded and would be listed here. During the reporting period, no WTWs were removed from service.

During 2010 - 2015 exceedances of MCPA were detected at Killyhevlin, Derg, Ballinrees, Belleek, Clay Lake, Seagahan, Dorisland and Carran Hill WTWs. A programme of enhanced monitoring for MCPA has been setup for these sites.

Site Name	Ml/d Raw Water Deterioration	Comment
Ballinrees	30.238	Enhanced sampling programme
Belleek	1.634	Enhanced sampling programme
Carran Hill	4.694	Enhanced sampling programme
Dorisland	28.476	Enhanced sampling programme
Killyhevlin	22.784	Enhanced sampling programme
Seagahan	10.422	Enhanced sampling programme
Total:	98.248	

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. Enforcement Orders (including "Consideration of Provisional Enforcement Orders", "Provisional Enforcement Orders" and "Regulation Notices") are now the methodology by which NIW is regulated by DWI.

During 2015 one CPEO for Camlough WTW (CPEO/14/02) was closed referring to deterioration in raw water manganese levels (see appendix).

During 2015 one CPEO for Derg WTW (CPEO/15/01) was issued due to Contravention of the Regulatory Standard for the pesticide MCPA (see appendix).

Including this 1 site, the volume for Raw Water deterioration is therefore 15.364 Ml/d.

Line 7 – Conditioning water supplies to reduce Plumbosolvency

NI Water, as required by DWI following discussion with the Health Authorities, has put in place orthophosphoric acid dosing to control plumbosolvency in the distribution system. The average initial dose rate was approximately 1 mg/l following propensity testing. The level of dosing is reviewed annually against compliance with existing and future 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, some of the dose rates for 2014 were reduced with most however remaining at the same levels.

Site Name	Average Dosed Water (ML/d)
Altnahinch	8.645
Ballinrees	30.238
Belleek	1.634
Camlough	2.571
Carmoney	18.184
Carran Hill	4.694
Castor Bay	82.751
Caugh Hill	15.714
Clay Lake	3.421
Derg	15.364
Dorisland	28.476
Drumaroad	106.333
Dungonnell	9.365
Dunore Point	88.371
Fofanny	35.082
Forked Bridge	21.184
Glenhordial	3.993
Killyhevlin	22.784
Killylane	10.179
Lough Bradan	6.939
Lough Fea	11.610
Lough Macrory	9.828
Moyola	15.095

Seagahan	10.422
Total:	**562.876**

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. These risk assessments are now incorporated into annual revisions of the treatment works and supply systems Drinking Water Safety Plans (DWSP) which are submitted to DWI under regulation 26.
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. The return for this line is therefore 0 Ml/d.

Line 9 – Other

There were no other legal instruments in place during 2015; therefore the return for this line is 0 Ml/d (see appendix).

Confidence Grades

Confidence grades used in returns are based on OFWAT guidance documentation.

Appendix – 1
Lines 6 & 9

Regulatory enforcement	Issue Date	Location	Parameter	Date Closed
CPEO/14/02	Issued 15/08/2014	Camlough WTW	Contravention of the Regulatory Standard for Manganese	03/11/2015
PEO/14/01	issued 12/12/2014	Drumaroad WTW Water Supply Area	Contravention of Regulation 26(1)(a) – Before Supplying Water For Regulation 4(1) Purposes NI Water Shall Disinfect the Water	14/04/2015
Reg28 Notice/14/01	Issued 26/09/2014	Rathlin Island WTW	Verification of disinfection process required.	10/09/2015

Regulatory enforcement	Issue Date	Location	Parameter	Date Closed
CPEO/15/01	Issued 14/04/2015	Derg WTW	Contravention of the Regulatory Standard for the pesticide MCPA	

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											
2	Billed measured non-household	Ml/d	2	121.44		125.79		120.17		118.03											
3	Billed measured	Ml/d	2	121.44		125.79		120.17		118.03											
4	Billed unmeasured household	Ml/d	2	297.41		285.52		292.36		294.86											
5	Billed unmeasured non-household	Ml/d	2	6.87		6.07		5.82		5.28											
6	Billed unmeasured	Ml/d	2	304.28		291.59		298.18		300.14											
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										
7a	Estimated water delivered per unmeasured household	l/prop/d	2	436.66	B3	414.50	B3	420.70	B3	418.97	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										
9	Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2	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											
11	Underground supply pipe leakage (ext. metered households)	l/prop/d	2	30.10		25.61		25.44		25.19											
12	Underground supply pipe leakage (other metered h'holds)	l/prop/d	2	60.20		51.22		50.87		50.38											
13	Underground supply pipe leakage (void properties)	l/prop/d	2	60.20		51.22		50.87		50.38											
14	Meter under-registration (measured households)	Ml/d	2	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											
16	Distribution system operational use	Ml/d	2	2.36		2.39		2.51		3.05											
17	Water taken legally unbilled	Ml/d	2	14.79		15.16		17.10		16.80											
18	Water taken illegally unbilled	Ml/d	2	0.51		0.48		0.43		0.38											
19	Water taken unbilled	Ml/d	2	15.30		15.64		17.53		17.18											
20	Water delivered (potable)	Ml/d	2	441.02		433.02		435.88		435.35											
21	Water delivered (non-potable)	Ml/d	2	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											
23	Water delivered (non-standard rates: non-potable)	Ml/d	2	0.00		0.00		0.00		0.00											
24	Distribution losses	Ml/d	2	115.44		127.31		126.08		122.08											
25	Total leakage	Ml/d	2	161.75	B4	167.21	B3	165.99	B3	161.99	B3										
26	Distribution input	Ml/d	2	558.82	B2	562.72	B2	564.47	B2	560.48	B2										
27	Bulk supply imports	Ml/d	2	0.00		0.00		0.00		0.00											
28	Bulk supply exports	Ml/d	2	0.85		1.09		0.80		0.73											
29	Water treated at own works to own customers	Ml/d	2	557.97		561.63		563.67		559.75											
30	Overall water balance	CG			B2		A1		A1		A2										
C	**SECURITY OF SUPPLY**																				
31	Security of supply index - company's planned levels of service	nr	0	100		100		100		100											
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 Northern Ireland Authority for Utility Regulation (NIAUR) AIR16 Reporting Requirements and Definitions manual March 2016. 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 has challenged themselves with the setting of a 12 Ml/d target reduction over the six year period of PC15, namely, 165 Ml/d to 153 Ml/d. For AIR15, the final reporting year of the PC13 period, NI Water reported a reconciled leakage figure of 165.99 Ml/d which was approximately 1 Ml/d above target and subsequently established a 15/16 target of 3 Ml/d reduction in reconciled leakage to bring the PC15 programme back to profile. For AIR16, the pre-MLE bottom up leakage figure of 159.96 Ml/d equated to a reduction of 5.16 Ml/d from AIR15. This reduction in leakage was aided by a cooler, wetter summer and a milder, but wetter, winter, and when referenced with NI Water's 15/16 NRR report indicates that with the reduction of the reported NRR ratio (NRRt – NRRd) to detected NRR (NRRd), leakage detection resources were focussed on proactive leak detection activities as opposed to reactive work.

2013/14 reported a comparable NRRd with that of 2015/16 which achieved a bottom up leakage reduction of 3.93 Ml/d. However, the reported NRR (NRRt-NRRd) was approximately twice that of 2015/16 and may support the further leakage reductions gained in AIR16.

In summary, the outputs of this water balance are that the Integrated Flow Method of leakage assessment has given a figure of 170.97 Ml/d for total leakage and the Minimum Night Flow Method has provided a figure of 159.96 Ml/d. When the resulting imbalance between the two methods of 11.01 Ml/d is compared to the Distribution Input figure of 561.62 Ml/d (pre-MLE), it provides a percentage discrepancy of 1.96%. 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 161.99 Ml/d. This figure is approximately 1 Ml/d ahead of the PC15 leakage profile.

Demand Analysis

There has been a marginal decrease in the distribution input of 0.58% from a pre MLE value of 564.92 Ml/d in AIR15 to 561.62 Ml/d in AIR16.

The graph in Fig 1 below illustrates the monthly change in distribution input from AIR15 to AIR16 and highlights a similar demand profile in the first quarter which is supported by Fig 2, showing similar rainfall, and Fig 4, showing the subsequent increase in household consumption and increased reported leakage in June 2015. In the second quarter however, increased rainfall, reduce sunshine hours and cooler temperatures led to a reduction in household demand, reduced minimum night flows, an effective recovery of observed leakage in June 2015 and subsequently a reduced DI. The second half of the year remained mild and wet with monthly demand remaining consistently lower than the previous year.

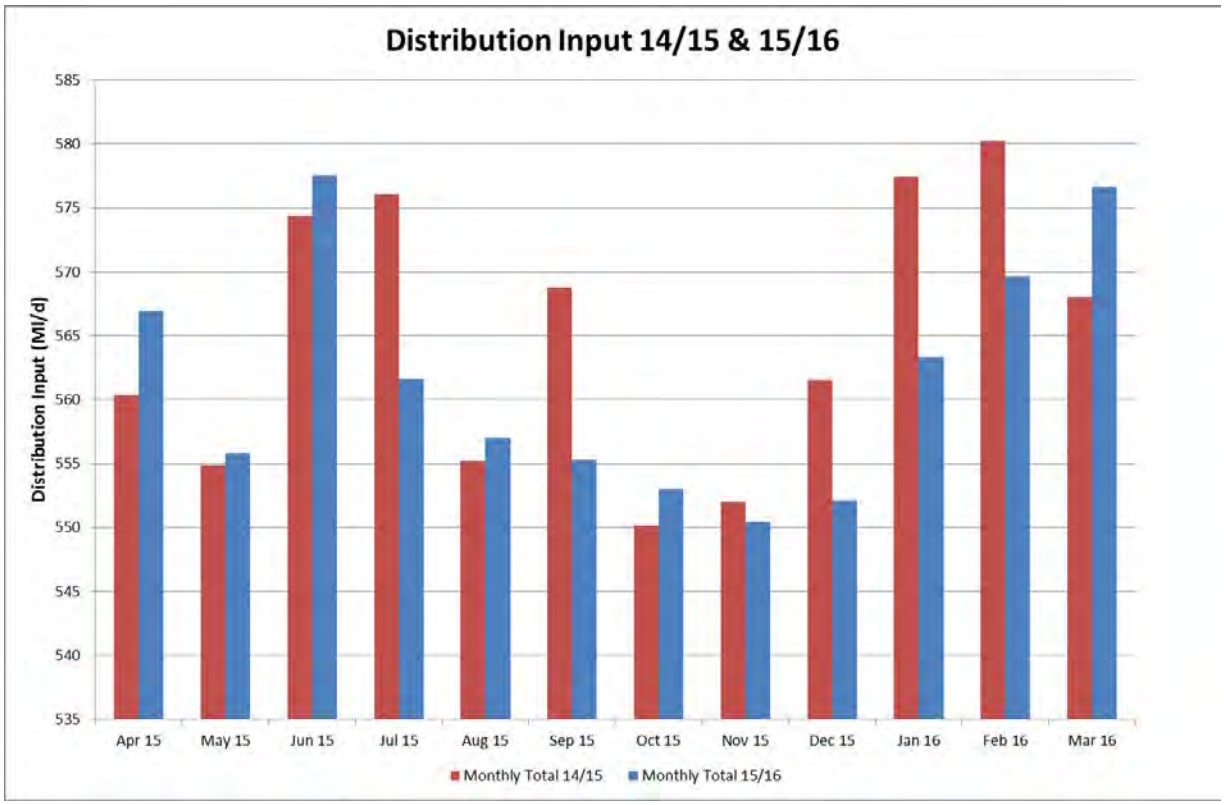


Fig 1

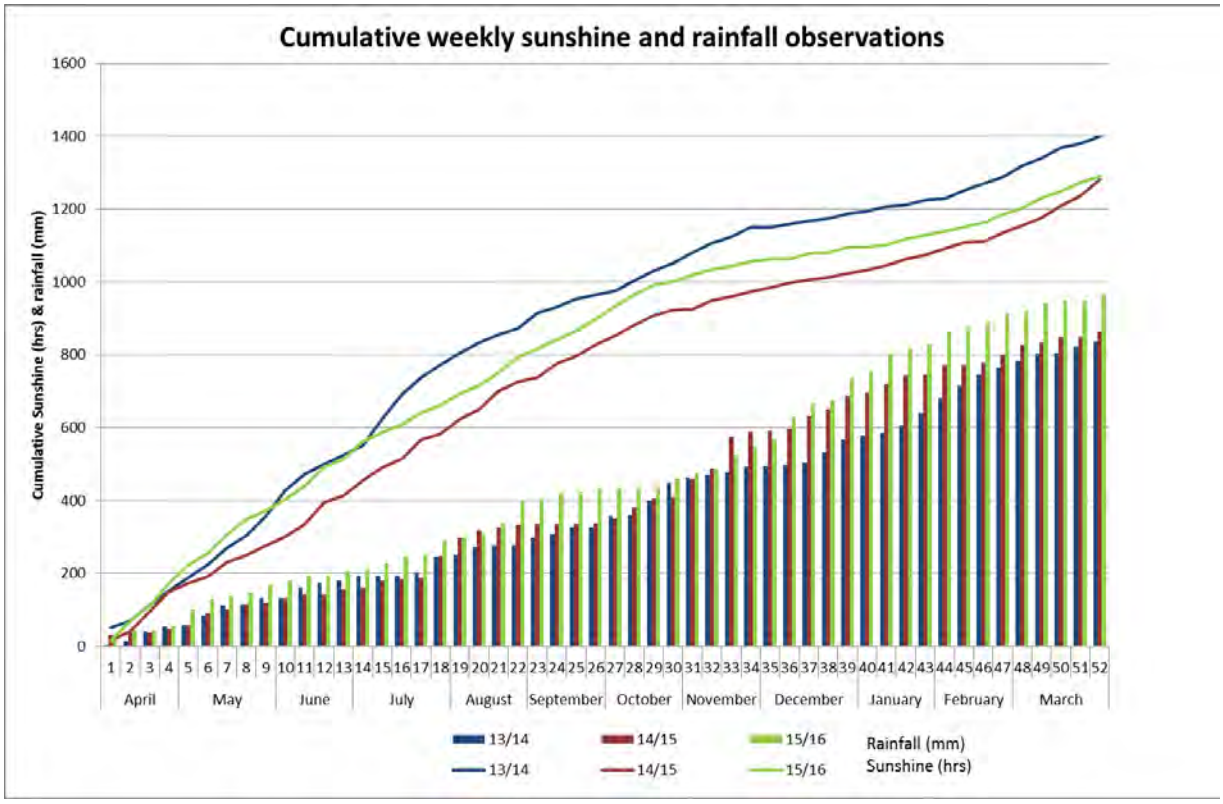


Fig 2

Although the impact of the wet weather pattern described above provided unfavourable leak detection conditions, a reduced NRR provided the opportunity to focus on proactive leak detection activities.

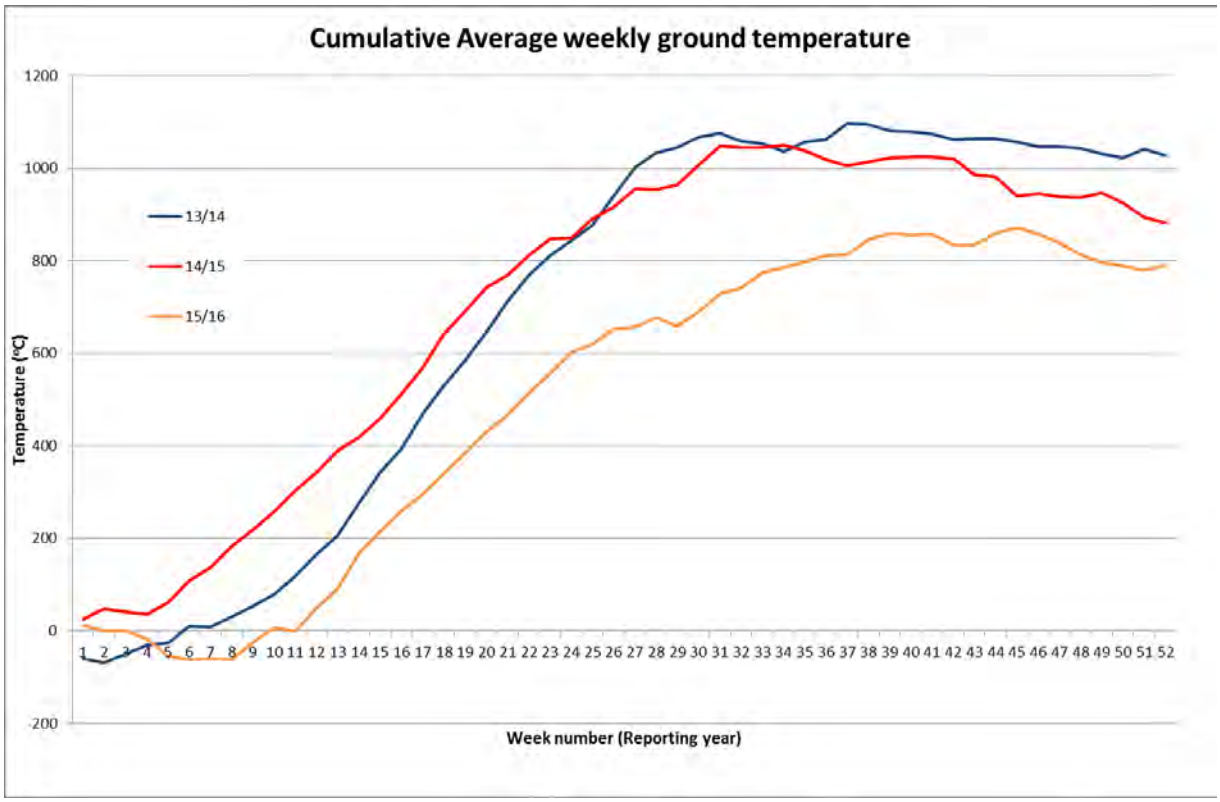


Fig 3

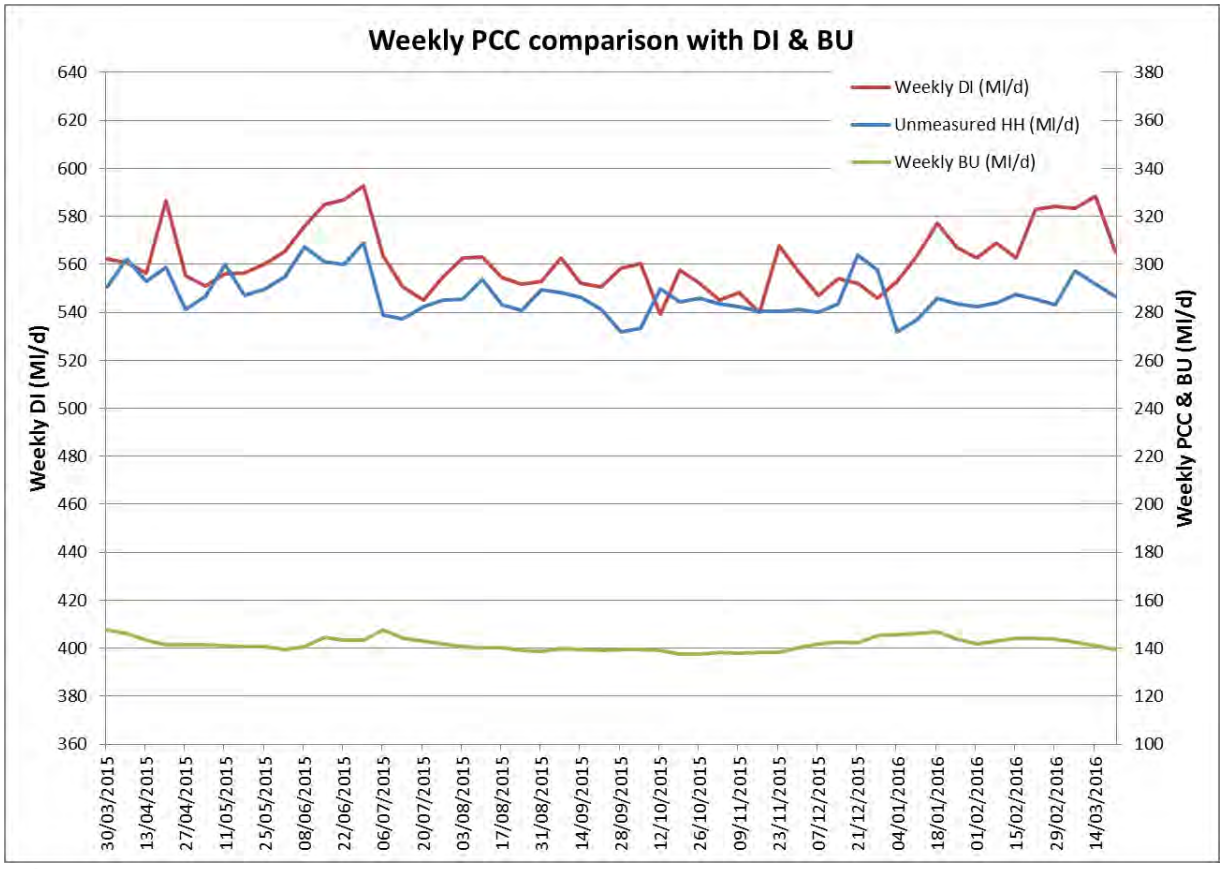


Fig 4

Data Quality

NI Water has remained committed to improve data quality throughout the PC10 and PC13 periods and will continue this commitment throughout PC15. With Netbase embedded as NI Water's leakage reporting tool, the UKWIR 20th Percentile calculation of Bottom Up

leakage remains as reported in AIR15 commentary and in keeping with the Reporter's recommendations the Bottom Up error estimation is 10%. In September 2016, NI Water received a Netbase version update on request after reporting an anomaly regarding the estimation of night uses for DMAs containing multiple continuously logged users (CLUs). The impact of this change on the 64 DMAs containing multiple CLUs affected operability, by approximately 3 percentage points and reduced leakage by approximately 0.5 Ml/d. DMA operability has decreased from 78% in AIR15 to 73% in AIR16 which has been impacted by a telemetry outstation upgrade project and the Netbase update regarding continuously logged users. NI Water is focussed on recovering operability to prior year levels.

- 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.

In AIR15, NI Water completed the assessment of trunk main and service reservoir leakage based on flow meter balances, finding that 50% of the trunk main flow balance calculated leakage occurred within 10% of the trunk main flow balance audits. Although NI Water accepts that there may be leakage within these audits, the company is undertaking a number of proactive steps to identify and resolve issues. NI Water considers 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.

- Gross Measured Consumption

As part of the annual tariff submission to the Utility Regulator, 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%.
Similar to AIR15, the AIR16 reconciliation of both the Gross Measured Consumption Report and Principle Statement has closed to 0%.

- 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 for AIR14 to 23.2.

As part of continuing data enhancements, NI Water have commenced work on the development of a pressure model utilising Netbase, the comprehensive pressure managed area study (2500+ PMAs) and permanent pressure monitoring points (1500+ pressure points). This model will allow NI Water to calculate HDF on a more regular basis and it is envisaged that the reported HDF will be introduced during the PC15 period. An interim HDF value will be calculated as part of the current SELL and is expected to be completed by the end of 2016/17.

- Meter Under Registration

It should be noted that the NIAUR has 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. This reduction in NHH MUR is planned to be implemented linearly over the six

years of the PC15 period, however it is proposed that a company specific MUR study will be commissioned during PC15.

NI Water has acknowledged a risk to the water balance calculation in applying an unsubstantiated MUR figure which is moving the company away from the excellent work undertaken over recent years in terms of developing company specific data. For AIR16, NHH MUR has been updated to 7.86%.

- 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 remains a high priority project thus providing access to continuous data to assist leakage management, NI Water and the customer. At present 88% of all DMA sites are now monitored directly through telemetry with the remaining returning data via GSM loggers. This work is proposed to continue in the PC15 period. This has increased data availability and quality to enhance leakage monitoring, targeting and reporting as well as being available during major incidents.

During 2015/16 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 29 PRV replacements and 19 new PRV installations during the year.

DMA optimisation continues to play an important role within the success of the function. In 2015/16 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 excess of 210 infrastructure improvement schemes being identified and installed as part of the overall capital improvement programme.

For reference, the table below states the variables/parameters which may impact upon the variance in individual water balance component calculations.

	AIR16	**AIR15**
HDF (hrs)	23.2	23.2
UNHH consumption (m3/yr)	187.19	190.80
PCC MUR (%)	7.39	7.39
HH occupancy (nr)	2.53	2.44
NHH MUR (%)	7.39	8.33
SPL (Ml/d)	39.91	39.91
HH night use allowance (l/p/hr)	2.42	2.42
NHH night use allowance (l/p/hr)	dynamic	dynamic
Per Capita Consumption (l/hd/d)	133.63	135.69

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 120.17 Ml/d in AIR15 to 118.03 Ml/d in AIR16.

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%. For AIR16, the variance between GMCR and the Principle Statement has been calculated and closes to 0%. The GMCR is used to derive the billed measured non-household consumption as stated in Table 10 Line 2.

Similar to AIR15, 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.

A non-household meter under-registration (MUR) value of 7.86% has been added to billed measured non-household use. It should be noted that the NIAUR has 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.

This reduction in NHH MUR is planned to be implemented linearly over the six years of the PC15 period, however it is proposed that a company specific MUR study will be commissioned during PC15.

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 4 – Billed Unmeasured Household

The reported value for Billed Unmeasured Household volume for AIR16 is 294.86 Ml/d. This figure represents an increase of 2.50 Ml/d (0.8%) from the AIR15 value of 292.36 Ml/d.

Although the calculated PCC figure for AIR16 has decreased by 1.5%, the natural increase in household population of 16,070 has resulted in a marginally increased unmeasured household volume.

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) 2014. Adjustments are made to this household population figure to account for:

- Non-Household Population – Sourced from the most recent NISRA 2014 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 2015/16 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 for AIR10 and is specific to NI Water's domestic consumption monitor meters and has remained constant. It is proposed that a company specific domestic consumption monitor MUR study will be commissioned during PC15.

During the reporting year work has continued to maintain the reliability of this value:

- A comprehensive door to door survey of approximately 15% of the Domestic Consumption Monitor Areas. The data from the 2015/16 surveys has been input into the AIR16 consumption monitor assessment. The overall occupancy rate is 2.43 for AIR16 compared to an occupancy rate for AIR15 of 2.42. The NISRA occupancy rate for Northern Ireland is 2.53 for 2015/16.
- A figure of 1.5% continues to be applied to allow for the 'Hawthorne Effect' and is consistent with previous AIR submissions.
- Use of company specific MUR value as determined by WRc.

The confidence limit of 10% on this component has not been changed and is considered to be appropriate.

Line 5 – Billed Unmeasured Non-Household

The reported value for Billed Unmeasured Non-Household for AIR15 is 5.28 Ml/d. The value reported in AIR15 was 5.82 Ml/d. NI Water has continued with a programme of meter installation of unmeasured non-household properties.

The assessed unmeasured non-household figure for AIR16 is 187.19 m^3/prop/yr, which is a decrease compared to a figure of 190.80 m^3/prop/yr for AIR15. This year's figure has been reassessed by proportionally reducing the AIR15 reported figure in line with the observed percentage reduction in billed measured non-household consumption in Line 2. As these unmeasured non-households have an allowance that has been estimated from metered non-households then underground supply pipe leakage has not been included in this figure. A non-household company specific MUR value of 7.86% is applied for AIR16.

The confidence limit of 15% on this component has not been changed and is considered to be appropriate.

Line 7 – Estimated Water Delivered Per Unmeasured Non–Household

The post MLE figure for estimated water delivered per unmeasured non-household for AIR16 is 595.87 l/prop/d. The figure reported for AIR15 was 606.98 l/prop/d.

The allowance for unmeasured non-household properties for AIR16 is 187.19 m^3/prop/yr. The calculated figure for AIR15 was 190.80 m^3/prop/yr.

Line 7a – Estimated Water Delivered Per Unmeasured Household

The post MLE figure for estimated water delivered per unmeasured household for AIR16 is 418.97 l/prop/d. The figure reported for AIR15 was 420.70 l/prop/d.

Line 8 – Per Capita Consumption (Unmeasured Household – Excluding Supply Pipe Leakage)

The post MLE PCC figure for AIR16 is 148.42 l/hd/d. The figure reported for AIR15 was 148.42 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 47 properties), permanently bounded, monitored for leakage, and flows into them are recorded by meters.

The average PCC figure (pre MUR) has been calculated as 133.63 l/hd/d. This assessment is based on 12 months consumption data from 1 April 2015 to 31 March 2016. This compares to a figure of 135.69 l/hd/d for AIR15.

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. It is proposed that a company specific domestic consumption monitor MUR study will be commissioned during PC15.

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 24% of total leakage.

The total volume of Underground Supply Pipe Leakage has been 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 PC13 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 will remain unchanged for the duration of the PC13 period, therefore the adjusted AIR16 unit values are 50.38 l/prop/d for unmeasured, other

households and void properties, with a value of 25.19 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) and will be reassessed during the AIR16 commissioned SELL study.

Lines 14 to 15 – Meter Under-Registration

It should be noted that the NIAUR has 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. This reduction in NHH MUR is proposed to be implemented linearly over the six years of the PC15 period; however it is proposed that a company specific MUR study will be commissioned during PC15.

NI Water has acknowledged a risk to the water balance calculation in applying an unsubstantiated MUR figure which is moving the company away from the excellent work undertaken over recent years in terms of developing company specific data.

For AIR16, NHH MUR has reduced to 7.86%. Furthermore the MUR value applied to the unmeasured household consumption remains at 7.39%.

Line 16 – Distribution System Operational Use

The reported value of Distribution System Operational Use (DSOU) for AIR16 is 3.05 Ml/d. The value reported for AIR15 was 2.51 Ml/d. This increase is due in part to a reported 30% increase in new connections with associated building water and the addition of two exceptional operational use occurrences.

The confidence limit of 25% on this component has not been changed and is considered to be appropriate.

Lines 17 to 19 – Water Taken Unbilled

The reported Water Taken Unbilled figure of 17.18 Ml/d in AIR16 is a small decrease from the value of 17.53 Ml/d in AIR15.

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 AIR16 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 AIR15.

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 AIR16 are estimated to be 122.08 Ml/d. This is a decrease on the AIR15 figure of 126.08 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 AIR16 is 161.99 Ml/d. The reported figure for AIR15 was 165.99 Ml/d.

Total leakage is also calculated using an MNF methodology. For AIR16 the reported pre MLE MNF method leakage is 159.96 Ml/d. The figure reported for AIR15 was 165.12 Ml/d and equates to a reduction in BU leakage of 5.16 Ml/d.

NI Water has an extensive DMA network (approx. 1080 DMAs) covering 98% of all properties in Northern Ireland. Approximately 88% of these DMAs are now monitored with electromagnetic meters with a direct link to the company telemetry system. The remaining DMAs are monitored through mechanical meters using GSM flow loggers. Whilst GSM loggers have an automatic link to the company's telemetry system they do not have the facility to provide real-time data but provide a 24 hour daily download.

DMA minimum night flow (MNF) continues to be determined using a 20th percentile method. Minimum night flows are recorded on a daily basis. The company specific night use allowance for households remains at 2.42 l/prop/hr as calculated by Crowder Consulting for AIR10.

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 throughout PC13 is approximately 18 l/prop/hr.

According to the guidance provided the reporting requirements for 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 has been reassessed for the PC13 period as 39.91 Ml/d. It is proposed that this SPL assessment will be reassessed during the PC15 period and as part of an SELL study.

Similarly, as agreed with NIAUR for the inclusion of stable data, NI Water's service reservoir leakage and trunk main leakage remain 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 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 AIR16 has been calculated as a post MLE figure of 560.48 Ml/d. The distribution figure for AIR15 was 564.47ML/d. The company specific confidence interval for distribution input for AIR16 remains at 2.1% and is unchanged from AIR15.

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	29.98	29.92
Castor Bay	107.21	106.98
Dunore Point	80.59	80.42
Moyola	15.08	15.05
Total	**232.86**	**232.37**

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 68 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 0.73 Ml/d and includes an MUR adjustment of 7.86%.

Line 29 – Water Treated At Own Works to Own Customers

With the exception of the 68 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 560.48 Ml/d and deducting the cross border exports the volume of water treated at own works to own customers is 559.75 Ml/d.

Overall Water Balance

AIR16 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	116.95	10%	136.77	9.9%	1.09	118.03
Billed Unmeasured HH	288.26	10%	830.93	60.0%	6.60	294.86
Billed Unmeasured NHH	5.27	15%	0.63	0.0%	0.00	5.28
SPL	39.91					39.91
DSOU	3.05	25%	0.58	0.0%	0.00	3.05
Water Taken Unbilled	17.04	25%	18.15	1.3%	0.14	17.18
Sum of components	550.61					560.48
Distribution Input	561.62	2%	143.10	10.3%	1.14	560.48
Top Down Leakage	**170.97**					
BU Leakage	**159.96**	10%	255.87	18.5%	2.03	**161.99**
Imbalance (mld)	**11.01**			100.0%		
% Imbalance	**1.96%**					**438.40**

Table 1: Water Balance

The Water Balance produces an overall imbalance of 11.01 Ml/d, (1.96%). The imbalance reported for AIR15 was 4.49 Ml/d, (0.79%).

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 2015, the confidence grade applied to the NI Water's water balance for AIR16 is A2. The confidence level for the overall water balance for AIR15 was A1.

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, NIAUR use 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 AIR16.
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 B3 confidence grade.

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. An error estimate of 10% has been applied to this component in the MLE calculations.

Line 25 - Total Leakage has a confidence grade of B3 for AIR16 and is consistent with AIR15.

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 NIAUR the Overall Water Balance had a confidence grade of A2 in AIR16.

It is considered appropriate that the confidence grade for AIR16 is A2, as the water balance components reconcile with measured distribution input to within 2%, 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	■					■					

Line 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 MEASURES

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	55.08	50.00	0.00	77.77	72.69	27.31	4.73	22.58	27.36	254.523	0.00	0.000	
West	75.07	0.00	0.00	65.09	60.83	9.98	4.89	5.09	7.28	165.265	0.00	0.000	
Central	11.86	19.00	0.00	28.36	26.51	2.50	1.98	0.52	1.70	72.520	0.00	0.000	
East	146.51	207.00	0.00	277.16	259.02	76.35	19.47	56.88	19.18	934.283	0.00	0.000	
South	70.17	127.00	0.00	151.33	141.43	45.84	13.00	32.84	19.98	423.679	0.00	0.000	
Total	358.69	403.00	0.00	599.71	560.48					1,850.270		0.000	100

Table 10a (i) – Non Financial Measures - Security of Supply Index – Planned level of service

NI Water published its Water Resource Management Plan (WRMP) in 2012 which covers the period 2010-2035. The Security of Supply Index (SoSI) calculated for AIR16 is based on Ofwat's letter RD 03/02, and is formulated from the information presented in the WRMP.

The WRMP has adopted the latest methodology for producing water resource management plans. There has been no change in the reported SOSI from AIR 15. For 2015/16 the SoSI remains 100. This is mainly due to the following reasons:

The Water Available for Use has remained unchanged and Distribution Input (DI) has remained relatively constant from last year. In 2014/15 the total average DI was 564.47 M/ld and this has fallen by 0.71% to 560.48 Ml/day in 2015/16, this is based on the Post Maximum Likelihood Estimation (MLE) figure.

It should be noted that, based on analysis carried out on historical rainfall and temperature data from 1988 to 2015, 2015/16 is deemed as a "Warm & Wet " year and therefore the dry year annual average demand (DYAA) uplift figure of 7% from the 2012 WRMP has been applied to the DI figure . The graph of the historical rainfall and temperature data from 1988 to 2015 can be seen in Figure 1 below.

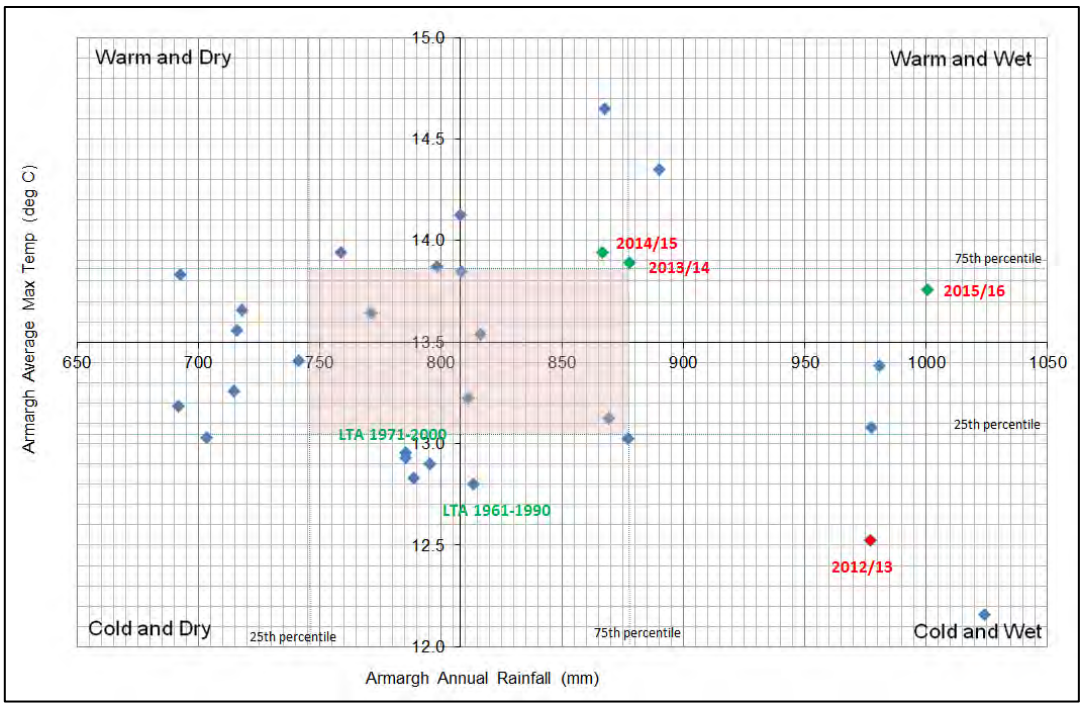


Figure 1 – Historical rainfall & Temperature Data

There are also a number of other factors that influence the AIR16 SoSI calculation. These include:

- There is a significant interaction between South and East water resource zones (WRZs). The WRMP indicates it is likely that circa 20Ml/d from Castor Bay is actually used within the East WRZ. This reallocation of Water Available for Use (WAFU) between East and South is believed to be a more accurate reflection of the actual situation on the ground.
- The Water Available for Use (WAFU) across Northern Ireland remains at 358.69M/ld. Once complete, the Strule River abstraction will likely increase the WAFU in West WRZ.

- Outage allowance for NI Water WTWs remains at 2% as indicated in the WRMP for the period 2010-2035.
- For this calculation it has been assumed that the bulk imports from the PPP WTWs are available at the contracted volumes as set out in the WRMP.

The total population figure used within the SoSI calculation has been confirmed to correspond with the population figure used in AIR 16 Table 7.

The calculation for AIR16 is believed to be an accurate reflection of the current NI Water SoSI based on the 2012 WRMP. NI Water is currently updating the Water Resource and Supply Resilience Plan which will be published in 2017. This will see the creation of two additional WRZs, increasing the number to seven. The Draft Plan is not due to be published until December 2016 and as yet it is too early to use any of the outputs in the development of SOSI for AIR16. Early indications, however, would suggest that the SOSI based on the 2017 WRMP will be less than 100. This is due to anticipated deficits in the West of the Region based on the amended WRZs however the updated plan will identify mitigating measures.

As part of the Reporters Recommendations for AIR15 he stated that *'Recommend as part of the WMRP update the Company continues to investigate if data exists to further refine the normal year uplift.'* This is being carried out as part of the update to the WRMP with outputs available for AIR17.

Table 10a (iii) – Non Financial Measures - Security of Supply Index – Critical Period (TOTAL)

The security of supply index has been calculated based on the Water Resource Management Plan 2012.

In accordance with best practice guidance for water resource planning, companies generally consider their supply demand balances under different planning scenarios. For each planning scenario a baseline forecast of supply and demand is produced.

Some companies might need to derive critical period scenarios, where their supply demand balance is sensitive to these because there are sustained periods when demands are significantly higher than average; this is a peak demand condition. Supply-side characteristics may also influence whether or not critical period analysis is required, for instance, where WRZs are supplied predominantly by groundwater, or by run of river abstractions with limited storage.

The assumption over the last few years has been 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.*

NI Water can confirm that as part of the 2017 WRMP a Critical Period SOSI will be calculated and will available for AIR17. The Draft Plan is not due to be published until December 2016 and as yet it is too early to use any of the outputs in the development of a critical period SOSI for AIR16.

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										
B	**CHANGES DURING REPORT YEAR**																				
2	Mains renewed	km	2	285.42	A2	202.31	A2	164.91	A2	105.24	A2										
3	Mains relined	km	2	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										
6	New mains	km	2	89.05	B2	50.40	B2	118.24	B2	76.51	B2										
6a	Total length of new, renewed or relined mains	km	2	374.47		252.72	A2	283.15	A2	181.75	B2										
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										
7	Mains abandoned and other changes	km	2	357.29	A2	214.62	A2	208.09	A2	105.51	A2										
8a	Lead communication pipes replaced as a consequence of water quality sample failures	nr	0			20	B2	15	B2	37	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										
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										
8d	Lead communication pipes replaced under the proactive lead replacement programme	nr	0			0	A1	401	B2	1,922	B2										
9	Total lead communication pipes replaced	nr	0	1,271	B3	1,876	B3	3,729	B2	3,322	B2										
10	Communication pipes replaced - other	nr	0	8,566	B3	8,790	B3	7,469	B3	3,915	B3										
11	Mains bursts per 1000km	nr	0	93	B3	86	B3	85	B3	74	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										
D	**DISTRIBUTION STUDIES**																				
13	Cumulative number of distribution zone studies completed	nr	0	71	A1	71	A1	71	A1	71	A1										
14	Distribution zone studies ongoing	nr	0	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										
16	Cumulative % distribution zone studies completed	%	1	100	A1	100	A1	100	A1	100.0	A1										
17	Percentage population/properties - completed studies	%	1	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										
19	% compliance at consumers tap	%	2	99.63		99.74		99.78		99.74	A2										
20	% iron compliance at consumers tap	%	2	97.25		98.08		98.95		98.40	A2										
21	% Service Reservoirs with coliforms in >5% samples	%	2	0.00		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										
23	Completion of nominated water treatment works schemes	nr	0	0	A1	0	A1	3	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										
G	**ADDITIONAL WATER SERVICE OUTPUT MEASURES**																				
25	Number of Catchment Management Plans	nr	0			3	A1	5	A1	3	A1										
26	Number of school visits	nr	0	138		150		209		277	A1										
27	Number of other education events	nr	0	35		38		59		65	A1										
28	% Service Reservoirs where sample taps have been assessed and are to required standard	%	1							0.0	A1										

Table 11– Water Service Activities

Line 1 – Total length of mains at 1st April 2015

This value has been extracted from AIR15 return.

Lines 2 to 10 - Changes during the reporting year

This document provides the commentary on the following table and lines for NI Water which records the amount of capital and maintenance activity carried out in the report year 15/16 on water mains and communication pipes.

NI Water has achieved 181.75km of total mains activity in this period (No relining carried out in this period). Within the first year of PC15 EP NI Water has achieved 116.92 km against the agreed WMRP Monitoring Plan Target of 93km (reduced down from the initial target of 130km in the Final Determination due to Budget restrictions) for the first year of PC15 of new and renewed and relined mains, under the Water Main Rehab programme. This target for the first year of PC15 has therefore been exceeded.

EP has also contributed 1,922No proactive lead replacements by EP under the proactive lead replacement programme. The target for year 1 of PC15 was 1,844 so this target has been exceeded also.

TOTALS FOR PC 15 Year 1

	Length (km) - 2 dp			MP Target (km)
	2015-16			
Activity Description	**EP**	**Ops**	**Total**	
New Mains (WMRP)	12.87	0.00	**12.87**	
Renewed Mains (WMRP)	104.05	0.00	**104.05**	
Relined Mains (WMRP)	0.00	0.00	**0.00**	
Total WMRP Activity	**116.92**	**0.00**	**116.92**	**93**
Nominated Trunk Mains (New)	20.32	0.00	**20.32**	
Nominated Trunk Mains (Renewed)	0.00	0.00	**0.00**	
Total Nominated Trunk Mains Activity	20.32	0.00	**20.32**	
New Mains - New Development	0.00	42.37	**42.37**	
Total New Development Activity	0.00	42.37	**42.37**	
1st Time Services - New	0.95	0.00	**0.95**	
1st Time Services - Renewed	0.00	0.00	**0.00**	
Total 1st Time Services	0.95	0.00	**0.95**	
Mains Development/Diversions -Renewed	0.00	1.19	**1.19**	
Total New Development Activity	0.00	1.19	**1.19**	
Total Mains Activity in the Period	**138.19**	**43.56**	**181.75**	

PREVIOUS TOTALS FOR PC 13

	Length (km) - 2 dp						
	2013-14			2014-15			PC13 Total
Activity Description	EP	Ops	Total	EP	Ops	Total	
New Mains (WMRP)	23.81	0.00	**23.81**	60.89	0.00	**60.89**	**84.70**
Renewed Mains (WMRP)	202.31	0.00	**202.31**	161.77	0.00	**161.77**	**364.08**
Relined Mains (WMRP)	0.00	0.00	**0.00**	0.00	0.00	**0.00**	**0.00**
Total WMRP Activity	226.13	0.00	**226.13**	222.66	0.00	**222.66**	**448.79**
Nominated Trunk Mains (New)	0.18	0.00	**0.18**	28.09	0.00	**28.09**	**28.27**
Nominated Trunk Mains (Renewed)	0.00	0.00	**0.00**	0.00	0.00	**0.00**	**0.00**
Total Nominated Trunk Mains Activity	0.18	0.00	**0.18**	28.09	0.00	**28.09**	**28.27**
New Mains - New Development	0.00	26.41	**26.41**	0.00	27.85	**27.85**	**54.26**
Total New Development Activity	0.00	26.41	**26.41**	0.00	27.85	**27.85**	**54.26**
1st Time Services - New	0.00	0.00	**0.00**	1.41	0.00	**1.41**	**1.41**
1st Time Services - Renewed	0.00	0.00	**0.00**	0.67	0.00	**0.67**	**0.67**
Total 1st Time Services	0.00	0.00	**0.00**	2.08	0.00	**2.08**	**2.08**
Mains Development/Diversions - Renewed	0.00	0.00	**0.00**	0.00	2.47	**2.47**	**2.47**
Total New Development Activity	0.00	0.00	**0.00**	0.00	2.47	**2.47**	**2.47**
Total Mains Activity in the Period	**226.31**	**26.41**	**252.72**	**252.83**	**30.32**	**283.15**	**535.87**

TRUNK MAINS FOR PC 15 Year 1

Team	Proj. No.	Project Name	Watermains Renewed	Watermains Relined	Watermains Cleaned	New Watermains
WCP2	JB693	Carland to Cookstown Strategic Trunk Main	0	0	0	14.2
WCP2	JG035	Ballydougan to Newry Main Link Reinforcement	0	0	0	3.401
WCP2	JR342	Strategic Link - Castor Bay to Belfast	0	0	0	2.72

JB693 Carland – Cookstown Strategic TM

The NIW Water Resources Management Plan 2012 identified that the Central Water Resource Zone (WRZ) will show a deficit of 2 Ml/d in 2015/2016 in the Cookstown area.
The provision of 11,383m of 315mm HPPE trunk water main from Carland SR to junction of Sandholes Rd and Strifehill Rd Cookstown with capacity to move 2Ml/day of water to maintain the Supply Demand Balance for the Central Water Resource Area will secure supply to this zone and fulfil the outputs from the Water Resource Strategy.

JG035 Ballydougan to Newry Main Link Reinforcement – Phase 2 b

The W.R.S. 2002 requires strengthening of the links between water supply zones. The works proposed here involve the provision of a 5 Ml/day pumping main linking Ballydougan S.R. to Newry.

The Ballydougan to Newry (BD2N) Strategic Trunk main Project (JG 035) will address the supply and non-compliance issues in the Newry area. The scope of works for the preferred option includes approximately 6km of new 500/400mm diameter strategic trunk main, upgrade of the existing Carnbane WPS and Cullyhanna WPS, with associated control and chlorination equipment and new chlorination systems at Newry West SR and Camlough WTW. The capital works contract also includes a new 4.5Ml Crieve SR (JV 830).

JR342 Strategic Link Castor bay – Belfast

The need identified in the Water Resource Strategy (2002 and 2007) and the Draft Water Resource Management Plan 2010 for a Strategic Trunk Main Link from Castor Bay to Lisburn and Belfast.

The resulting Strategic Link pipeline capacity requirement is 56 Ml/d. The scope of works for the preferred option includes approximately 30km of new 800/900mm diameter strategic trunk main laid from Castor Bay to South Lisburn; additional storage through the recommissioning of Danescroft SR and St Andrews SR; new water pumping stations at Magherliskmisk SR, Danescroft SR and St Andrews; reinforcement of Gravity II / CTM in North Belfast.

General Commentary: EP Input to Lines 2, 3, 6, 7, 9, 10 & 11

The data reported below for EP is taken from year 1 of the PC15 Sub-Programmes 8 for Water Mains Rehabilitation - planned water mains rehabilitation and PC15 Sub-Programme 23 Water Mains New and Renew - provision or repair of water mains outside the main programme including a programme of lead service replacement.

PC15 Sub Programme 8 overall mains laying target is 905km over the 6 year period and reduced to 93km in the Monitoring Plan for PC15 year 1 from an original target in the Final Determination of 130km (due to agreement in relation to Budget restrictions). The overall PC 15 target may need to be reviewed in light of potential Budget changes

General Commentary: Ops Input to Lines 2, 3, 6, 7, 9, 10 & 11

Data reported below for Ops records the amount of maintenance activity carried out in the report year April 2015-March 2016 on water mains and communications pipes Raw data sources are available on request

Line 2 - Mains renewed (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
2	Mains renewed	km	2	104.05	A2	1.19	**B3**	105.24	**A2**

Engineering Procurement

- Engineering Procurement (EP) 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
- Engineering Procurement is the primary contributor to this information but Networks Water has taken some ownership of smaller schemes, in particular social housing redevelopments and minor mains diversions
- Confidence Grade: A2
-

Operations

- Engineering Procurement is the primary contributor to this information but Networks Water has continued to manage some smaller schemes, for example, social housing redevelopments and minor mains diversions or realignments
- Confidence Grade: B3
- Future Reporting for AIR17 Networks Water will continue to develop the established process for monthly reporting using MWM as a source for base information
- The Ops mains renewal work is usually very low volume as is the case here

Overall Confidence grade is A2 - The overall confidence grade is A2 due to the fact that the EP return is 98% of this return.

Line 3 - Mains relined (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
3	Mains relined	km	2	0.00	**A1**	0.00	**A1**	0.00	**A1**

Engineering Procurement

- At present this operation is not carried out either by Networks Water or by EP
- Confidence Grade: A1 as the total is zero
- The PC15 year 1 results for sub-programme 8 showed that no spray lining was carried out
- To ensure VFM and continuity is achieved, NIW have withheld the issue of spray lining until the award of the new framework

Operations

- Future Reporting. The Situation is unlikely to change for AIR17 for Operations Budgets to be utilised for relining of pipework

Overall Confidence Grade of A1- The return is zero for EP and Ops

Overall Comment - There has been no change in the current mains relined figures with that of the 2014-2015 period within PC13 as the outputs have been zero in both cases.

Line 4 - Mains cleaned (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
4	Mains cleaned (total)	km	2	0.00	A1	1,191.68	**B3**	1,191.68	**B3**

Engineering Procurement

- This work is carried out by the Networks Water Team. EP has no involvement in this activity.

Operations

- Detailed data for the reporting period was collated by the Water Business Unit using 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 sent to the Field Operators. 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 is then converted from units to km using the previously agreed factor of 0.156km per flushing.
- 2016 information return is: 7,639no. flushings x 0.156km per flush = 1,191.68kms.This comprises a total count of 6,876no. flushing MST's in Ellipse, minus 145no. flushing MST's identified as not having been carried out in the report year, plus 908no. reactive flushing jobs completed.

- For AIR16, 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.
- Although the total no. of reactive flushing jobs (908no.) may contain some repeat flushing's 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 increase in the completed no. of reactive flushings which may be due to the continuing improvement in addressing water quality standards and highlighted customer awareness and demand.
- As per previous audit recommendations the number of flushings have been converted to km
- The number of flushing's have been captured for April 15 – March 16 year using base information from MWM and then converted to km using the factor of 0.156
- Future Reporting- For AIR17 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 is continuing to be gathered in relation to reviewing the applied factor of 0.156km per flush.
- Confidence Grade: B3

Overall Confidence Grade of B3- B3 is the Operations Business Unit Assessment of the Confidence of this data. As there is no EP input, this will be the overall Confidence Grade.

Overall Comment - Within the first year of PC15 there has been a small increase of 1% in mains cleaning compared to that of the 2014-2015 period within PC13. A 2.18km increase within Ops which shows that output on this issue has remained constant

Line 6 - New mains (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
6	New mains	km	2	34.14*	A2	42.37	B2	76.51	B2

Note:

- *The figure of 34.14 km is made up of 12.87 km of New Mains WMRP plus 20.32 km of Trunk Mains and 0.95 km of first time services.

Engineering Procurement

- Data for the period April 15 – March 16 was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spread sheet managed by the Water Business Unit. This figure primarily includes data for new mains laid in new housing developments throughout the year.
- All EP information is compiled from EP 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.
- Confidence Grade: A2 This figure is obtained from Monthly Reports in Captrax and aggregated into an annual return

- Future Reporting for AIR16 Networks Water will continue to use the established process monthly reporting using MWM as a source for base information.

Operations

- Data for the period April 15 – March 16 was collated by Field Managers using system reports, which when checked and confirmed, were transferred onto a spread sheet managed by the Water Business Unit. This figure primarily includes data for new mains laid in new housing developments throughout the year.
- Networks Water is the sole contributor for new mains laid in new housing developments. Engineering Procurement is the primary contributor for new mains (replacement upsizing).
- For AIR17 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.
- **Confidence Grade: B2**

Overall Comment - This figure of 42.37km from Ops shows a significant increase from the last two year's figures of approx. 27km and 28km respectively. This figure shows a continued increase from last year's figure due to a perceived improvement in the new housing market. Field Managers contributing to this line can more easily monitor lengths of new mains laid due to all work being completed solely by a contractor.

Overall Confidence grade: B2 This figure is arrived at by considering that there is a 65:35 split between the contribution of EP and Networks Water .It is reasonable therefore to state that the NW assessment of B2.

Line 6a - Total Length of new, renewed or relined Mains (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
6	New renewed or relined mains	Km	2	138.19	A2	43.56	B2	181.75	B2

This is the calculated sum of Lines 2, 3 & 6.

Overall Confidence Grade: B2 as the output is the sum of other lines with similar confidence grades from the same sources.

Line 6b - Length of new, renewed or relined mains delivered under the Water Main Rehabilitation Programme (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
6b	New renewed or relined mains under WMRP	Km	2	116.92	A2	0.00	A1	116.92	**A2**

Engineering Procurement

- EP 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.
- Confidence Grade remains A2 as reporting is from CPMR

- The shortfall can be attributed to delay in the procurement of the new water mains framework, with the uncertainty of work impacting on the productivity of incumbent Contractors.

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Operations

- Engineering Procurement is the sole contributor to this information.
- Confidence Grade: A1

Overall Confidence Grade - This is A2 as EP are the only contributors to this line

Overall Comment - Within the first year of PC15 EP NIW has successfully achieved 116.92 km against the agreed Monitoring Plan Target of 93km (reduced down from the initial target of 130km in the Final Determination due to Budget restrictions) for the first year of PC15 of new and renewed and relined mains, under the Watermain Rehab programme

Line 7 - Mains abandoned and other changes (km)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
7	Mains abandoned and Other Changes	Km	2	104.32	A2	1.19	B3	105.51	**A2**

Engineering Procurement

- This data is collated by the Business Unit from EP and Ops.
- The PC15 year 1 results for sub-programme 8 indicated 104.32km mains abandoned which represents 89% of the mains rehabilitated, which is typical based on historical data
- **Confidence Grade is stated as A2**

Operations

- Data for April 15 – March 16 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. Engineering Procurement is the primary contributor to this information but Networks Water has taken some ownership of smaller schemes, in particular social housing redevelopments and minor mains diversions.
- Confidence Grade: B3 Further discussion and guidance will be required for the relevant Field Managers when providing this information
- Future Reporting -For AIR17 Networks Water will continue to develop the established process for monthly reporting using MWM as a source for base information.

Overall Confidence Grade is stated as A2 as 99% of the return is from EP who have an A2 Confidence Grade on their data.

Overall - The PC15 year 1 results for sub-programme 8 indicated 104.32km mains abandoned which represents 89% of the mains rehabilitated, which is typical based on historical data.

Line 8a - Lead Communication pipes replaced – as a consequence of water quality sample failures (no.)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
8a	Lead Comms Pipes repl as conseq of WQ Sample Failures	Nr	2	0	A1	37	B2	37	B2

Engineering Procurement

- This Data is supplied by Networks Water Only.
- Confidence Grade is A1 as this return is zero

Operations

- Data for the reporting period April 15 – March 16 was collated by Business to Customer Field Managers using system reports which, when checked and confirmed, was input onto a spread sheet. This is managed by the Water Business Unit which collates the data for the annual reporting period.
- Future Reporting- For AIR17 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 Confidence Grade: B2 –The output is entirely from Operations BU Team who have stated that the data returned is B2 Confidence

Comparison to PC 13 year 2 Output - This total is comparable to PC 13 outputs
The Scientific Services section hold records of addresses where water quality samples have failed in relation to lead content. This figure has increased from last year's figure but continues to be minimal compared to the figures submitted for Line 8b. The increase may be down to heightened customer awareness of water quality standards

Line 8b - Lead Communication pipes replaced – as a consequence of customers replacing their lead supply pipe (no.)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
8b	Lead Comms Pipes repl as consequence of Customers notifying of supply pipe change	Nr	2	0	A1	703	B2	703	B2

Engineering Procurement

- This data is supplied by Networks Water Only
- Confidence Grade: A1 as return is zero

Operations

- Data for the reporting period April 15 – March 16 was collated by Business to Customer Field Managers using system reports which, when checked and confirmed, was input onto a spread sheet. This is managed by the Water Business Unit which collates the data for the annual reporting period.

This figure shows an increase from last year and may be linked to the improving housing market and heightened customer awareness of health issues.

- Future Reporting. For AIR17 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.
- Scientific Services section hold records of addresses where water quality samples have failed in relation to lead content
- Confidence Grade: B2

Overall Confidence Grade: B2

Comparison to PC 13 year 2 Output - This total is comparable to PC 13 Year 2 annual outputs.

Line 8c - Lead communication pipes replaced – Opportunistic (no.)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
8c	Lead Comms Pipes repl as consequence of	Nr	2	613	A2	47	**B3**	660	B2

Engineering Procurement

- The PC15 year 1 for sub programme 8 results showed 613nr lead communication pipes replaced as part of opportunistic lead replacement programme.
- Confidence Grade: A2

Operations

- Data for the reporting period April 15 – March 16 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.
- This figure for Ops shows a decrease from last year. It is a complex issue to analyse some Work Orders to ascertain if a full communication pipe replacement has taken place and if lead was a factor.
- Future Reporting for AIR17 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.
- Confidence Grade: B3

Overall Confidence Grade: B2. This is assessed as an average of B2 due to the 90:10 split in data dominance for this line from EP and Ops

Line 8d - Lead Communication pipes replaced – Proactive lead replacement programme (no.)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
8d	Lead Comms Pipes repl under proactive repl programme	Nr	2	1922	B2	0	A1	1 922	**B2**

Engineering Procurement

- The PC15 year 1 sub programme 23 results showed 1922nr lead pipes replaced as a result of the implementation of the proactive lead replacement programme exceeding the PC 15 Year 1 Target of 1844
- Confidence Grade: B2

Operations

- Networks Water did not have a proactive lead replacement programme in place for the reporting period. Engineering Procurement is the primary contributor to this information.
- Future Reporting. For AIR17, Networks Water if applicable will continue to use the established process for monthly reporting using MWM as a source for base information.
- Confidence Grade: A1

Overall Confidence Grade: **B2.** This is assessed as an average of B2 due to the entire return being sourced from EP.

Note: - During the first year of PC15 there has been a total of 1,922 total proactive lead communication pipes replaced compared to 1844 target number in PC15 Year 1. This target has been exceeded

Line 9 - Total Lead Communication Pipes Replaced – Sum of 8a, 8b, 8c and 8d (no.)

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
9	TOTAL Lead Comms Pipes repl	Nr	2	2,535	B2	787	B2	3,322	**B2**

Comparison to PC 13 Year 2 Output the overall total is comparable to PC 13 year 2 but with less EP Opportunistic Lead replacements done by EP (This shows a reduction in EP numbers for this line by approx. 50% from last year. The shortfall can be attributed to the higher proportion of rural mains laying works carried out in year 1 by EP i.e. 72% rural and 28% urban against the overall PC15 target split of 67% rural and 33% urban) but this is balanced out by more Lead replacements in the proactive programme

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.

Line	Description	Units	DP	EP	EP CG	Networks Ops	Networks Ops CG	Total	Overall CG
10	Comms Pipes repl other	Nr	2	2,736	B3	1,179	**B3**	3,915	B3

Engineering Procurement

- This shows a reduction in EP numbers by approx. 50% from last year. The shortfall can be attributed to the higher proportion of rural mains laying works carried out in year 1. 72% rural and 28% urban against the overall PC15 target split of 67% rural and 33% urban.
- **Confidence Grade**: B3

Operations

- Data for the reporting period April 15 – March 16 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.
- Future Reporting- For AIR17 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.
- Confidence Grade: B3. This figure is broadly in line with figures for last year as detailed analysis of MWM reports and individual Work Orders continues.

Overall Confidence Grade B3 as both parties have submitted a B3 Confidence Grade

Overall Comment - This shows a reduction in EP numbers for this line by approx. 50% from last year. The shortfall can be attributed to the higher proportion of rural mains laying works carried out in year 1 by EP i.e. 72% rural and 28% urban against the overall PC15 target split of 67% rural and 33% urban.

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 15 – March 16 was collated using MWM system reports which when checked and confirmed were transferred onto a summary spread sheet. 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

2051 – 79 (rechargeables) / 26,728.83km = 0.0738 x 1,000 = 73.78

Total Bursts per 1,000km = 73.8

2013 information return was 2,535 (Inc. 61no. rechargeables)
2014 information return was 2,382 (Inc. 83no. rechargeables)
2015 information return was 2,348 (inc. 82no. rechargeables)

Proportion of bursts within line 11 detected by proactive methods

The total number of Mains Repairs carried out by NIW was 2051 (including 79 no. due to third party damage).

The number of mains repairs carried out by Networks Water function due to non-proactive leakage detection methods was 1127.

The number of mains repairs carried out due to proactive leakage detection methods was 924.

Confidence Grade B3

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. Individual Work Orders have been analysed and duplicates and non mains repairs extracted. There is a continued reduction from 2015 figures primarily for the following reasons:

- Mains rehabilitation schemes continue to have a positive impact in reducing the no. of defects
- 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
- There has been a relatively mild winter again with no freeze / thaw periods through Nov / Dec 15 and Jan / Feb 16.

Line 12 - Total length of mains 31st March 2016

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 AIR15 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.

As per the reporters recommendation during the AIR14 audit this figure includes trunk mains that are marked as “Out of Service” on the Corporate Asset Register. This recommendation was made as although these mains are currently out of service they are not abandoned and could potentially come back into service in the future.

Table 11 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

There were 71 models created and completed over the past 13 years or so, which were combined into 56 Zonal studies which were completed in the AIR12 year and are therefore all complete as shown in the table

The Confidence Grade therefore of this return is A1.

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%.

Reporting Year	2010	2011	2012	2013	2014	2015
% Overall Compliance	99.87%	99.84%	99.77%	99.81%	99.86%	99.83%

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, subsequent to the completion of the 2015 analyses, UKAS determined that the nitrite parameter analysed by NI Water was not fully compliant, so the numbers associated with that parameter have been adjusted accordingly. This has decreased the compliance at consumer tap to 99.74% from 99.75%.

Reporting Year	2010	2011	2012	2013	2014	2015
% Compliance at consumer tap (including supply points)	99.81%	99.73%	99.63%	99.74%	99.78%	99.74%

Line 20 - % Iron compliance at consumers tap

Reporting Year	2010	2011	2012	2013	2014	2015
% Iron compliance at consumer tap	97.98%	98.27%	97.25%	98.08%	98.95%	98.40%

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.

Line 22 - Completion of nominated trunk main schemes

One trunk mains scheme identified in the PC15 Programme achieved Beneficial Use in Year 1 (2015/16) of the programme. An additional scheme was originally identified as a PC13 output also delivered in 2015/16. This will be included in a forthcoming Change Control.

Details are provided below.

JG035	Ballydougan to Newry TM – Phase 2B	Achieved beneficial use in 2015/16
JR342	Castor Bay to Belfast TM	Achieved beneficial use in 2015/16

Castor Bay to Belfast TM achieved Beneficial Use during 2015/16 but this was a PC13 output.

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

One Water Treatment Works scheme identified in the PC15 Programme achieved Beneficial Use in Year 1 (2015/16). Details are provided below.

JI052	Glenhordial Treatability	Achieved beneficial use in 2015/16

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

No projects of this type were profiled to achieve Beneficial Use in 2015/16.

The confidence was assessed as A1 following review of CPMR approvals and financial details contained within CPMR.

Line 25 - Number of Catchment Management Plans

Water Treatment Work Name	Catchment Management Study	Status
Killylane	2013-14	Completed 31/03/14
Dorisland	2013-14	Completed 31/03/14
Clay Lake	2013-14	Completed 31/03/14
Derg	2014-15	Completed 31/03/15
Lough Braden	2014-15	Completed 31/03/15
Caugh Hill	2014-15	Completed 31/03/15
Carmoney	2014-15	Completed 31/03/15
Seagahan	2014-15	Completed 31/03/15
Altnahinch	2015-16	Completed 31/03/16
Drumaroad (inc Silent Valley, Annalong & Lough Island Reavey)	2015-16	Completed 31/03/16
Fofanny	2015-16	Completed 31/03/16
Dunore Point	2016-17	Work underway - Target Completion Date 31/03/17
Castor Bay	2016-17	Work underway - Target Completion Date 31/03/17
Moyola	2016-17	Work underway - Target Completion Date 31/03/17
Ballinrees	2016-17	Work underway - Target Completion Date 31/03/17
Lough Macrory	2016-17	Work underway - Target Completion Date 31/03/17
Lough Fea	2016-17	Work underway - Target Completion Date 31/03/17
Glenhordial	2016-17	Work underway - Target Completion Date 31/03/17
Carron Hill	Planned	Planned
Rathlin	Planned	Planned
Dungonnell	Planned	Planned
Killyhevlin	Planned	Planned
Belleek	Planned	Planned

Line 26 - Number of school visits

There were 277 Schools visited during this reporting period.

Line 27 - Number of other education events

There were 65 other education events attended during this reporting period.

Line 28 - % Service Reservoirs where sample taps have been assessed and are to required standard

The Target in the PC 15 FD was 50% by 31st march 2016 .Due to Public Expenditure cuts this target was revised to 0% and ratified by Stakeholders at ORG in November 2015 for the 15/16 Monitoring Plan .The UR has agreed that the target for 16/17 will now be 50% (previously 100%).

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES
WATER EXPLANATORY FACTORS - (NIW 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		
A	SOURCE TYPES AND PUMPING			nr / 0	Prop'n (0-1) / 3	Prop'n (0-1) / 3		
1	Impounding reservoirs			22	0.788	0.000		B2
2	River abstractions			9	0.212	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				82.2	B4

		TOTAL PROP'N OF D.I.		TOTAL NR OF WORKS	
		UNITS	DP	UNITS	DP
B	TREATMENT TYPE	Prop'n (0-1)	3	nr	0
6	Proportion of distribution input - simple disinfection	0.000		1	
7	Proportion of distribution input - W1	0.000		0	
8	Proportion of distribution input - W2	0.000		0	
9	Proportion of distribution input - W3	0.515		8	
10	Proportion of distribution input - W4	0.485		11	
11	Proportion of distribution input - total	1.000			
12	Total numbers of works			20	

				BAND 1 <= 165mm	BAND 2 166 - 320mm	BAND 3 321 - 625mm	BAND 4 > 625mm
C	POTABLE MAINS						
13	Potable mains (nominal bore)	km	2	21,027.85	4,076.26	1,355.57	269.15

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		
A	SOURCE TYPES AND PUMPING			nr / 0	Prop'n (0-1) / 3	Prop'n (0-1) / 3		
1	Impounding reservoirs			2	0.058	0.000		B2
2	River abstractions			4	0.942	0.000		B2
3	Boreholes			0	0.000	0.000		B2
4	Source types and pumping; total			6	1.000	0.000		B2
5	Average pumping head - total	m.hd	1				153.2	B2

		TOTAL PROP'N OF D.I.		TOTAL NR OF WORKS	
B	TREATMENT TYPE	UNITS	DP	UNITS	DP
6	Proportion of distribution input - simple disinfection	Prop'n (0-1)	3	nr	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	0.000		0	
11	Proportion of distribution input - total	1.000		4	
12	Total numbers of works	1.000			
				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	0.485	0.000		B2
2	River abstractions			13	0.515	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				111.6	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	1
7	Proportion of distribution input - W1	0.000	0
8	Proportion of distribution input - W2	0.000	0
9	Proportion of distribution input - W3	0.301	8
10	Proportion of distribution input - W4	0.699	15
11	Proportion of distribution input - total	1.000	
12	Total numbers of works		24

				BAND 1 <= 165mm	BAND 2 166 - 320mm	BAND 3 321 - 625mm	BAND 4 > 625mm
C	**POTABLE MAINS**						
13	Potable mains (nominal bore)	km	2	21,027.85	4,076.26	1,371.99	269.15

Table 12 – Water Explanatory Factors

Water sources & treatment types – NIW only

On 31st March 2012 NI Water had 20 NR Sources in-Service consisting of 13 NR Impounding Res., 6 NR River/Lough Abstraction & 1NR BH Source.

However during the course of the year, in preparation for the AIR13 returns, WTWs Plant Managers were requested to provide sketches on their AIR13 Detail Certification (Supply) sheets, to clearly portray the sources pertinent to each WTW. Following review of these certification sheets it was realised, that a number of updates were required to some WTWs regarding their sources*.* In addition NI Water applied the 'cascade' rule (i.e. where a reservoir receives water in part from an upstream reservoir and in part from its own catchment then this reservoir has been included as a source) to enable inclusion of the additional impounding reservoirs as sources.

These updates were reported on for AIR13 and were not as a result of interventions on the ground but due to reporting back to Asset Management regarding the actual sources associated with the WTWs.

Changes to Sources since AIR15

For AIR15 Lough Fea had been classified as a Lough. However following a review of loughs and classification with respect to the Reservoirs Bill, in June 2015, NIW confirmed to the Rivers Agency that Lough Fea, Lough Shannagh and Lough Cowey had been assessed as retaining > 10,000m3 above natural ground level, and hence would be classified as Impounding Reservoirs. The latter results in one change to Table 12, in that Lough Fea is now being classified as an Impounding Reservoir for AIR16. Lough Cowey is out of service and is currently being actively advertised for sale.

Lough Shannagh IR sits within the Silent Valley catchment area and, when overflowing, water runs via an open watercourse into the Silent Valley IR (which supplies Drumaroad WTW). There is no associated pipework, routine maintenance or dam inspection carried out in relation to Lough Shannagh. Silent Valley is only supplemented by Lough Shannagh when it overflows following periods of prolonged rainfall so supply is intermittent depending on the weather. In the past, during severe drought (last time in the 90's) water has been pumped from Lough Shannagh to Fofanny WTW but this is no longer necessary due to improvements in supply for Fofanny. Lough Shannagh has thus not been introduced as a source for AIR16.

The following table shows changes which have occurred with reference to source types and treatment types since AIR15.

Location	AIR16 Source Type	Treatment Type	WTWs In Service during AIR 16	Sources In Service at 31st Mar 2015	Sources In Service at 31st Mar 2016
Rathlin	Borehole	SD	Yes	Yes	Yes
Killylane	Imp. Reservoir	W3	Yes	Yes	Yes
Dungonnell	Imp. Reservoir	W3	Yes	Yes	Yes
Altnahinch	Imp. Reservoir	W3	Yes	Yes	Yes

Location	AIR16 Source Type	Treatment Type	WTWs In Service during AIR 16	Sources In Service at 31st Mar 2015	Sources In Service at 31st Mar 2016
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 - Now viewed as 2No. sources	Yes - Now viewed as 2No. sources
Caugh Hill	Imp. Reservoir - Altnaheglish IR & River (Glenedra)	W3	Yes	Yes – Now viewed as 2No. sources	Yes – Now viewed as 2No. sources
Glenhordial	Imp. Reservoir	W3	Yes	Yes	Yes
Lough Bradan	2 No - Lough Bradan Imp. Reservoir, and Lough Lee	W4	Yes	Yes Now viewed as 2No sources	Yes Now viewed as 2No sources
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 (classified as W3 for AIR15 – change due to addition of GAC Filtration)	Yes	Yes Now viewed as 7No. sources	Yes Now viewed as 7No. sources
Lough Macrory	1No Imp. Reservoir & 1No Lough (Lough Fingrean IR & Lough Macrory-Lough	W4	Yes	Yes Now viewed as 2No. sources	Yes Now viewed as 2No. sources
Clay Lake	Imp. Reservoir	W4	Yes	Yes	Yes
Fofanny	3No Imp. Reservoir (Lough Island Reavey, Fofanny, Spelga)	W4	Yes	Yes – Now viewed as 3No. sources	Yes – Now viewed as 3No. sources
Seagahan	Imp. Reservoir	W4	Yes	Yes	Yes

Location	AIR16 Source Type	Treatment Type	WTWs In Service during AIR 16	Sources In Service at 31st Mar 2015	Sources In Service at 31st Mar 2016
Camlough	Lough	W4	Yes	Yes	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	Yes
		Total	**20**	**32**	**31**

Further details on the changes to source type adopted for AIR13 can be seen below:

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 Cairnsburn River, but this has only been used in drought events and has not been used since 1995. Telemetry information for 15/16 indicates that 18% of the raw water into the WTWs came from Glenedra River during the AIR16 period, similar to what was reported for AIR15. The Distribution Input for Caugh Hill has therefore been split in the ratio of 82:18 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 takes a turn for the worse 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 Balinrees source. With water quality issues of two years ago Glenedra intake was reduced as the colour instrument on which the valve control was based proved unreliable and the percentage draw off would be down on normal. Based on the figures over the years the Glenedra flow could be as high as 10-30 % of the plant throughput.

NIW is listing Altnaheglish IR and Glenadra River as two sources for Caugh Hill WTWs, for AIR16.

2. Fofanny WTWs

Fofanny WTWs is fed directly and independently by 3 sources Lough Island Reavey IR, Spelga IR and Fofanny IR. NIW is listing these three sources for Fofanny WTWs, for AIR16.

3. Lough Bradan WTWs

Lough Bradan WTWs is fed directly by Lough Lee (lough) and Lough Bradan Impounding Reservoir. Lough Lee is therefore being reported as a source. Approximately 2Ml/d is

taken from Lough Lee which 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.

4. Camlough WTWs

It is noted that although the source of raw water to Camlough WTWs is Camlough Lake, it is not classed as an impounding reservoir within this AIR table as the impounding structure or the lake is not owned or maintained by NI Water. Hence it is classed as a lough for Table12.

Camlough WTWs was in operation for the full 12 months of AIR16, but 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 WTWs. Hence the Castor Bay supply area has been extended to cover the catchment previously supplied by Camlough WTW.

5. Lough Fea WTWs

Lough Fea WTWs is fed by Lough Fea, which is now classified as an Impounding Reservoir (see note above).

6. Lough Macrory WTWs

Lough Macrory WTWs is fed directly by Lough Macrory (lough). Lough Fingrean IR overflows naturally into Lough Macrory, with the water being pumped on to the WTWs. Approximately 90% of the water in Lough Macrory originates from Fingrean IR. NIW is listing Lough Macrory and Fingrean IR as two sources for Lough Macrory WTWs, for AIR16.

7. Belleek & Killyhevlin WTWs

Although both Belleek WTWs and Killyhevlin WTWs 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 NIAUR AIR13 Chapter 12 guidance.

During AIR 16, GAC Filtration has been added to the treatment process at Killyhevlin WTWs. The treatment type remains unchanged at W4. GAC Filtration was fully introduced in mid-July 2015. This was after an initial introduction in May 2015 but was suspended for 6 weeks from the first week in June due to teething problems. GAC was primarily introduced to the process to address increasing MCPA levels (as per Dorisland WTW) but also to address taste and odour problems.

8. Drumaroad WTW

Drumaroad WTWs is fed directly by Silent Valley IR. It can receive occasional supply from Lough Island Reavey IR, to compensate Silent Valley water during operational maintenance. However this IR is not being reported against Drumaroad as it is reported against Fofanny WTWs. Silent Valley is supplied by Ben Crom IR. Silent Valley IR and Ben Crom IR collect raw water from the Mourne Mountains' catchment area. NIW is listing Silent Valley IR and Ben Crom IR as two sources for Drumaroad WTWs, for AIR16.

9. Dorisland WTWs

Dorisland WTWs 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 tries to maintain the top 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 problems 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.

For AIR15 the Treatment Type for Dorisland WTW was W3. However for AIR16 the Treatment Type has been changes to W4 due to the introduction of GAC Filtration in April 2015.

Over the years there has been a growing issue with MCPA exceedances which is a herbicide used mainly to control rushes. The existing process included the dosing of Powder Activated Carbon but as the loading of the MCPA in the raw water has seemingly increased over the last couple of years the PAC did not have the ability to remove enough and a number of exceedances occurred. It was decided to install GAC Filtration in order to comply with current water quality parameters". GAC filtration has been in full operation since April 2015.

10. Derg WTWs

Testing of raw water from the Strule River is presently ongoing, with the resultant introduction of sulphuric acid to the treatment process in April 2016. The Detail Certification sheet will remain unchanged for AIR16.

Capacities of NIW's impounding reservoirs (22No)

The table below depicts the capacities (some of which have been updated since AIR15 reporting – by reviewing information from Panel Engineer's Reports) of the 22 NIW Only Impounding Reservoirs which were in service during the AIR16 period. The AIR16 number has increased by 1 from the 21 number in AIR15 as a result of the re-classification of Lough Fea to an Impounding Reservoir. 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
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

Raw Water Source – IRs	Total Capacity(ML)	Head WTWs
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 source type's totals in service for part or all of AIR16 include in total: - boreholes (1nr), impounding reservoirs (22 nr), and rivers & loughs (9 nr). The impounding reservoir number has increased by 1 and the rivers and loughs number has decreased by 1, since AIR15, due to the classification of Lough Fea as an IR. The treatment type totals in service for part or all of AR16 include - simple disinfection (1 nr), W1 (0 nr), W2 (0 nr), W3 (8 nr) & W4 (11 nr). The W3 number has decreased by 1 and the W4 number has increased by 1, due to the treatment type at Dorisland WTWs changing from W3 to W4, as a result of the addition of the GAC Filtration.

The Water Supply Business Unit continues to keep the status of WTWs and Boreholes up to date and liaises with NIW'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 steps are taken to realign the data.

More understanding is required regarding the proportion of raw water from impounding reservoirs and loughs received at works such as Lough Macrory WTWs and Lough Braden WTWs.

Following the AIR15 Summary audit report of Table 12 the reporter recommended that the information on 'mothballed' borehole sites should be reviewed and updated. This has been carried out for AIR16 and the table below summarises NIW's position, at 31st March 2016 regarding all borehole sites. This information was taken directly off NIW's Corporate Asset Register.

Status	Descriptor	Count
In Service	All sites/facilities that are currently in operation. Includes those that are maintained by either Operations or M&E	1
OOS Abandoned	Any facility that is no longer in use and will never be returned to service. This may include facilities that are still in physical existence	56
Disposed	Any site which no longer belongs to NIW as it has been sold off	1

Lines 1 - 4 and 6 - 11 - Distribution Input

Leakage has provided the AIR15 Distribution Input figure of 561.62 Ml/d Distribution. It has been assigned a Confidence Grade of B2, which has not changed since AIR10.

The DI figure is the average amount of potable water entering the distribution system and supplied to customers within the company's area of supply. All distribution input meters are on telemetry and these report via the Serck Telemetry system to TDMS and this discrete list of sites forms the templates on which calculations are based.

The reporting process produces a DI total on a daily basis using a single spreadsheet with the minimum amount of data input and a maximum amount of spreadsheet calculation. The data is extracted from TDMS using automated functionality within that system to transfer to an Excel spreadsheet with all information calculated in Ml/d. Conditional formatting is employed to enable comparison with previous days, weeks and months. All files are password protected with access only to those involved in the data capture and audit process. The M&E Function undertake a calibration programme of all DI meters on an annual basis.

It should be noted that this figure may be affected by the Water Balance Calculation, whereby adjustments are applied to all components including Distribution Input, creating a post Maximum Likelihood Estimate leakage DI value.

Proportional Distribution Input (DI) - for 'NIW only', 'PPP' and 'Total' Tables

The proportional distributional input has been calculated using the spreadsheet provided by Leakage, depicting the 561.62 Ml/d Distribution Input, with sources (NIW and PPP) as listed below, with associated DIs.

Company Total DI

Supply Source	Average DI (ML/d)
Altnahinch	8.73
Ballinrees	29.98
Belleek	1.65
Camlough	1.66
Carmoney	18.13
Carran Hill WTW 2	4.44
Castor Bay	86.01
Caugh Hill	15.91
Clay Lake	3.40
Derg	14.98
Dorisland	30.26
Drumaroad Draper Hill	107.27
Dungonnell	9.34
Dunore Point	80.59
Fofanny WTW	35.78
Forked Bridge	21.20
Glenhordial	3.92
Killyhevlin	23.00
Killylane	10.89
Lough Bradan	7.45
Lough Fea	11.48
Lough Macrory 2	9.95
Moyola	15.08

Supply Source	Average DI (ML/d)
Rathlin Island	0.07
Seagahan WTW	10.44
Company Total AIR 15 DI	561.62

NIW Only DI

Supply Source	Average DI (ML/d)
Altnahinch	8.73
Belleek	1.65
Camlough	1.66
Carmoney	18.13
Carran Hill WTW 2	4.44
Caugh Hill	15.91
Clay Lake	3.40
Derg	14.98
Dorisland	30.26
Drumaroad Draper Hill	107.27
Dungonnell	9.34
Fofanny WTW	35.78
Glenhordial	3.92
Killyhevlin	23.00
Killylane	10.89
Lough Bradan	7.45
Lough Fea	11.48
Lough Macrory 2	9.95
Rathlin Island	0.07
Seagahan WTW	10.44
NIW Only AIR 16 DI	**328.75**

PPP only DI

Supply Source	Average DI (ML/d)
Ballinrees	29.98
Castor Bay (includes Forked Bridge DI i.e. 86.01 + 21.20))	107.21
Dunore Point	80.59
Moyola	15.08
PPP Only AIR 16 DI	**232.86**

Line 5 - Average pumping head – NIW only / PPP only / Total

The NIW 'Total' AIR16 Average Pumping Head is 111.64m.hd with a confidence grade of B4, a reduction of 2.97m.hd from AIR15 (114.6m.hd).

Summary

In previous returns the Average Pumping Head (APH) calculation has centred on using completed Detailed Zonal Study (DZS) area data. NIW 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 AIR16 the use of data from telemetry has continued to be used and has been expanded with 75% of pumpset returns based fully or in part on telemetry data.

For AIR16, NIW had 369 pumpsets in service. Of these 230 are based on flow and/or lift data from telemetry. 61 of the 369 have no / incomplete data, no return has been made for these pumpsets.

Reporter recommendations for previous returns stated pumpsets with a significant contribution to the overall calculation be targeted (say flow x lift >50m.h). There are 98 pumpsets with an individual contribution greater than or equal to 50m.h. Of these 95 are based on flow and / or lift data from telemetry.

The daily flow total for individual pumpsets is 1410.75Ml/d. Of this 1397.47Ml/d is based on telemetry data. Thus 99% of flow is based on data relative to the reporting year. Similarly the total lift for individual pumpsets is 17591.18m, of which 4220.73m is based on telemetry data, equating to 24% of lift based on data relative to the reporting year.

The Average Pumping Head figure has reduced by 2.97m.hd from AIR15. Distribution pumpsets have contributed a fall of 0.46m/hd to the overall figure, with Supply an increase of 0.36m.hd and PPP a reduction of 2.41m.hd, respectively. Five pumpsets are no longer in service and with these removed from the calculation reduces the overall figure by 0.45m.hd. The reduction can be attributed mainly to routine operational changes over the AIR16 period. The table below lists pumpsets whose contribution to the overall AIR16 APH figure has changed by 0.5m.hd or greater from its corresponding contribution in AIR15. These 6 pumpsets represents 2.64m.hd of the 2.97.hd reduction. The changes are explained in more detail further on in the commentary.

Name	AIR15 Individual APH	Contribution to Overall AIR15 APH Figure	AIR16 Individual APH	Contribution to Overall AIR16 APH Figure	Contributing difference from AIR15/AIR16
Dunore WTW HL (Hydepark & Ballyrobin)	10711.16	18.96	9122.49	16.243	-2.72
Dunore RWPS	4606	8.153	3908.05	6.959	-1.19
Castletown Strabane 1 WPS	381.02	0.674	9.84	0.018	-0.66
Castor Bay 1 WPS	6207.01	10.987	6495.28	11.565	0.58
Castor Bay 2 WPS	1316.56	2.331	1731.66	3.083	0.75
Drumaroad - Dunmore WPS	5616.86	9.94	5922.45	10.545	0.6

Pumpsets whose contribution to the overall AIR16 APH figure has changed by 0.5m.hd or greater from AIR15

Distribution pump data in master pump table

As mentioned above, the use of telemetry as a source has continued to be used and expanded, with approximately 75% of pumpsets returns now based on part or full telemetry data. This is in keeping with the Reporters view that given the good progress made in recent returns with data from Telemetry being obtained, the rollout programme should continue. The report created to provide data from Telemweb only produces

information from the date pumpsets are added. Some telemetry data for pumpsets 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 pumpsets 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.

Field Managers have identified installations where operational status has changed from AIR15. These are:-

- Ballyrogan WPS
- Craigs Road WPS
- The Cairns WPS
- Drumskinny Rd WBS
- Reaghan WPS
- Ballinliss Lwr WPS
- Forest Pk Ballycastle WPS
- Roguery Rd WPS

and have been removed from the calculation.

No data was available for previous returns for the following pumpsets. Telemetry data is now available to allow a return to be made against them for AIR16.

- Knockans WPS

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 0.46m.hd to the overall reduction from AIR15. The main contributors are listed in the table below:-

Name	AIR15 Individual APH	Contribution to Overall AIR15 APH Figure	AIR16 Individual APH	Contribution to Overall AIR16 APH Figure	Contributing difference from AIR15/AIR16
Castletown Strabane 1 WPS	381.02	0.674	9.84	0.018	—0.66

The changes have occurred with the introduction of telemetry flow data. The flow data from Telemweb was presented to the relevant Field Managers who were content with the figures provided. The FM for Castletown WPS indicated since the DZS, rezoning has occurred which would have reduced flow throughput.

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 pumpsets, the use of telemetry data has been sought for Supply pumpsets, with all but 2 of the 43 Supply pumpsets based on flow and / or lift data obtained from Telemweb.

For AIR16 an additional interstage pumpset has been identified at Lough Bradan WTW. The interstage pumpset was installed under a recent upgrade. This pumpset has been added to the calculation.

Changes to Supply pumpsets have contributed 0.36m.hd to the overall reduction from AIR15. The main contributors are listed in the table below:-

Name	AIR15 Individual APH	Contribution to Overall AIR15 APH Figure	AIR61 Individual APH	Contribution to Overall AIR16 APH Figure	Contributing difference from AIR15/AIR16
Drumaroad - Dunmore WPS	5616.86	9.94	5922.45	10.545	0.6

Drumaroad-Dunmore WPS – when the increase was presented to the plant manager for Drumaroad he was content with the flow figure and indicated normal water production is around 110Ml/d. For reference AIR15 figure was attributed to poor water quality and industrial action.

AIR15 Recommendation

Following AIR15 the Reporter recommended confirmation of static lifts being used at significant raw water and interstage pumpsets (Recommendation No 23). The static lifts used in AIR15 were presented to the relevant Plant Managers. All have indicated that static lift figures listed seemed reasonable with none raised as a concern. Where information allowed, checks were carried out for the larger lift figures using spot levels, top water levels. These checks back up the FM and would indicate the AIR15 static lift figures are reasonable. AIR15 lift figures have been carried forward for AIR16 with no changes.

Name	Pump Type	AIR15 Mean Lift (m)	Comments
Rathlin Island N WPS	Borehole	90	FM confirmed static lift figure seems reasonable.
Clay Lake RWPS	Raw water	15	FM confirmed static lift figure seems reasonable. From record drawings TWL of RW balance tank (195.197m) – TWL of RWPS intake (181.54m)
Clay Lake Interstage Pumps	Interstage	10	FM confirmed static lift figure seems reasonable.
Seagahan Interstage Pumps	Interstage	6	FM confirmed static lift figure seems reasonable.
L Bradan Tully Hill RWPS	Raw water		FM has indicated lift would be in the region of 4 bar.
L Bradan RWPS	Raw Water	12.24	FM confirmed static lift figure seems reasonable.
L Bradan Interstage Pumps	Interstage		New pumpset identified by FM who indicated static lift approximately 5m.
Camowen RWPS	Raw water	70	FM confirmed static lift figure seems reasonable.

Name	Pump Type	AIR15 Mean Lift (m)	Comments
Loughmacrory Ballybrack RWPS	Raw water	10.2	FM confirmed static lift figure seems reasonable.
Loughmacrory Interstage Pumps	Interstage	5.1	FM confirmed static lift figure seems reasonable.
Derg West 2 RWPS	Raw water	15.9	FM confirmed static lift figure seems reasonable.
Derg Interstage Pumps	Interstage	4.08	FM confirmed static lift figure seems reasonable.
Faughan River RWPS	Raw water	80	FM confirmed static lift figure seems reasonable. TWL of Carmoney inlet (76.549m) – DEM of valve at RWPS (5.97m)
Carmoney Interstage Pumps	Interstage	7.75	FM confirmed static lift figure seems reasonable.
Carmoney Final Pumps	Interstage	12.1	FM confirmed static lift figure seems reasonable.
Caugh Hill Interstage Pumps	Interstage	10.8	FM confirmed static lift figure seems reasonable.
Belleek Graffy 4 RWPS	Raw water	5	FM confirmed static lift figure seems reasonable.
Belleek Interstage Pumps	Interstage	3	FM confirmed static lift figure seems reasonable.
Killyhevlin RWPS	Raw water	5	FM confirmed static lift figure seems reasonable.
L Ross RWPS	Raw water	81	FM confirmed static lift figure seems reasonable. DEM of valve at works (161.8m) – TWL of L Ross (85.562m)
Carranhill Interstage Pumps	Interstage	4	FM confirmed static lift figure seems reasonable.
Camlough Product Water Pumps	Interstage	4	FM confirmed static lift figure seems reasonable.
Lough Island Reavy Fofanny RWPS	Raw water	160	FM confirmed static lift figure seems reasonable. TWL of Fofanny Dam 290.4m (WTW is approx. 5m below dam). TWl of L Island Reavy 127.7m.

Distribution Input (DI)

The Company DI by Supply Source (561.62Ml/d) has been provided by the Company's Leakage Data Management Unit, as has the PPP Only DI (232.87Ml/d) and the NIW Only DI (328.75Ml/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. 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) – The marginally differing figures supplied for the current reporting period (2015/16) from the last submission (2014/15) is due to the fact that these 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. This has demonstrated a slight Increase in overall calculated Average Pumping Head.

Average to Supply (Ml/d)

Note that the average flows represent updated figures for the 2015/16 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 NIW 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.

The Confidence Grade for the PPP APH has been changed to B2 as per the Reporter recommendations from the AIR15 submissions.

Changes to PPP pumpsets have contributed 2.41m.hd reduction to the overall figure from AIR15. The main contributors to the change are Dunore WTW and Castor Bay. Dunore Pt LL and HL pumps have reduced from AIR15, by 1.19m.hd and 2.72m.hd, respectively. The DI from Dunore has reduced from AIR15 which has been attributed to a reduction in demand from the network. Castor Bay 1 & 2 pumpsets have both increase from AIR15, 0.58m.hd & 0.75m.hd, respectively. These two pumpsets supply Magheraliskmisk & Ballydougan SRs, the distribution networks these SRs serve have increased.

There is a slight discrepancy between the PPP APH figure (153.3m.hd) calculated by the PPP Concessionaire and the figure calculated by NIW (153.19m.hd). The discrepancy has occurred with the PPP DI figure used, 232.71 by PPP, 232.87 by NIW. The NIW PPP DI figure is based on data provided by the Company's Leakage Data Management Unit as indicated above.

PPP only and NIW 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 NIAUR AIR14 Guidance for Table 12 has requested an 'Average Pumping Head' to be calculated for NIW only and PPP only. It should be noted that it is NIW's interpretation that the true definition (as stated above) of Average Pumping Head is not being reflected through the splitting up of the overall NIW Average Pumping Head value.

The NIW only and PPP only 'Average Pumping Heads' are 82.23m.hd and 153.19m.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 NIW water, therefore making it impossible for NIW and PPP flows to be truly separated for use in PPP only and NIW only average pumping head calculations. Hence the value of 153.19m.hd calculated for PPP only is more in relation to the Pumping Head within the works.

However the NIAUR 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 NIW only, PPP only and the Company 'total'. The respective distribution input values, associated with NIW 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 NIW in previous returns regarding the proportioning of the Average Pumping Head between NIW Only and PPP Only, is further exacerbated through the AIR14 approach, as requested by NIAUR. 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 NIW Only source related DI, as a denominator for the NIW Only Average Pumping Head, indicates the amount of pumping required to transport an average ML of NIW 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 NIW Distribution Network.

A confidence grade of 'B4' and 'B2' has been allocated respectively to these values of 82.23m.hd and 153.19m.hd for the 'Average Pumping Head' for NIW only and PPP only respectively.

With ref to the NIAUR'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 2015/16 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 pumpsets 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.

61 of the 369 as having an 'in service' operational status during AIR16 period have no or incomplete data, no return has been made for these pumpsets. As the majority of these pumpsets 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 for the Average Pumping Head Total is B4 as per the Reporter recommendations from AIR15 submission.

Improvements from AIR15

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 99% of flow and 24% of lift now based on data relevant to the reporting period, data quality continues to improve.

AIR15 Recommendation

Following AIR15 the Reporter recommended all pumpsets are listed in spreadsheet, highlighting reasons for exclusion if anything other than lack of data (Recommendation No 22). All pumpsets with an 'in service' operational status are listed in the calculation spreadsheet; unadopted/planned pumpsets are also included. Apart from the unadopted/planned pumpsets, the only other reason for exclusion from the calculation is insufficient data to allow a return to be made.

Average Pumping Head result comparison from 2008 to 2015

	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

PPP

Lines 1- 4 Column 1 only – Number of sources (PPP)

The PPP Water sources have remained consistent over the reporting period for AIR16 as they were with AIR15 and AIR14. In accordance with AIR14 & 15, 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 2015-16 as it did in 2014-15.

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.

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 AIR15 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.

As per the reporters recommendation during the AIR14 audit this figure includes trunk mains that are marked as "Out of Service" on the Corporate Asset Register. This recommendation was made as although these mains are currently out of service they are not abandoned and could potentially come back into service in the future.

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										
2	Non-households properties connected during the ye	000	3	0.123	B2	0.106	B2	0.13	B2	0.198	B2										
B	BILLING																				
3	Households billed unmeasured sewage	000	3	586.127	A2	591.043	B2	594.525	A2	599.994	A2										
4	Households billed measured sewage	000	3	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										
6	Non-households billed unmeasured sewage	000	3	9.250	A2	8.706	A2	8.132	A2	7.513	A2										
7	Non-households billed measured sewage	000	3	23.014	A2	23.347	A2	23.56	A2	23.809	A2										
8	Non-households billed sewage	000	3	32.250	A2	32.053	A2	31.692	A2	31.322	A2										
9	Void properties	000	3	44.637	A2	44.479	B2	44.164	A2	43.463	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										

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 3-9)	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 report year.
Block C Population (Lines 10)	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 report year.

The information in this table is used in tariff and charging analysis and determination (sewerage unit cost).

Definition of 'Billed' Properties

Domestic customers were originally due to be charged for water and sewerage charges from April 2007. However this was deferred in April 2007 and has not been implemented since. There are no apparent plans for charges to be implemented during 2016/17. NI Water is subsidised for these domestic customers by Department for Regional Development (DRD) (note: DRD is the Department of Infrastructure).

In April 2008, NI Water extended the charging in the non-domestic sector to include unmeasured non-households in addition to the measured non-household customer base. These charges are based on the NAV of the non-household property, derived from annual information provided by Land and Property Services (LPS).

Northern Ireland Water introduced sewerage charging to include non-households, phased in at 50%. Volumes returned to sewer are assumed to be 95%, based on standard industry figures, unless the customer challenges this assumption, whereupon they can apply for a non-return to sewer allowance which will be investigated and determined by NIW.

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 DRD (domestic customers).

Classification of Farms

As with Table 7 (Water) - per Utility Regulator guidelines, farms were reclassified as billed non-households for AIR09 – this has remained for AIR16. Previously, in AIR08, farms had been classified and reported as 'billed' households on the principle of their status and allocation of 'domestic allowance'.

Data Sources, Data Validation and Data Quality Projects

As with Table 7 (Water), the key source of information for the new connections and property data is the customer billing database, RapidXtra.

Customer information is updated through;

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

Under the Water & Sewerage Services (2006) Order, NI Water is required to install meters on all new household connections since April 2007. 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 property counts and classifications continue to be reported monthly from Rapid. The Rapid Property Summary (RPS) provides us with a snapshot at the end of each month in terms of gross movements; it doesn't support us in the explanation of net movements within the data.

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 of Enterprise, Trade and Investment (DETINI) and the Central Statistics Office (CSO), Ireland

From the Rapid Property Summary there are deemed to be 605 (gross) 'unmeasured – not charged' properties which (based on sample taken) are mostly NI Water properties. NI Water are currently investigating any 'unmeasured – not charged' properties outside of NI Water ownership to ensure they are classified correctly.

Background

As Table 13 is based on averages, please find summary table below for 'End March 2015' and 'End March 16'. The '1st Dec 2015' are actual numbers used in the Principal Statement and Tariff Setting process.

Property Numbers	March 2015	1st Dec 2015	March 2016	Expected Movement
Unmeasured Sewerage Household	595727	601816	604260	Increase
Unmeasured Sewerage Non-Household	7741	7198	7258	Decrease
Measured Sewerage Non-Household	23576	23898	24041	Increase
Voids	43776	44242	43182	

The variances in our property numbers from AIR15 to AIR16 can be explained by the following:

1. New Connections during the 2015/16 reporting year. As detailed in the associated Line Methodology and as per Annex A, an issue with the system report has resulted in a change in methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with the New Connections reported by the Customer Connections Team.
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:
    - The adding of properties NI Water allegedly didn't know about and

- The adding of duplicates as the customers address couldn't be found on Rapid.

(For example, 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. Another scenario - The street name may 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 of duplicates/properties as a result of data quality initiatives.
    - The decrease is as a result of reclassifications on New Connections in 14/15 as highlighted in last year's commentary as well as the change in the processes within the Customer Connections Team.
4. The increased number of properties within the no water/well water category. Further detail is provided within the Table 7 commentary.

The work on data validation is ongoing, with new validations 'live' as a result of the Customer Billing and Contacts (CBC) Project Phase 1 & 2 implementation. Further validations will be implemented in Phase 3 & 3a during 2016/17 & 2017/18. These validations include Point of Entry controls, System based classification alignment, Intra and Inter table/field alignment, etc. In addition, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout.

The difference between the gross increase in properties and the number of new connections can be attributed to

- movement from the no water/well water category to unmeasured supplied, and
- movement in occupancy status (from void to occupied)

Test Meters

As per Table 7 the remaining 'test' and 'retain for review' meters are currently under review within Projects and Business as Usual activity.

The movement within the Test Meter category of the RPS is shown below.

	Test Meters (2015)	Test Meters (2016)	Movement
Household	288	266	22 reduction
Non-Household	790	734	56 reduction

There is an active project to confirm the classification of test and 'retain for review' are currently under review with desktop analysis is planned to be completed by the end of September 16 with all required site visits are planned to be completed by January '17. Billing reviews will take place after this.

Site Metered Properties

As part of the ongoing data checks, NIW 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 NIW still retain this information for customer record and charging purposes).

There are 625 domestic properties classified as site meters and these will require further investigation and analysis to be completed during 2016/17 to ensure these are classified correctly.

There is an active project to confirm the classification of site metered properties – this is currently targeting the Belfast Harbour Estate and any lessons learned will be considered for other sites and also working closely with LPS to see how we can exploit their data to confirm customers and properties deemed connected to site meters.

Overall the number of non-domestic site meters has increased by 329 during 2015/16. This has resulted from categorisation movements in year such as measured water to site meter and unmeasured water to site meter.

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, with some nett minor 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 2015	Dec 2015	March 2016	Expected Movement
Unmeasured Sewerage Gross Household (L9 year end sub calc)	630030	635877	638109	Increase
Unmeasured Sewerage Occupied Household (L3 year end sub calc)	595727	601816	604260	Increase
Unmeasured Sewerage Voids Household	34303	34061	33849	

Household Voids	Voids	Difference (in-year)
March 2016	33849	(-) 454
March 2015	34303	(-) 656
March 2014	34959	

Measured Household Property Movement

Due to the deferral of domestic charging 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 2015	1st Dec 2015	March 2016	Expected Movement
Unmeasured Sewerage Gross Non-Household	14579	13915	13942	Decrease
Unmeasured Sewerage Occupied Non-Household (L6 year end sub calc)	7741	7198	7258	Decrease
Unmeasured Sewerage Voids Non-Household	6838	6717	6684	

Measured Non-Household Property Movement

Property Numbers	March 2015	1st Dec 2015	March 2016	Expected Movement
Measured Sewerage Gross Non-Household	26197	26509	26674	Increase
Measured Sewerage Occupied Non-Household (L7 year end sub calc)	23576	23898	24041	Increase
Measured Sewerage Voids Non-Household	2621	2611	2633	

Non Household Voids

Non-Household Voids	Voids	Difference (in-year)
March 2016	9333	(-) 140
March 2015	9473	(-) 133
March 2014	9606	

Annex A details the methodology followed for the figures calculated in Table 13.

Confidence Grades

We have kept the confidence grades consistent with those of AIR15. 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 AIR16.

Annex A – Line Methodology for Table 13

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)

An issue with the system report has resulted in a change in methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with 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 New Connections.

AIR16_NCs_1516_5827.xlsx

Households properties connected during the year	4076

The number of new domestic connections for the year is 4076.

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)

An issue with the system report has resulted in a change in methodology for this year. The figures are based on a reconciliation of New Connections extracted directly from Rapid (via CorVu), with 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 above. It is NIW policy to install meters on all New Connections.

Non-Households properties connected during the year	198

The number of new non-domestic connections for the year is 198.

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 AIR16 (dated 31st March 2016) as embedded below.

Households Billed Unmeasured Sewerage	End March 2015	End March 2016
Household - Unmeasured	568713	575027
Household - Sewerage Only	6	6
Household - Measured – Not Charged (test meters)	283	263
Household - Measured	26255	28427
Household – Site Meters	453	521
Household - Unmeasured - Not Charged	17	16
Total	595727	604260
Average (Apr15/Apr16)	**599994**	

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 now included in line 3, as per AIR16 Table 7.

Households Billed Measured Sewerage	End March 2015	End March 2016
	0	0
Average (Apr14/Apr15)	**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 15/16
Households billed unmeasured sewerage	599994
Households billed measured sewerage	0
Total	**599994**

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 Rapid, average of End March 2015 and End March 2016 non-domestic unmeasured properties.

Non-Households Billed Unmeasured Sewerage	End March 2015	End March 2016
Non-Household - Unmeasured	7741	7258
Non-Household - Sewerage Only	14	13
Total	7755	7271
Average (Apr15/Apr16)	**7513**	

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 Rapid, average of End March 2015 and End March 2016 non-domestic measured sewerage properties.

Non-Households Billed Measured Sewerage	End March 2015	End March 2016
	23576	24041
Average (Apr15/Apr16)	**23809**	

Site metered properties are a subset of the overall non-domestic billed measured sewerage customer base, therefore not included in the figure above (as per AIR16 Table 7). Where many customers are served through one site meter, only the landlord or business park management are considered as the customer and the other business are tenants.

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 15/16
Non-Households Billed Unmeasured Sewerage	7513
Non-Households Billed Measured Sewerage	23809
Total	**31322**

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 AIR16 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 2015	End March 2016
Household - Unmeasured	599194	605023
Household - Sewerage Only	6	6
Household – Measured - Not Charged (test meters)	288	266
Household - Measured	29980	32172
Household – Site Meters	544	625
Household - Unmeasured - Not Charged	18	17
Non-Household - Unmeasured	14579	13942
Non-Household – Sewerage only	19	18
Non-Household - Measured	26197	26674
Total	670825	678743
Average (Apr15/Apr16)	**674784**	

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 AIR16 submission.

Voids	End March 2016
Total Gross Properties (as above)	674784
Less total occupied properties (line 5 [599994]+ line 8 [31322]) =	631315
Total	**43469**

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 2015 and End March 2016.

	End March 2015	End March 2016	Average 15/16		
Gross number of properties connected for sewerage	667574	674784	671179		
Gross number of properties connected for water (T7 L7 + T7 L11)	821468	833885	827677		
Calculation = Sewerage Properties / Water Properties			**81.09%**	**Therefore, Total Connected Population equals (Table 7 Line 17 [1,850,270] * 81.09%) + Table 17a Line 2 [29,351]**	**1,529,734**
				1,500,383 + 29,351	

As detailed above, the number of sewerage properties has been calculated as 81.09% of those with water. This percentage is then applied to the total water population from Table 7 Block C.

(Water population total (Source Leakage Section) X 81.09%) + Non-Resident Population (Source CSD) = Table 13 line 10

(1,850,270 X 81.09%) = 1,500,383 + 29,351 = 1,529,734

T13 L10	**1529.734**

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										
2	Volume unmeasured non-household sewage	Ml/d	2	5.53	B3	4.89	B3	4.69	A2	4.25	A2										
3	Volume unmeasured sewage	Ml/d	2	248.67	B3	237.63	B3	242.3	A2	243.06	A2										
4	Volume measured household domestic sewage	Ml/d	2	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										
6	Volume trade effluent (excluding Roads Drainage)	Ml/d	2	34.12	B2	41.73	B2	48.49	B2	49.96	B2										
7	Volume waste water returned	Ml/d	2	318.69	B3	316.01	B3	329.90	B3	331.74	B3										
8	Volume of Roads Drainage returned	Ml/d	2	175.80	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 7.39% 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 AIR16 volume reported for unmeasured household sewage is 238.811 Ml/d. The volume reported in AIR15 was 237.611 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 AIR16 is 5.28 Ml/d. The value reported in AIR15 was 5.82 Ml/d.

The AIR16 volume reported for unmeasured non-household sewage is 4.25 Ml/d. The volume reported in AIR15 was 4.68 Ml/d.

Line 5 - Volume Measured Non-Household Domestic Sewerage

The reported sewerage figure was based on actual billed sewerage discharge April 15 to March 16. The discharge volumetric information was derived directly from;

- The monthly 'Reconciling' Reports Apr15-Mar16 - detailing actual billed sewerage discharge m^3.
- The DRD Domestic Allowance Subsidy Assurance Report Apr15 – Mar16 – detailing actual domestic sewerage allowance applied per bills.
- Monthly FN12 Transaction Reports Apr15 – Mar16 – detailing Bad Debt Write-Off by Charge Type.

The calculated sewerage discharge volume was 14,134,405 M^3 converted to mega litres per day of 38.72 Ml/d.

Sewerage volume is 1% (142,008M^3 | 0.39Ml/d) lower than last year.

The 1% reduction is primarily attributable to a lower level of retrospective billing during 2015/16 re Customer Services Data Quality Programme.

As referenced in 2014/15 Table14 Line5 commentary, 2014/15 billed sewerage volumes were inflated due to retrospective billing re Zero Reads | Combi Meter Projects, which have since been completed.

This line has been allocated a confidence grade of B3 as it has an element of manual manipulation of raw data from Rapid report to derive the full year discharge m^3.

Line 6 - Volume Trade Effluent

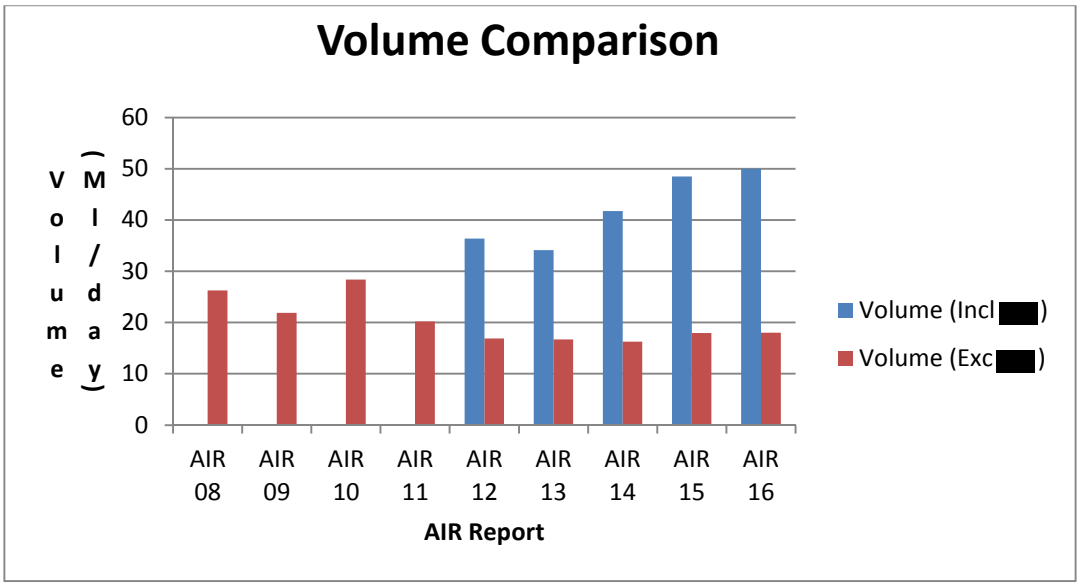
Sources

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 79 traders out of 543 assessed. The total number of traders has increased from 541 in AIR15 to 543 in AIR16.

The total volume for AIR 15 and 16 are detailed below:

- AIR 15 Volume = 48.49 Ml/day
- AIR 16 Volume = 49.96 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 an increase in the volume of effluent discharged from [redacted] during this period. This volume has increased from 30.56 Ml/day to 31.95 Ml/day. This is a 1.39 Ml/day increase. Comparing the total AIR 16 volume to the AIR 15 volume there has been an overall increase of 1.47 Ml/day. Therefore removing the volume discharged by the [redacted] from this leaves a relatively small increase of 0.08 Ml/day, which has been brought about by the remaining trade effluent discharges.

There were increases to the overall discharge volumes in the South Sampled and Charged, North East PPP Sampled & Charged and South PPP Sampled & Charged areas. These summated to an increase of 1.286 ML/day. Below are some examples of these increases:

Trader	Area	AIR 15 Vol/Day (m3)	AIR 16 Vol/Day (m3)	Increase (m3)
[redacted]	S NIW S&C	1822.30	2311.65	489.35
[redacted]	S NIW S&C	30.66	139.49	108.83
[redacted]	NE PPP S&C	154.05	222.54	68.49
[redacted]	S NIW S&C	519.90	722.35	202.45

The reductions in the remaining areas summated to a decrease of 1.213 Ml/day. Some of the more significant changes making up this reduction are detailed below:

Trader	Area	AIR 15 Vol/day (m3)	AIR 16 Vol/Day (m3)	Reduction (m3)
[redacted]	NW NIW S&C	123.01	43.43	79.58
[redacted]	NW NIW S&C	44.19	closed	44.19
[redacted]	NW NIW S&C	1137.04	952.49	184.55

12 traders were excluded from AIR16 as although they have been consented for contaminated surface water run-off, they have not been charged for this via Trade Effluent billing. This decision was made as the definition for Table 15 line 1 states that loadings must be as *billed and charged*. Using the consented volumes and the standard sewage BOD strength, which would not be reflective of the low strength of these discharges, these traders equate to 0.4% (23.06 tonnes BOD/yr) of the BOD load and 0.7% (0.361 Ml/day) of the total volume for AIR 16. As these figures are below 1% they are considered to be insignificant.

The net result of these changes is an overall increase of 0.08 Ml/day. Some of the more significant changes have been highlighted above, but the fluctuations of all the trade effluent discharges contribute to final figure.

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, B3 and B2 respectively. As B3 was the lowest confidence grade for a component, this line has been allocated a confidence grade of B3.

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										
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										
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	286.6	C3	273.9	C3	210.8	C3	211.2	C3										
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	691.5	C3	634.4	C3	634.4	C3	669.9	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										
6	Equivalent population served (resident)	000	2	1,806.82	C5	1,802.63	C5	1,789.68	C5	1,792.79	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										
B	**SEWERAGE - SERVICE FACILITIES**																				
8	Number of sewage treatment works	nr	0	1,018	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										
C	**SEWAGE - SLUDGE DISPOSAL**																				
14	Percentage unsatisfactory sludge disposal	%	2	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										
16	Total sewage sludge transferred to PPP	ttds	1	31.3	A2	31.7	A2	32.6	A2	32.9	A2										
17	Total sewage sludge disposal by NI Water	ttds	1	0.8	B2	0.8	B2	0.9	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										
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										
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	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										
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										
6	Equivalent population served (resident)	000	2	301.14	B2	329.18	B3	321.09	B3	326.41	B3										
7	Equivalent population served (resident) (numerical consents)	000	2	301.14	B2	329.18	B3	321.09	B3	326.41	B3										
B	**SEWERAGE - SERVICE FACILITIES**																				
8	Number of sewage treatment works	nr	0	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										
C	**SEWAGE - SLUDGE DISPOSAL**																				
14	Percentage unsatisfactory sludge disposal	%	2	0.00	A2	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										
16	Total sewage sludge received from NI Water	ttds	1	31.3	A2	31.7	A2	32.6	A2	32.9	A2										
17	Total sewage sludge disposal	ttds	1	37.6	B2	38.1	A2	39.3	B2	38.6	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										
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										
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	286.6	C3	273.9	C3	210.8	C3	211.2	C3										
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	691.5	C3	634.4	C3	634.4	C3	669.9	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										
6	Equivalent population served (resident)	000	2	2,107.96	C5	2,131.81	C5	2,110.77	C5	2,119.20	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										
B	**SEWERAGE - SERVICE FACILITIES**																				
8	Number of sewage treatment works	nr	0	1,024	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										
C	**SEWAGE - SLUDGE DISPOSAL**																				
14	Percentage unsatisfactory sludge disposal	%	2	0.00	A2	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										
16	Not used	ttds	1																		
17	Total sewage sludge disposal	ttds	1	38.4	B3	38.9	A2	40.2	B2	39.4	B2										

Table 15 - Sewage Treatment

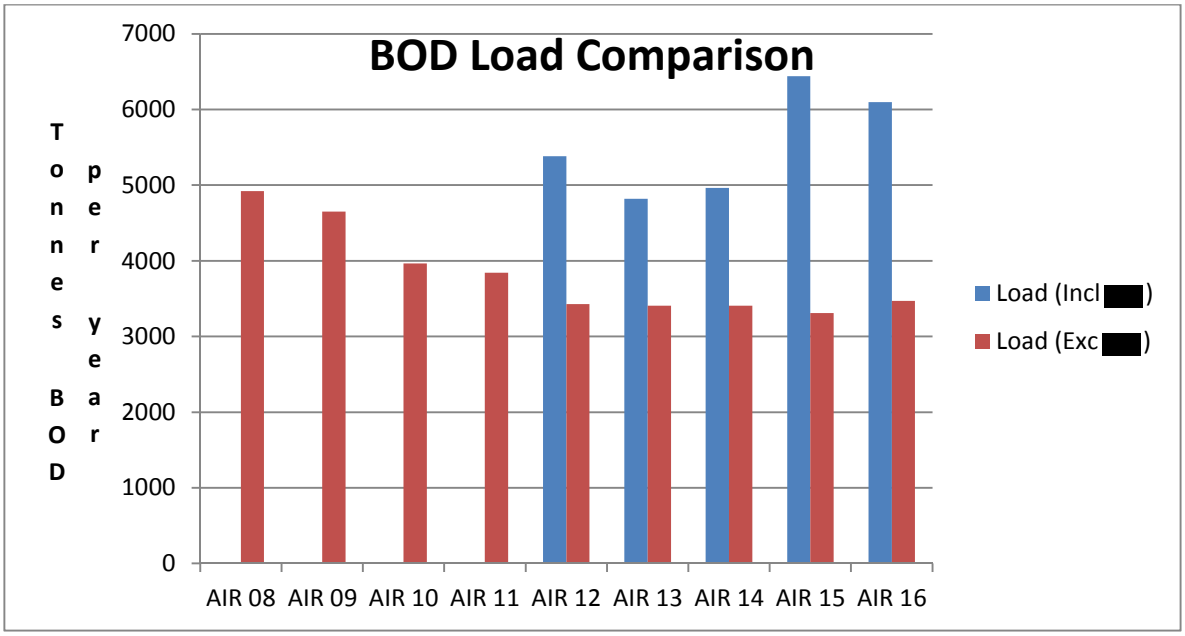
Line 1 - Trade effluent load receiving secondary treatment (BOD/year)

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. For non-sampled discharges the standard sewage BOD strength was used, as detailed in the Methodology.

The loading for this year's and the previous year's reports were as follows:

- AIR16 = 6099.1 tonnes/year
- AIR15 = 6440.3 tonnes/year.

In order to analyse these figures it has been decided to break them down into loading including [redacted] and loading without, to better identify the current trends in data.



The loading from the [redacted] has decreased from 3129.7 tonnes/yr (AIR15) to 2628.6 tonnes/yr (AIR16), which is a decrease of 501.1 tonnes/yr. Overall the loading for AIR 16 decreased by 341.2 tonnes/yr. With the decrease from the [redacted] removed from this figure, the difference between the two reports is actually an increase of 159.9 tonnes/yr.

There was a reduction in the BOD strength that was used for the standard charge traders during this period. This strength was derived from the average results of the 2015 Mogden Samples. The average BOD strength of the Mogden samples decreased from 189 mg/l to 175 mg/l.

There were increases in the NE NIW & PPP Sampled & Charged areas as well as in the South NIW Sampled & Charged areas. These equated to an increase in loading of 580 tonnes/year. Some examples of these increases to loadings are:

Trader	Area	AIR 15 Tonnes/yr	AIR 16 Tonnes/yr	Increase(tonnes/yr)
[redacted]	South NIW S&C	442.98	789.38	346.4
[redacted]	S NIW S&C	53.82	107.19	53.37
[redacted]	NE NIW S&C	n/a	17.03	17.03
[redacted]	S NIW S&C	43.46	74.27	30.81

There were reductions in loadings reported in the remaining areas. The total of these reductions was 420.07 tonnes/year and included:

Trader	Area	AIR 15 Tonnes/yr	AIR 16 Tonnes/yr	Reduction (tonnes/yr)
[redacted]	NW NIW S&C	219.54	135.93	83.61
[redacted]	NW NIW S&C	144.25	110.38	33.87
[redacted]	South PPP S&C	465.42	323.07	142.35
[redacted]	South NIW S&C	97.95	66.27	31.68

The net of these changes equates to the 159.9 tonnes BOD/yr reduction in the AIR loadings with the [redacted] figures excluded.

12 traders were excluded from AIR16 as although they have been consented for contaminated surface water run-off, they have not been charged for this via Trade Effluent billing. The decision was made as the definition for Table 15 line 1 states that loadings must be as *billed and charged*. Using the consented volumes and the standard sewage BOD strength, which would not be reflective of the low strength of these discharges, these traders equate to 0.4% (23.06 tonnes BOD/yr) of the BOD load and 0.7% (0.361 Ml/day) of the total volume for AIR 16. As these figures are below 1% they are considered to be insignificant.

In summary, there has been a decrease in the loading from [redacted], but there has been a small increase in loading from the remaining trade effluent discharges. This increase can be attributed to increasing volumes from some of the larger traders and also an increase in the discharge strength coming from these sites.

Line 2 - 7 – Sewage loads

NIW Only

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 AIR15, PEs for 85 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-

as was implemented for AIR15, 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 AIR16 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. The AIR11 Trade Information, for nursing homes and clinics, has been maintained for AIR16 in order to allow for this proportion of the influent entering the WWTWs. 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 365,000Pe was agreed. This figure has been updated for AIR16 with the latest trade information giving a new figure of 364,383 PE. However it should be noted that there are a number of projects currently been carried out for NIW that are investigating the PEs discharging to Belfast and early indications would suggest the equivalent PE discharging to the WWTWs is much higher than currently stated. The main projects involved are:

- Belfast WwTW Appraisal Study (which includes a full 12 month flow and load study). The study is due to be completed in the summer of 2017 ,
- Glenmachan Sewers Project, and
- Compliance with the Surface Water (Shellfish) Regs (NI) – Belfast Lough.

The outcomes of these projects are likely to influence the PE for Belfast for AIR17 but a full flow and load assessment may not be completed and accepted by NIEA until AIR18.

NIW has information pertaining to septic tank imports to its WWTWs. In summary of the 17 WWTWs that are septic tank imports centres four receive the sludge at the head of the inlet works and the remaining 13 receive it via sludge reception centres.

For AIR16 conversion factors, received from our scientific staff, were used to convert the septic tank imports to PEs for the 4 WWTWs where imports are discharged directly to the inlet works.

Allowance at the other 13 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 and Lisburn (New Holland). 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	345	3918.6	10.74	0.11	107.36	1789
Glenstall	1109	6949.6	19.04	0.19	190.4	3173
Limavady	3162	34.1	0.09	0.0	0.93	16
Lisburn (New Holland)	329	6956.9	19.06	0.19	190.6	3177

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, 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 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	1,245,882	27,284.82
Non-Residential	225,135	4,930.46
Hotels	3,741	81.93
Nursery School	1012	22.17
Playschool	1,040	22.77
Primary School	27,408	600.23
Secondary School	24564	537.95
Trade PE	121,508	2,661.02
Large (>7500m3) Consumers	120930	2648.37
Caravan Parks	29577	647.74
Sludge Import / Export / Supernatant (Sludge Import to Inlet of Works – to 4 WWTWs 8155 PE)	25,310	554.29
Total (Line 5)	**1,826,107**	**39,991.74**

Confidence Grades

The confidence grades of the data in lines 2 - 4 remain as C3.

The Reporter recommended in AIR14 and in AIR15 (Recommendation No 28/Reporter's Report Reference Table 15 Lines 2-9 S7) that NI Water consider increasing the confidence grades for lines 5 – 7 from C5 to C3. Following discussions with the Reporter, the confidence grades for these lines in AIR16 have been amended to reflect this recommendation.

The confidence grades of the data in lines 8 and 9 remain as in AIR15, due to the confidence in the other information associated with the population of these lines.

The AIR 14 Reporter also recommended that NI Water should consider increasing the confidence grade for PPP Works (line 5) from C5 to B2. The latter was duly carried out for AR15.

Line 2 - Total load receiving secondary treatment

The table below shows the changes in WWTWs receiving secondary treatment since AIR15 for Line 2. NB. Change in PE (-Ve AIR16 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Annsborough	S02687	-3	PE updated with AIR16 Trade Information
Antrim (WWTW)	S01422	326	PE updated with AIR16 Trade Information
Ardglass (WWTW)	S00268	-173	PE updated with AIR16 Trade Information
Artigarvan WWTW	S03002	949	Pumpaway to Ballymagorry WwTW
Ballycarry	S00267	362	PE updated with AIR16 Trade Information
Ballyclare	S01467	110	PE updated with AIR16 Trade Information
Ballykelly (L/Derry)	S03016	-7	PE updated with AIR16 Trade Information
Ballykinler (WWTW)	S00299	585	Actual PE updated following an On-Site check by APT. Trade PE update for AIR16
Ballymagorry WWTW	S03018	-949	Rationalisation of Artigarvan to Ballymagorry WwTW
Ballymena (WWTW)	S01456	8527	PE updated with AIR16 Trade Information
Ballynahinch (Down)	S00311	155	PE updated with AIR16 Trade Information
Banbridge (WWTW)	S02102	-342	PE updated with AIR16 Trade Information
Belfast (WWTW)	S00345	794	PE updated with AIR16 Trade Information
Bushmills WWTW	S01178	-2	PE updated with AIR16 Trade Information
Carrickfergus (WWTW)	S00261	226	PE updated with AIR16 Trade Information
Castle Archdale WWTW	S03041	849	Castle Archdale has been replaced with new ICW on new site.
Castle Archdale Country Pk WWTW	S05877	-849	This is a new WWTW for AIR16
Castlederg (WWTW)	S03042	7	PE updated with AIR16 Trade Information
Clady (Tyrone)	S04149	16	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Coalisland	S02828	57	PE updated with AIR16 Trade Information
Cookstown (WWTW)	S01582	-99	PE updated with AIR16 Trade Information
Culmore (WWTW)	S03071	-807	PE updated with AIR65 Trade Information
Derryhale	S02570	12	PE updated with AIR16 Trade Information
Donaghmore (WWTW)	S02840	88	PE updated with AIR16 Trade Information
Donemana	S03103	2	PE updated with AIR16 Trade Information
Donnybrewer	S03080	187	PE updated with AIR16 Trade Information
Downpatrick (WWTW)	S00771	15	PE updated with AIR16 Trade Information
Draperstown	S01615	25	PE updated with AIR16 Trade Information
Dromore (Down)	S02127	-2	PE updated with AIR16 Trade Information
Dundrod	S00326	27	A population study was carried out for this site and reviewed and adopted for AIR16.
Dungannon	S02850	-17526	PE updated with AIR16 Trade Information
Dungiven	S03101	-14	PE updated with AIR16 Trade Information
Dunmurry	S00346	82	PE updated with AIR16 Trade Information
Enniskillen	S03218	1243	PE updated with AIR16 Trade Information
Fivemiletown (WWTW)	S03113	13	PE updated with AIR16 Trade Information
Glenoe	S01462	-39	A population study was carried out for this site and reviewed and adopted for AIR16.
Glenstall	S01109	595	PE updated with AIR16 Trade Information
Greenisland (WWTW)	S00263	-3271	PE updated with AIR16 Trade Information
Greysteel (WWTW)	S03123	6	PE updated with AIR16 Trade Information
Hilltown (WWTW)	S02701	1	PE updated with AIR16 Trade Information
Keady (Armagh)	S02553	-25	PE updated with AIR16 Trade Information
Kesh (WWTW)	S03140	-3	PE updated with AIR16 Trade Information
Kilkeel (WWTW)	S00313	-12	PE updated with AIR16 Trade Information
Killinchy (WWTW)	S00252	38	PE updated with AIR16 Trade Information
Killygonlan (WWTW)	S02043	6	PE updated with AIR16 Trade Information
Kilrea	S01156	63	PE updated with AIR16 Trade Information
Larne (WWTW)	S02044	425	PE updated with AIR16 Trade Information
Limavady (WWTW)	S03162	656	PE updated with AIR16 Trade Information
Lisburn (New Holland)	S00329	803	PE updated with AIR16 Trade Information
Lisnaskea (WWTW)	S03171	-1	PE updated with AIR16 Trade Information
Loughinisland WWTW	S00298	1	A population study was carried out for this site and reviewed and adopted for AIR16.
Maghaberry	S02412	-372	A population study was carried out for this site and reviewed and adopted for AIR16.

Name of Works	CAR ID	PE Change	Comments
Maghera (L/Derry)	S01629	-3	PE updated with AIR16 Trade Information
Magherafelt (WWTW)	S01621	-763	PE updated with AIR16 Trade Information
Mayboy	S01163	-19	A population study was carried out for this site and reviewed and adopted for AIR16
Moneymore (WWTW)	S01589	5	PE updated with AIR16 Trade Information
Moy (WWTW)	S02859	153	PE updated with AIR16 Trade Information
Newcastle (WWTW)	S00303	1	PE updated with AIR16 Trade Information
Newmills WWTW	S02852	-1	PE updated with AIR16 Trade Information
Newry (WWTW)	S02685	-2544	PE updated with AIR16 Trade Information
Newtownbreda (WWTW)	S00342	5529	PE updated with AIR16 Trade Information. A review of F&L was carried out for this site and reviewed and adopted for AIR16.
Newtownbutler WWTW	S03200	-1	PE updated with AIR16 Trade Information
Newtown-Crommelin	S01447	21	PE updated with AIR16 Trade Information
Newtownstewart (WWTW)	S03202	1	PE updated with AIR16 Trade Information
North Coast (WWTWs)	S04150	718	PE updated with AIR16 Trade Information
Oliver Plunkett Pk	S02284	3	A population study was carried out for this site and reviewed and adopted for AIR16.
Omagh (WWTW)	S03999	2506	PE updated with AIR16 Trade Information
Pomeroy WWTW	S01593	-1	PE updated with AIR16 Trade Information
Roughfort (WWTW)	S01470	-3	PE updated with AIR16 Trade Information
Strabane	S03223	-1424	PE updated with AIR16 Trade Information
Swatragh WWTW	S01637	-12	PE updated with AIR16 Trade Information
Tamnamore WWTW	S02862	18	PE updated with AIR16 Trade Information
Tandragee	S02174	1470	PE updated with AIR16 Trade Information
Trillick WWTW	S03231	-8	PE updated with AIR16 Trade Information
Warrenpoint (WWTW)	S02720	35	PE updated with AIR16 Trade Information
Waterfoot Rd WWTW	S01643	-11	A population study was carried out for this site and reviewed and adopted for AIR16.
Whitehouse	S00265	161	PE updated with AIR16 Trade Information
	Total	-1414	**Change in Line 2 PE since AIR15**

The change in PE equates to an increase in load of 30.97t BOD/yr (i.e. 1414 x 60 for 60g/hd/day /1000/1000 x 365) from AIR15 to AIR16.

Difference between AIR16 and AIR15 values (to 2 decimal places):

Line 2 for AIR15 -	**38,946.14**
Line 2 for AIR 16 -	**38,977.16**
Total Difference -	**31.02**

Note – The difference in the above totals are due to rounding of values.

Line 3 - Total load receiving primary treatment only

The table below shows the changes in WWTWs receiving primary treatment only since AIR15 for Line 3. NB. Change in PE (-Ve AIR16 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Ballydermot Rd (7-9)	S01792	6	Ballydermot Rd has been abandoned with the WOC revoked as of January 2016
Comber Rd (102-106)	S00848	4	Actual PE updated following a desktop study by McAdams for the RWWIP project
Drumconvis Rd (58-62)	S05767	-10	This is a newly Adopted/consented WWTW for NIW
Largy Cottages (1)	S01776	-17	Actual PE updated following a desktop study by McAdams for the RWWIP project
	Total	-17	**Change in Line 3 PE since AIR15**

The change in PE equates to an increase in load of 0.37 t BOD/yr (i.e. 17 x 60 for 60g/hd/day /1000/1000 x 365) from AIR15 to AIR16, allowing for rounding up and down and conversions.

Difference between AIR16 and AIR15:

Line 3 for AIR15 -	**210.85**
Line 3 for AIR 16 -	**211.21**
Total Difference -	**0.36**

Line 4 - Total load receiving preliminary treatment only

The table below shows the changes in WWTWs receiving preliminary only since AIR15 for Line 4. NB. Change in PE (-Ve AIR16 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Ballycastle WWTW	S01071	-1623	Actual PE updated and agreed with NIEA following analysis of a Flow & Load carried out in Aug 2014
	Total	-1623	**Change in Line 4 PE since AIR15**

The change in PE equates to an increase in load of 35.55 t BOD/yr (i.e. 1623 x 60 for 60g/hd/day /1000/1000 x 365) from AIR15 to AIR16, allowing for rounding up and down and conversions.

Difference between AIR16 and AIR15:

Line 4 for AIR15 -	**634.4**
Line 4 for AIR 16 -	**669.94**
Total Difference -	**35.54**

Line 5 - Total load entering sewerage system

The table below shows the changes in WWTWs since AIR15 that affects load entering the system for Line 5. NB. Change in PE (-Ve AIR16 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Annalong (WWTW)	S00300	223	PE updated with AIR16 Trade Information
Annsborough	S02687	-3	PE updated with AIR16 Trade Information
Antrim (WWTW)	S01422	326	PE updated with AIR16 Trade Information
Ardglass (WWTW)	S00268	-173	PE updated with AIR16 Trade Information
Artigarvan WWTW	S03002	949	Pumpaway to Ballymagorry WwTW
Ballycarry	S00267	362	PE updated with AIR16 Trade Information
Ballycastle WWTW	S01071	-1623	Revised PE following NIEA requirement that Actual PE be based on the Highest 7 Day Average figure.
Ballyclare	S01467	110	PE updated with AIR16 Trade Information
Ballydermot Rd (7-9)	S01792	6	Ballydermot Rd has been abandoned with the WOC revoked as of January 2016
Ballykelly (L/Derry)	S03016	-7	PE updated with AIR16 Trade Information
Ballykinler (WWTW)	S00299	585	Actual PE updated following an On-Site check by APT. Trade PE update for AIR16
Ballymagorry WWTW	S03018	-949	Rationalisation of Artigarvan to Ballymagorry WwTW
Ballymena (WWTW)	S01456	8527	PE updated with AIR16 Trade Information
Ballynahinch (Down)	S00311	155	PE updated with AIR16 Trade Information
Banbridge (WWTW)	S02102	-342	PE updated with AIR16 Trade Information
Belfast (WWTW)	S00345	794	PE updated with AIR16 Trade Information
Bushmills WWTW	S01178	-2	PE updated with AIR16 Trade Information
Carrickfergus (WWTW)	S00261	226	PE updated with AIR16 Trade Information
Castle Archdale WWTW	S03041	849	Castle Archdale has been replaced with a new ICW on new site.
Castle Archdale Country Pk WWTW	S05877	-849	This is a new WWTW for AIR16
Castlederg (WWTW)	S03042	7	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Clady (Tyrone)	S04149	16	PE updated with AIR16 Trade Information
Coalisland	S02828	57	PE updated with AIR16 Trade Information
Comber Rd (102-106)	S00848	4	A population study was carried out for this site and reviewed and adopted for AIR16.
Cookstown (WWTW)	S01582	-99	PE updated with AIR16 Trade Information
Culmore (WWTW)	S03071	-807	PE updated with AIR16 Trade Information
Derryhale	S02570	12	PE updated with AIR16 Trade Information
Donaghmore (WWTW)	S02840	88	PE updated with AIR16 Trade Information
Donemana	S03103	2	PE updated with AIR16 Trade Information
Donnybrewer	S03080	187	PE updated with AIR16 Trade Information
Downpatrick (WWTW)	S00771	15	PE updated with AIR16 Trade Information
Draperstown	S01615	25	PE updated with AIR16 Trade Information
Dromore (Down)	S02127	-2	PE updated with AIR16 Trade Information
Drumconvis Rd 58-62	S05767	-10	This is a newly consented WWTWs for NIW
Dundrod	S00326	27	A population study was carried out for this site and reviewed and adopted for AIR16.
Dungannon	S02850	-17526	PE updated with AIR16 Trade Information
Dungiven	S03101	-14	PE updated with AIR16 Trade Information
Dunmurry	S00346	82	PE updated with AIR16 Trade Information
Enniskillen	S03218	1243	PE updated with AIR16 Trade Information
Fivemiletown (WWTW)	S03113	13	PE updated with AIR16 Trade Information
Glenoe	S01462	-39	A population study was carried out for this site and reviewed and adopted for AIR16.
Glenstall	S01109	595	PE updated with AIR16 Trade Information
Greenisland (WWTW)	S00263	-3271	PE updated with AIR16 Trade Information
Greysteel (WWTW)	S03123	6	PE updated with AIR16 Trade Information
Hilltown (WWTW)	S02701	1	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Keady (Armagh)	S02553	-25	PE updated with AIR16 Trade Information
Kesh (WWTW)	S03140	-3	PE updated with AIR13 Trade Information
Kilkeel (WWTW)	S00313	-12	PE updated with AIR13 Trade Information
Killinchy (WWTW)	S00252	38	PE updated with AIR16 Trade Information
Killygonlan (WWTW)	S02043	6	PE updated with AIR16 Trade Information
Kilrea	S01156	63	PE updated with AIR16 Trade Information
Largy Cottages (1)	S01776	-17	A population study was carried out for this site and reviewed and adopted for AIR16.
Larne (WWTW)	S02044	425	PE updated with AIR16 Trade Information
Limavady (WWTW)	S03162	656	PE updated with AIR16 Trade Information
Lisburn (New Holland)	S00329	803	PE updated with AIR16 Trade Information
Lisnaskea (WWTW)	S03171	-1	PE updated with AIR16 Trade Information
Loughinisland WWTW	S00298	1	A population study was carried out for this site and reviewed and adopted for AIR16.
Maghaberry	S02412	-372	A population study was carried out for this site and reviewed and adopted for AIR16.
Maghera (L/Derry)	S01629	-3	PE updated with AIR16 Trade Information
Magherafelt (WWTW)	S01621	-763	PE updated with AIR16 Trade Information
Mayboy	S01163	-19	A population study was carried out for this site and reviewed and adopted for AIR16
Moneymore (WWTW)	S01589	5	PE updated with AIR16 Trade Information
Moy (WWTW)	S02859	153	PE updated with AIR16 Trade Information
Newcastle (WWTW)	S00303	1	PE updated with AIR16 Trade Information
Newmills WWTW	S02852	-1	PE updated with AIR16 Trade Information
Newry (WWTW)	S02685	-2544	PE updated with AIR16 Trade Information
Newtownbreda (WWTW)	S00342	5529	PE updated with AIR16 Trade Information. A review of F&L was carried out for this site and reviewed and adopted for AIR16.

Name of Works	CAR ID	PE Change	Comments
Newtownbutler WWTW	S03200	-1	PE updated with AIR16 Trade Information
Newtown-Crommelin	S01447	21	A population study was carried out for this site and reviewed and adopted for AIR16.
Newtownstewart (WWTW)	S03202	1	PE updated with AIR16 Trade Information
North Coast (WWTWs)	S04150	718	PE updated with AIR16 Trade Information
Oliver Plunkett Pk	S02284	3	A population study was carried out for this site and reviewed and adopted for AIR16.
Omagh (WWTW)	S03999	2506	PE updated with AIR16 Trade Information
Pomeroy WWTW	S01593	-1	PE updated with AIR16 Trade Information
Roughfort (WWTW)	S01470	-3	PE updated with AIR16 Trade Information
Strabane	S03223	-1424	PE updated with AIR16 Trade Information
Swatragh WWTW	S01637	-12	PE updated with AIR16 Trade Information
Tamnamore WWTW	S02862	18	PE updated with AIR16 Trade Information
Tandragee	S02174	1470	PE updated with AIR16 Trade Information
Trillick WWTW	S03231	-8	
Warrenpoint (WWTW)	S02720	35	PE updated with AIR16 Trade Information
Waterfoot Rd WWTW	S01643	-11	A population study was carried out for this site and reviewed and adopted for AIR16.
Whitehouse	S00265	161	PE updated with AIR16 Trade Information
	Total	-2833	**Change in Line 5 PE since AIR15**

The change in Pe equates to an increase in load of 62.04 t BOD/yr (i.e. 2833 x 60 for 60g/hd/day /1000/1000 x 365) from AIR15 to AIR16, allowing for rounding up and down and conversions.

Difference between AIR16 and AIR15:

Line 5 for AIR15 -	**39929.7**
Line 5 for AIR 16 -	**39991.76**
Total Difference -	**62.06**

Line 6 - Equivalent population served (resident)

The table below shows the changes in WWTWs since AIR15 that affects equivalent population served (resident) for Line 6.

Name of Works	CAR ID	PE Change	Comments

Name of Works	CAR ID	PE Change	Comments
Annalong (WWTW)	S00300	223	PE updated with AIR16 Trade Information
Annsborough	S02687	-3	PE updated with AIR16 Trade Information
Antrim (WWTW)	S01422	326	PE updated with AIR16 Trade Information
Ardglass (WWTW)	S00268	-173	PE updated with AIR16 Trade Information
Artigarvan WWTW	S03002	949	Pumpaway to Ballymagorry WwTW
Ballycarry	S00267	362	PE updated with AIR16 Trade Information
Ballycastle WWTW	S01071	-1623	Revised PE following NIEA requirement that Actual PE be based on the Highest 7 Day Average figure.
Ballyclare	S01467	110	PE updated with AIR16 Trade Information
Ballydermot Rd 7-9	S01792	6	Ballydermot Rd has been abandoned with the WOC revoked as of January 2016
Ballykelly (L/Derry)	S03016	-7	PE updated with AIR17 Trade Information
Ballykinler (WWTW)	S00299	585	Actual PE updated following an On-Site check by APT. Trade PE update for AIR16
Ballymagorry WWTW	S03018	-949	Rationalisation of Artigarvan to Ballymagorry WwTW
Ballymena (WWTW)	S01456	8527	PE updated with AIR16 Trade Information
Ballynahinch (Down)	S00311	155	PE updated with AIR16 Trade Information
Banbridge (WWTW)	S02102	-342	PE updated with AIR16 Trade Information
Belfast (WWTW)	S00345	794	PE updated with AIR16 Trade Information
Bushmills WWTW	S01137	-2	PE updated with AIR16 Trade Information
Carrickfergus (WWTW)	S00261	226	PE updated with AIR16 Trade Information
Castle Archdale WWTW	S03041	35	Castle Archdale has been replaced with new ICW on new site. (35 is resident population)
Castle Archdale Country Pk WWTW	S05877	-35	This is a new WWTW for AIR16 (35 is resident population)
Castlederg (WWTW)	S03042	7	PE updated with AIR16 Trade Information
Clady (Tyrone)	S04149	16	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Coalisland	S02828	57	PE updated with AIR16 Trade Information
Comber Rd 102-106	S00848	4	A population study was carried out for this site and reviewed and adopted for AIR16.
Cookstown (WWTW)	S01582	-99	PE updated with AIR16 Trade Information
Culmore (WWTW)	S03071	-807	PE updated with AIR16 Trade Information
Derryhale	S02570	12	PE updated with AIR16 Trade Information
Donaghmore (WWTW)	S02840	88	PE updated with AIR16 Trade Information
Donemana	S03103	2	PE updated with AIR16 Trade Information
Donnybrewer	S03080	187	PE updated with AIR16 Trade Information
Downpatrick (WWTW)	S00771	15	PE updated with AIR15 Trade Information
Draperstown	S01615	25	PE updated with AIR16 Trade Information
Dromore (Down)	S02127	-2	PE updated with AIR16 Trade Information
Drumconvis Rd 58-61	S05767	-10	This is a newly consented WWTWs for NIW
Dundrod	S00326	27	A population study was carried out for this site and reviewed and adopted for AIR16.
Dundrum	S00297	-54	The change in PE of 54 is attributable to a PE of 54 being incorrectly deducted from the resident population. The resident population in AIR15 was reported as 1620 whilst it should have been 1674.
Dungannon	S02850	-17526	PE updated with AIR16 Trade Information
Dungiven	S03101	-14	PE updated with AIR16 Trade Information
Dunmurry	S00346	82	PE updated with AIR16 Trade Information
Enniskillen	S03218	1243	PE updated with AIR16 Trade Information
Fivemiletown (WWTW)	S03113	13	PE updated with AIR16 Trade Information
Glenoe	S01462	-39	A population study was carried out for this site and reviewed and adopted for AIR16.

Name of Works	CAR ID	PE Change	Comments
Glenstall	S01109	595	PE updated with AIR16 Trade Information
Greenisland (WWTW)	S00263	-3271	PE updated with AIR16 Trade Information
Greysteel (WWTW)	S03123	6	PE updated with AIR16 Trade Information
Hilltown (WWTW)	S02701	1	PE updated with AIR16 Trade Information
Keady (Armagh)	S02553	-25	PE updated with AIR16 Trade Information
Kesh (WWTW)	S03140	-3	PE updated with AIR65 Trade Information
Kilkeel (WWTW)	S00313	-12	PE updated with AIR16 Trade Information
Killinchy (WWTW)	S00252	38	PE updated with AIR16 Trade Information
Killygonlan (WWTW)	S02043	6	PE updated with AIR16 Trade Information
Kilrea	S01156	63	PE updated with AIR16 Trade Information
Largy Cottages (1)	S01776	-17	A population study was carried out for this site and reviewed and adopted for AIR16.
Larne (WWTW)	S02044	203	Although there was a real decrease in trade PE from AIR15 to AIR16 from 569 to 144, a deduction of 222PE had been incorrectly made to the resident PE in AIR15. The AIR15 resident PE had been reported as 23274, whilst it should have been 23496.
Limavady (WWTW)	S03162	656	PE updated with AIR16 Trade Information
Lisburn (New Holland)	S00329	803	PE updated with AIR16 Trade Information
Lisnaskea (WWTW)	S03171	-1	PE updated with AIR16 Trade Information
Loughinisland WWTW	S00298	1	A population study was carried out for this site and reviewed and adopted for AIR16.
Maghaberry	S02412	-372	A population study was carried out for this site and reviewed and adopted for AIR16.
Maghera (L/Derry)	S01629	-3	PE updated with AIR16 Trade Information
Magherafelt (WWTW)	S01621	-763	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Mayboy	S01163	-19	A population study was carried out for this site and reviewed and adopted for AIR16
Moneymore (WWTW)	S01589	5	PE updated with AIR16 Trade Information
Moy (WWTW)	S02859	153	PE updated with AIR16 Trade Information
Newcastle (WWTW)	S00303	1	PE updated with AIR16 Trade Information
Newmills WWTW	S02852	-1	PE updated with AIR16 Trade Information
Newry (WWTW)	S02685	-2544	PE updated with AIR16 Trade Information
Newtownbreda (WWTW)	S00342	5529	PE updated with AIR16 Trade Information. A review of F&L was carried out for this site and reviewed and adopted for AIR16.
Newtownbutler WWTW	S03200	-1	PE updated with AIR16 Trade Information
Newtown-Crommelin	S01447	21	A population study was carried out for this site and reviewed and adopted for AIR16.
Newtownstewart (WWTW)	S03202	1	PE updated with AIR16 Trade Information
North Coast (WWTWs)	S04150	718	PE updated with AIR16 Trade Information
Oliver Plunkett Pk	S02284	3	A population study was carried out for this site and reviewed and adopted for AIR16.
Omagh (WWTW)	S03999	2506	PE updated with AIR16 Trade Information
Pomeroy WWTW	S01593	-1	PE updated with AIR16 Trade Information
Roughfort (WWTW)	S01470	-3	PE updated with AIR16 Trade Information
Strabane	S03223	-1424	PE updated with AIR16 Trade Information
Swatragh WWTW	S01637	-12	PE updated with AIR16 Trade Information
Tamnamore WWTW	S02862	18	PE updated with AIR16 Trade Information
Tandragee	S02174	1470	PE updated with AIR16 Trade Information
Trillick WWTW	S03231	-8	PE updated with AIR16 Trade Information
Warrenpoint (WWTW)	S02720	35	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Waterfoot Rd WWTW	S01643	-11	A population study was carried out for this site and reviewed and adopted for AIR16.
Whitehouse	S00265	161	PE updated with AIR16 Trade Information
	Total	-3107	**Change in Line 6 PE since AIR15**

NB. Change in PE (-Ve AIR16 PE Higher); Difference between totals is due to rounding.

Difference between AIR16 and AIR15:

Line 6 for AIR15 -	**1789680**
Line 6 for AIR 16 -	**1792790**
Total Difference -	**3110**

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 AIR15 that affects equivalent population served (resident) with numerical consents for Line 7. NB. Change in PE (-Ve AIR16 PE Higher)

Name of Works	CAR ID	PE Change	Comments
Annsborough	S02687	-3	PE updated with AIR16 Trade Information
Antrim (WWTW)	S01422	326	PE updated with AIR16 Trade Information
Ardglass (WWTW)	S00268	-173	PE updated with AIR16 Trade Information
Artigarvan WWTW	S03002	949	PE updated with AIR16 Trade Information
Ballycarry	S00267	362	PE updated with AIR16 Trade Information
Ballycastle WWTW	S01071	-1623	Revised PE following NIEA requirement that Actual PE be based on the Highest 7 Day Average figure.
Ballyclare	S01467	110	PE updated with AIR16 Trade Information
Ballykelly (L/Derry)	S03016	-7	PE updated with AIR16 Trade Information
Ballymagorry	S03108	-949	Pumpaway of Artigarvan WwTW flows.
Ballymena (WWTW)	S01456	8527	PE updated with AIR16 Trade Information
Ballynahinch (Down)	S00311	155	PE updated with AIR16 Trade Information
Banbridge (WWTW)	S02102	-342	PE updated with AIR16 Trade Information
Belfast (WWTW)	S00345	794	PE updated with AIR16 Trade Information
Bushmills WWTW	S01178	-2	PE updated with AIR16 Trade Information
Carrickfergus (WWTW)	S00261	226	PE updated with AIR16 Trade Information
Castle Archdale WWTW	S03041	849	Castle Archdale has been replaced with new ICW on new site.
Castle Archdale Country Pk WWTW	S05877	-849	This is a new WWTW for AIR16
Castlederg (WWTW)	S03042	7	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Clady (Tyrone)	S04149	16	PE updated with AIR16 Trade Information
Coalisland	S02828	57	PE updated with AIR16 Trade Information
Cookstown (WWTW)	S01582	-99	PE updated with AIR16 Trade Information
Culmore (WWTW)	S03071	-807	PE updated with AIR16 Trade Information
Derryhale	S02570	12	PE updated with AIR16 Trade Information
Donaghmore (WWTW)	S02840	88	PE updated with AIR16 Trade Information
Donemana	S03103	2	PE updated with AIR16 Trade Information
Donnybrewer	S03080	187	PE updated with AIR16 Trade Information
Downpatrick (WWTW)	S00771	15	PE updated with AIR16 Trade Information
Draperstown	S01615	25	PE updated with AIR16 Trade Information
Dromore (Down)	S02127	-2	PE updated with AIR16 Trade Information
Dundrum	S00297	-54	The change in PE of 54 is attributable to a PE of 54 being incorrectly deducted from the resident population. The resident population in AIR15 was reported as 1620 whilst it should have been 1674.
Dungannon	S02850	-17526	PE updated with AIR16 Trade Information
Dungiven	S03101	-14	PE updated with AIR16 Trade Information
Dunmurry	S00346	82	PE updated with AIR16 Trade Information
Enniskillen	S03218	1243	PE updated with AIR16 Trade Information
Fivemiletown (WWTW)	S03113	13	PE updated with AIR16 Trade Information
Glenstall	S01109	595	PE updated with AIR16 Trade Information
Greenisland (WWTW)	S00263	-3271	PE updated with AIR16 Trade Information
Hilltown (WWTW)	S02701	1	PE updated with AIR15 Trade Information
Keady (Armagh)	S02553	-25	PE updated with AIR16 Trade Information
Kesh (WWTW)	S03140	-3	PE updated with AIR16 Trade Information
Kilkeel (WWTW)	S00313	-12	PE updated with AIR16 Trade Information
Killinchy (WWTW)	S00252	38	PE updated with AIR16 Trade Information
Killygonlan (WWTW)	S02043	6	PE updated with AIR16 Trade Information
Kilrea	S01156	63	PE updated with AIR16 Trade Information
Larne (WWTW)	S02044	203	Although there was a real decrease in trade PE from AIR15 to AIR16 from 569 to 144, a deduction of 222PE had been incorrectly made to the resident PE in AIR15. The AIR15 resident PE had been reported as 23274, whilst it should have been 23496.
Limavady (WWTW)	S03162	656	PE updated with AIR16 Trade Information
Lisburn (New Holland)	S00329	803	PE updated with AIR16 Trade Information
Lisnaskea (WWTW)	S03171	-1	PE updated with AIR16 Trade Information

Name of Works	CAR ID	PE Change	Comments
Magheraberry	S02412	-372	A population study was carried out for this site and reviewed and adopted for AIR16.
Maghera (L/Derry)	S01629	-3	PE updated with AIR16 Trade Information
Magherafelt (WWTW)	S01621	-763	PE updated with AIR16 Trade Information
Moneymore (WWTW)	S01589	5	PE updated with AIR16 Trade Information
Moy (WWTW)	S02859	153	PE updated with AIR16 Trade Information
Newcastle (WWTW)	S00303	1	PE updated with AIR16 Trade Information
Newmills WWTW	S02852	-1	PE updated with AIR16 Trade Information
Newry (WWTW)	S02685	-2544	PE updated with AIR16 Trade Information
Newtownbreda (WWTW)	S00342	5529	PE updated with AIR16 Trade Information. A review of F&L was carried out for this site and reviewed and adopted for AIR16.
Newtownbutler WWTW	S03200	-1	PE updated with AIR16 Trade Information
Newtownstewart (WWTW)	S03202	1	PE updated with AIR16 Trade Information
North Coast (WWTWs)	S04150	718	PE updated with AIR16 Trade Information
Omagh (WWTW)	S03999	2506	PE updated with AIR16 Trade Information
Pomeroy WWTW	S01593	-1	PE updated with AIR16 Trade Information
Roughfort (WWTW)	S01470	-3	PE updated with AIR16 Trade Information
Strabane	S03223	-1424	PE updated with AIR16 Trade Information
Swatragh WWTW	S01637	-12	PE updated with AIR16 Trade Information
Tamnamore WWTW	S02862	18	PE updated with AIR16 Trade Information
Tandragee	S02174	1470	PE updated with AIR16 Trade Information
Trillick WWTW	S03231	-8	PE updated with AIR16 Trade Information
Warrenpoint (WWTW)	S02720	35	PE updated with AIR16 Trade Information
Whitehouse	S00265	161	PE updated with AIR16 Trade Information
	Total	-3887	**Change in Line 7 PE since AIR15**

Difference between AIR16 and AIR15:

Line 7 for AIR15 -	**1,727,759**
Line 7 for AIR 16 -	**1,731,646**
Total Difference -	**3,887**

Line 8 - Number of sewage treatment works

The number of WWTWs of 1015, on this line differs from the total of 1024 as shown in Table 17c, as the former does not include the screened outfalls (2 No.) and the unscreened outfalls (7 No.), as per the definition for this line.

The table below shows the changes in numbers of WWTWs since AIR15 for Line 8.

Name of Works	CAR ID	Change in Nr of STWs	Comments
Artigarvan WWTW	S03002	Removed	Pumpaway to Ballymagorry WwTW
Ballydermot Rd (7-9)	S01792	Removed	Ballydermot Rd has been abandoned with the WOC revoked as of January 2016
Castle Archdale WWTW	S03041	Removed	Castle Archdale has been replaced with new ICW on new site.
Castle Archdale Country Pk WWTW	S05877	Added	This is a new WWTW for AIR16
Drumconvis Rd 58-62	S05767	Added	This is a newly consented WWTW for NIW
		Net Reduction	**-1**

Difference between AIR16 and AIR15:

Line 8 for AIR15 -	**1,016**
Line 8 for AIR 16 -	**1,015**
Total Difference -	**1**

Line 9 – Treatment capacity available

The table below shows the changes in Treatment Capacity Available at WWTWs since AIR15 for Line 9. NB. Change in PE (-Ve AIR16 PE Higher).

Name of Works	CAR ID	PE Change	Comments
Artigarvan WWTW	S03002	866	Pumpaway to Ballymagorry WwTW
Ballydermot Rd (7-9)	S01792	6	Ballydermot Rd has been abandoned with the WOC revoked as of January 2016
Cappagh WWTW	S02857	-50	This WWTWs was upgraded for AIR16
Castle Archdale WWTW	S03041	1000	Castle Archdale has been replaced with new ICW on new site.
Castle Archdale Country Pk WWTW	S05877	-849	This is a new WWTW for AIR16
Curglasson	S01566	77	This WWTWs was upgraded for AIR16
Drumconvis Rd 58-62	S05767	-10	This is a newly consented WWTW for NIW
	Total	1040	**Change in Line 9 PE since AIR15**

The change in PE equates to an increase in load of –0.06 t BOD/day (i.e. 1040 x 60 for 60g/hd/day /1000/1000) from AIR15 to AIR16.

Difference between AIR16 and AIR15:

Line 9 for AIR15 -	**134.18**
Line 9 for AIR 16 -	**134.12**
Total Difference -	**0.06**

Confidence Grade

The confidence grade for line 8 remains as A2 (as for AIR15). 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 699 WWTWs (excluding tourist PE) are listed as having a PE of less than 100.

Line 2 - 7 – Sewage loads

PPP Only

Line 2 - Total load receiving secondary treatment

The total loads receiving secondary treatment have changed to reflect the load discharged from the NI Water sewer network to the PPP works.

Line 5 - Total load entering sewerage system

The information has been separated out of the 'NIW Only' figure for the PPP related catchments and recorded in this cell to readily consider PPP Catchments to PPP Treatment Works. This information was not provided by the PPP Contractors as they do not operate these catchments.

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.

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.

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 (reported on Worksheet 1). 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 on Worksheet 2.

For the purpose of AIR 16 submission Table 15 (NIW Only) relates to sewage sludge produced for 2015/16 (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 on Worksheet 4 for the period of 2015/16.

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 (reported on Worksheet 1). 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 on Worksheet 2 and subsequently combined for the Total T15 submission. This data is also submitted through PPP reporting in T42

NIW is aware of the variance between NIW cake figure and that of the NIW contractor. NIW has used the contractor figure due to perceived greater accuracy i.e. measured at end disposal point.

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 97.8 % of sewage sludge to PPP during 2015/16 (Worksheets 1 & 2), 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 on Worksheet 4 and disposed to landfill in 2015/16 (Worksheet 2).

PPP only

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 in sludge produced data reflect the loads delivered to the PPP contractor from 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	AIR16	AIR15	AIR14	AIR13	AIR12	AIR11	AIR10
Armagh WWTW	0.535	0.579	0.547	0.535	0.570	0.759	0.840
Richhill WWTW	0.071	0.063	0.071	0.065	0.066	0.213	0.210
Ballynacor WWTW	1.564	2.269	2.007	2.069	3.330	2.468	2.290
Ballyrickard WWTW	1.064	1.337	1.126	1.158	1.225	1.627	1.717
NDA WWTW	1.818	1.633	1.920	1.628	1.559	1.753	1.654
Kinnegar WWTW	0.501	0.668	0.643	0.726	0.823	0.792	0.700
Omega Screenings and Grit	0.083	0.083	0.088	0.106			
Kinnegar Screenings and Grit	0.049	0.057	0.047	0.022			
Totals	5.685	6.689	6.449	6.309	7.573	7.612	7.411

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 AIR15 the Omega Contractor reported a disposal of 39.3 ttds sludge disposed of. This year (AIR16) the reported figure is 38.6ttds [38.591ttds].

The variance of 0.7ttds 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 STWs.
(iv) Reporting of Screenings and Grit, and modification to accuracy where possible.

Specific Commentary Requirements:

- Assumptions Made:
  - 60g/h/d as per NIAUR requirements
  - Skips weights (Screenings and Grit) are recorded in wet tonnes. An assumption of 30% 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 AIR16 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. 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 10-15.

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 AIR15 the PPP Contractors reported a disposal of 39.3 ttds sludge disposed of. This year (AIR16) the reported figure is 38.6 ttds.

In AIR15 the Company disposed of 0.9 ttds relating to grit/screenings sludge. This year (AIR16) the reported figure is 0.8 ttds.

In total, AIR15 reported 40.2 ttds of sludge disposed of by all parties. In this reporting year (AIR16) the figure is 39.4 ttds [39.393.67ttds].

The variance of 0.8 ttds 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) Additional sludges derived for PPP Contractor grit and screenings, providing a further potential for variance.

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										
2	Total length of "critical" sewers	km	2	3,656.86	C3	3,716.68	C3	3,732.98	C3	3,760.85	C3										
B	**CHANGES DURING REPORT YEAR**																				
3	New "critical" sewers	km	2	33.50	C3	24.68	C3	19.54	C3	36.44	C3										
4	"Critical" sewers - inspection by CCTV/man entry	km	2	51.79	C4	48.98	C4	35.98	C4	71.62	C4										
5	"Critical" sewers - renovated	km	2	1.41	B2	0.99	B2	1.87	B2	1.26	B2										
6	"Critical" sewers - replaced	km	2	1.04	B2	3.32	B2	5.09	B2	5.32	B2										
7	Abandoned "critical" sewers and other changes	km	2	0.00	B2	1.48	B2	0.50	B2	0.00	B2										
8	New "non-critical" sewers	km	2	145.40	C3	172.22	C3	130.22	C3	110.60	C3										
9	"Non-critical" sewers - renovated	km	2	2.31	B2	2.93	B2	1.95	B2	2.71	B2										
10	"Non-critical" sewers - replaced	km	2	19.29	B2	18.08	B2	11.89	B2	7.80	B2										
11	Abandoned "non-critical" sewers and other changes	km	2	0	B2	0.36	B2	0.6	B2	0.11	B2										
11a	Total length of sewers replaced or renovated	km	2	24.05		25.32	B2	20.80	B2	17.09	B2										
12	Sewer collapses per 1,000km	nr	1	73.6	B3	72.678	B3	85.7	B3	78.5	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										
13a	Number of sewer blockage clearance which exceeds 6 hours	nr	0	1,250	B3	1,104	A2	2,640	B4	4199	A2										
13b	Number of sewer blockage clearance which exceeds 12 hours	nr	0	849	B3	645	A2	1,832	B4	3273	A2										
13c	Number of sewer blockage clearance which exceeds 24 hours	nr	0	444	B3	203	A2	276	B4	555	A2										
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	Total length of "critical" sewers	km	2	3,716.68	C3	3,732.98	C3	3,760.85	C3	3,839.64	C3										
D	**INTERMITTENT DISCHARGES**																				
16a	Number of unsatisfactory intermittent discharges excluding CSOs (NIEA)	nr	0	197	C2	190	C2	159	C2	151	C2										
16b	Number of unsatisfactory intermittent discharges CSOs (NIEA)	nr	0	318	C2	312	C2	288	C2	270	C2										
17a	Number of intermittent discharges excluding CSOs	nr	0	1,675	B3	1,732	B3	1,751	B3	1,760	B3										
17b	Number of CSOs	nr	0	779	B3	802	B3	802	B3	800	B3										
E	**DRAINAGE AREA PLANS**																				
18	Cumulative number of drainage area plans completed	nr	0	71	A1	71	A1	58	A1	58	A1										
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										
20	Total sewerage drainage areas	nr	0	256	A2	254	A2	251	A2	250	A2										
21	Cumulative % drainage area plan studies completed	%	1	27.7	A2	28.0	A2	23.1	A2	23.2	A2										
22	% population/properties covered by completed studies	%	1	53.3	B3	53.2	B3	50.7	B3	50.4	B3										
F	**SEWAGE TREATMENT COMPLIANCE MEASURES**																				
23	% WwTW discharges compliant with numeric consents	%	1	93.1		91.8	A1	92.17	A1	92.6	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										
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										
25	Small WwTW compliance (works greater than or equal to 20 p.e. but less than 250 p.e.)	%	2							80.72	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										
27	Delivery of improvements to nominated WWTWs part of a defined programme of work	nr	0	12	B3	17	A2	16	A2	3	A2										
28	Small WwTWs delivered as part of the rural wastewater investment programme	nr	0	14		7	A2	18	A2	4	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										
30	WwTWs upgraded to comply with PPC Regulations	nr	0							0	A1										
31	Impermeable surface water collection area removed from the combined sewerage network	m2	0							28,560	B2										
32	Number of sustainable WwTW solutions delivered (p.e≥ 250)	nr	0							1	A1										
33	Number of sustainable WwTW solutions delivered (p.e. < 250)	nr	0							0	A1										

Table 16 - Sewerage Service Activities (NI Water only WWTW)

Line 1 – Total length of sewers at 1 April

This value has been extracted from line 14 of the AIR15 Table 16.

Line 2 – Total length of 'critical' sewers at 1 April

This value has been extracted from line 15 of the AIR15 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	EP	DS	CSD	Total(km)
3	New "critical" sewers	2.69	33.75	0	36.44
5	"Critical" sewers - renovated	0.868	n/a	0.392	1.26
6	"Critical" sewers - replaced	5.315	n/a	0	5.315
7	Abandoned "critical" sewers and other changes	0	n/a	0	0
8	New "non-critical" sewers	9.056	101.54	0	110.60
9	"Non-critical" sewers - renovated	0.527	n/a	2.185	2.712
10	"Non-critical" sewers - replaced	7.798	n/a	0	7.798
11	Abandoned "non-critical" sewers and other changes	0.11	n/a	0	0.11
11a	Total length of sewers replaced or renovated				17.085

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 140.07 km in AIR15 to 147.04km.

The critical sewer lengths have been calculated using the same methodology as AIR15.The confidence grade is unchanged at C3.

Line 4 - 'Critical' sewers – inspection by CCTV/man entry

Line	Description	EP	In-house	Contractor	Total(km)
4	'Critical sewers'- inspection by CCTV/man entry	34.49	34.91	2.25	71.62

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 (17.085km) is lower than the AIR 15 figure of 20.80 km.
Confidence grades remain unchanged at B2.

Lines 7 and 11 - sewers abandoned

These lines had a return of 0.11 km which is lower from the AIR15 figure of 1.10 km.

Progress against PC15 Business Plan Year 1 Outputs

The renewal of sewers (renovation or replacement) is represented in the PC15 Business Plan as a target output. The target was 11 km for the year 2015/16. The amount achieved – 17.085 km.

Lines 12-13c – Sewer collapses and blockages

General

As result of further refinement at NIW's request the contractor now, (end of March 2015), accurately records on their invoices what section within the sewer the blockage occurred (e.g. main, lateral or private). NIW are now in a good position for AIR16 to report on whether collapses or blockages have occurred in a private lateral, public lateral or public main sewer.

NIW are now more proactive in their approach to repeat blockages, as part of their annual performance objectives all the Field Managers (FM) had been tasked to make a 5% reduction in the number of blocked sewers and the AIR return figure is evidence of this success rate. This reduction in blockage numbers is being achieved by NIW Customer Field Managers (CFM) using the resource of designated field technicians who are carrying out CCTV investigations on sewers which have repeat blockage complaints any faults found are remedied thus reducing the number of repeat incidents.

NIW now run a monthly report in Ellipse which confirms the length of time a sewer blockage job took to be completed. WWBU now collate a list of all the work order numbers on the blockage drafts which are not "full rate" blockage clearance jobs and these jobs are excluded from the above mentioned Ellipse data. Due to the fact that the Ellipse system calculates 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 are investigated as all follow-on jobs are included in the time the work request is open. These jobs are then reported in the correct category according to the length of time the blockage job actually took to be completed.

Line 12 - Sewer collapses per 1,000 km

Due to the method of gathering the data on sewer collapses the regulatory instructions for calculating figures for Table 16 Line 12 and Table 46 Lines 32 and 33 must be reversed and is detailed below:

- 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 2016 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.

Line 13 - Sewer Blockages per 1,000 Km

Due to the method of gathering the data on sewer collapses, the regulatory instructions for calculating figures for Table 16 Line 13 and Table 46 Line 36 must be reversed and is detailed below:

- The number of sewer blockages is divided by the total length of sewers at 31 March 2016 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

NIW now run a monthly report in Ellipse which confirms the length of time a sewer blockage job took to be completed. WWBU now collate a list of all the work order numbers on the blockage drafts which are not "full rate" blockage clearance jobs and these jobs are excluded from the above mentioned Ellipse data. Due to the fact that the Ellipse system calculates 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 are investigated as all follow-on jobs are included in the time the work request is open. These jobs are then reported in the correct category according to the length of time the blockage job actually took.

Confidence Grading – Lines 12, 13, 13a, 13b & 13c

Because NIW are using data from checked and paid invoices (B2) and total length of sewers (B3), the confidence grade for the AIR16 L12 & L13 is B3. NIW expects this to consolidate as we move forward as report building continues with the single Sewer Maintenance Contractor.

Because NIW are using an Ellipse report (minus work orders that are not full rate blockage clearance jobs), to gather the information for Lines 13, 13b & 13c and this is being manually confirmed, these lines have been given a confidence grade of A2 for AIR16.

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.

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. As the result of the analysis is still estimation the confidence grade of C3 will remain in place.

Lines 17a and 17b - Sewerage System Intermittent Discharges

Table A - Differences between the sewerage system overflows in AIR15 and AIR16

Intermittent Discharges	APT Preliminary AIR15 Number	Final AIR15 Number*	APT Preliminary AIR16 Number	Difference	Total Nr of assets to be removed**	Final AIR16 Number*
Combined Storm Overflows	844	802	842	-2	42	800
Waste Water Pumping Stations	1104	1102	1106	+2	2	1104
Total Nr of Intermittent Discharges	1948	1904	1948	0	44	1904

***after removal of Dual, Duplicates and Bifurcation Assets**
****Dual, Duplicates and Bifurcation**

Hence for AIR16 the total number of Sewerage System Overflows is 800 plus 1104 i.e. 1904.

From the APT data used there has been a decrease in CSOs since AIR15 (i.e. 844 to 842).

There has been a net increase of 2 WWPS overflows since AIR15 (i.e. 1104 to 1106). This is made up of 2 new WWPSs overflows.

Preliminary net decrease of 2 CSOs overflows since AIR15
Preliminary net increase of 2 WWPS overflows since AIR15

Preliminary total increase / decrease of 0 overflows since AIR15 (i.e. 1948 to 1948).

(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 1948. 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 0 Preliminary overflows since AIR15

Plus:	1948 Preliminary overflows identified in AIR15
Sub Total:	1948 sewerage system overflows
Minus:	44 Overflows not included in the finalised number for AIR16
Total:	1904 sewerage system overflows identified for AIR16

An exercise has been ongoing over the AIR 10,11,12,13, 14 & 15 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.

As reported in AIR 15, the consultants employed to carry out this work submitted their final conclusions in December 2010. The final conclusions detailed assets that are currently consented, that do not have overflows as well as assets which have overflows and are currently unconsented. However 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 and currently Network Sewage Business Unit has confirmed the information for a total of 134 catchments (8 in AIR 11 + 36 in AIR 12 + 38 in AIR 13 + 44 in AIR 14 + 8 in AIR 16). This updated information has been included on GIS and submitted to NIEA with changes included in the AIR16 figures.

Table B – APT Preliminary changes in intermittent discharges by drainage area for AIR16

Drainage Area	No of CSOs added since AIR15	No of CSOs removed since AIR15	No of WWPS added since AIR15	No of WWPS removed since AIR15	Comments
Newcastle DA	1	4	0	0	CSO Added: CO000984438 CSOs Removed: CO000984439 CO000984440 CO002852919 CO002852892
Annahugh DA	0	0	1	0	WWPS Added: SP003246736
Greysteel DA	0	0	1	0	WWPS Added:
Enniskillen	1	0	0	0	CSO
Total Number of intermittent discharges added or removed since AIR15	2	4	2	0	
Net decrease in CSOs since AIR15	2				
Net Increase in WWPSs since AIR15			2		

Table C – AIC Preliminary changes in Intermittent discharges by drainage area for AIR16

Drainage Area	No of CSOs added since AIR15	No of CSOs removed since AIR15	No of WWPS added since AIR15	No of WWPS removed since AIR15	Comments
N/A	0	0	0	0	**No Updates from AIC for AIR16**
AIC Net Increase in CSOs since AIR15	**0**				
AIC Net Increase in WWPSs since AIR15			**0**		

Table D – Combined Totals of APT & AIC Preliminary changes in Intermittent discharges by drainage area for AIR16

	No of CSOs added since AIR15	No of CSOs removed since AIR15	No of WWPS added since AIR15	No of WWPS removed since AIR15
Preliminary APT number of intermittent discharges added or withdrawn since AIR15	2	-4	2	0
Preliminary AIC number of intermittent discharges added or withdrawn since AIR15	0	0	0	0
Subtotals	0	-4	2	0
Preliminary net increase or decrease in WWPS & CSOs since AIR16	-2		+2	
Preliminary total increase in sewage system overflows for AIR16	0			

Table E - Dual Manholes not included in the finalised number for AIR16

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
Ballynacor	NM001230688		Y	
Ballynacor	NM001231583		Y	
Ballynacor	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 AIR16				**29**

Table F - Bifurcation Manholes not included in the finalised number for AIR16

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 AIR16				**4**

Table G - Duplicate Assets not included in the finalised number for AIR16

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	Tullagharley Transfer WWPS FA Overflow	Y	1
Whitehouse	CO002966311	John Street	Y	6
Whitehouse	CO002987846		Y	
Whitehouse	CO002914133		Y	
Whitehouse	CO002988722		Y	
Whitehouse	CO002987839		Y	

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
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 Manholes not included in the finalised number for AIR16				**11**

Overflows from within WWTWs

Table H - Total number of Overflows within WWTW

	AIR15 Number	AIR16 Number
Total number of Overflows from within WWTW	649	654

Hence for AIR16 the total number of overflows within WWTW is 654

The overall number of WWTW overflows from AIR15 to AIR16 has had a net increase of 5 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 AIR16 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 AIR15 are as follows:

- 2 Overflows within WWTW withdrawn since AIR15. (See Table I & J below)
- 7Additional overflows within WWTW since AIR15. (See Table M below)

Hence a net increase of 5 overflows since AIR15.

Table I - Overflows within WWTW withdrawn since AIR15 due to works becoming a pump away in AIR16

NAME of Works	Site ID	Status in AIR16	Withdrawn O/Fs Since AIR15
Artigarvan (WWTW)	S03002	Artigarvan WwTW is now a pumpaway to Ballymagorry WwTW - 1no. FFT O/Fs with Storm Retention removed & 1no. Pumping Station E/O removed	-2
Total Number of overflows withdrawn since AIR15 due to the WWTWs becoming a pump away			**-2**

Table J - Overflows within WWTW withdrawn since AIR15 due to works being upgraded

NAME of Works	Site ID	Status in AIR16	Changes to Overflows for AIR16	Withdrawn O/Fs Since AIR15
Not Applicable for AIR16			0	0
Total Number of overflows withdrawn since AIR15 due to the works being upgraded				**0**

Table K – Withdrawn Overflows within WWTWs due to incorrect designation in AIR16

NAME of Works	Site ID	Status in AIR16	Withdrawn O/Fs Since AIR15
Ardglass WWTW	S0268	Removal of 1no. FFT O/F	-1
Donaghmore WWTW	S02840	Removal of 1no. FFT O/Fs (which also act as PS E/O)	-1
Total of Withdrawn Overflows due to incorrect designation in AIR16			**--2**

Table L– Summary of the total number of Overflows withdrawn since AIR15

Total of overflows withdrawn since AIR15 due to the works becoming a pump away	-2
Total of overflows withdrawn since AIR15 due to the works being upgraded	0
Total of Withdrawn Overflows due to incorrect designation in AIR15	-2
Combined Total Number of overflows within WWTW withdrawn since AIR15	**-4**

Table M - Additional overflows within WWTW since AIR15 due to WWTW upgrades

NAME of Works	Site ID	Status in AIR16	Changes to Overflows for AIR16	Additional O/Fs Since AIR15
Curglasson WwTW	S01566	Works upgraded	1 additional FFT O/F after storm storage	1
Cappagh WwTW	S02857	Works upgraded	1 additional FFT O/F after storm storage	1
Donaghmore WWTW	S02840	Works Upgraded	1 additional FA O/F & 1 additional PS EO to reflect WOC application	2
Ballymagorry WWTW	S03018	Works Upgraded	1 additional FA O/F to reflect WOC application	1
Magheramason WWTW	S03177	Works Upgraded	1 additional FA O/F to reflect WOC application	1
Nixons Corner	S03203	Works Upgraded	1 additional FA O/F which also acts as PS EO to reflect WOC application	1
Total Number of additional overflows since AIR15 due to WWTW being upgraded				**7**

Table N - Additional overflows within WWTW due to incorrect designation in AIR15

NAME of Works	CAR ID	Status in AIR16	Changes in Overflows for AIR16 from Process Info	Additional O/Fs Since AIR154
Ardglass WWTW	S00268	Wrongly designated O/Fs changed for AIR16	1 additional FFT O/F with Storm Retention added to reflect new WOC application	1
Donaghmore WwTW	S02840	Wrongly designated O/Fs changed for AIR16	1 additional FFT O/F with Storm Retention to reflect new WOC application.	1
Totals Number of additional overflows within WWTW due to incorrect designation in AIR15				**2**

Table O – Summary of additional overflows within WWTW since AIR15

Total Number of additional overflows since AIR15 due to works being upgraded	7
Totals Number of additional overflows within WWTWs due to incorrect designation in AIR15	2
Combined Total: of Additional overflows within WWTWs since AIR15	**9**

For AIR16, 2 overflows have been withdrawn (see Table K) and 2 additional overflows (see Table N) due to incorrect designation in AIR15 have now been included. This equates to no change being applied to the overall number of overflows due to incorrect designation in AIR16.

Table P – Summary of Overflow type within WWTW

Overflow Type	AIR15 Overflows from WWTW	AIR15 Overflows listed for comparison purposes with AIR15	AIR16 Overflows from WWTW	AIR16 Overflows listed for comparison purposes with AIR15	Difference between AIR15 & AIR16
Formula "A" O/Fs only	168	195	171 (addition of overflows wrt : Donaghmore, Ballymagorry, Magheramason)	199	4
Formula "A" O/Fs (which also act as PS E/O)	18		19 – (addition of overflow wrt : Nixons Corner)		
Formula "A" O/Fs with Storm (which also act as PS E/O)	9		9		
FFT O/Fs only	101	328	100 – (deduction of overflow wrt : Ardglass)	329	1
FFT O/Fs (which also act as PS E/O)	17		16 – (deduction of overflow wrt : Donaghmore)		
FFT O/Fs with Storm Retention	200		203 –(addition of overflows wrt : Curglasson, Cappagh, Ardglass & Donaghmore and deduction of overflow wrt : Artigarvan		
FFT O/Fs with Storm Retention (which also act as PS E/O	10		10		
3 DWF	15	15	15	15	0
Additional Overflows-storm	6	111	6	111	0
Additional Overflows-other structures	6		6		
Additional Overflows-pumping station E/O	99		99 – (deduction of overflow wrt : 1 Artigarvan & Addition of overflow wrt: :Donaghmore		
Total No of WWTWs Overflows	**649**	**649**	**654**	**654**	**5**

Since AIR15 the Asset Performance Team has continued to review their WWTW overflow summary information from Water Order Consent (WOC) applications, which provides a sound check to information sourced from elsewhere.

Comparison between AIR15& AIR16 – CSOs in the Sewerage System

The number of CSOs in the sewerage system has decreased since AIR15 i.e. (802 in AIR15 – 800 in AIR16). The final reported number is 800, 842 minus 42 Dual, Duplicates and Bifurcation assets which are not reported upon.

This improved figure in CSOs is due to on-going improvements in our data capturing process. When the process has been rectified, there will be a significant improvement in data quality, GIS network data, and the addition of CSOs which had previously been unidentified or unconsented.

Lines 18- 22 - Drainage Area Plans

Background

NI Water had a programme of Drainage Area Studies which commenced in 1995. The programme related 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.

Each Drainage Area Study has used the full investigation procedure set out in the Sewerage Rehabilitation Manual, 4th Edition (WRc), including a CCTV survey targeted at surveying all critical sewers within the network.

More recently, networks with less than 5000 population have been subject to a scoping-study which seeks to identify the needs within the network, and allows a decision to be made as to whether a full DAS is justified.

It has been NI Water practice to review each Study on a 5-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

Following studies are being carried out for Model Build and Verification:

- Blackcave
- Limavady

The studies below have achieved completion of the first stage - Model Build and Verification – of a study and second stage – Needs and Options are in process.

- Newtownbreda
- Whitehouse
- Carrickfergus
- Larne
- Ballyclare
- Omagh
- Ballyrickard
- Cookstown

Specification

NI Water's DAS specification is the "NI Water Risk Based Drainage Area Plan Document".

PC 15

To date, the principal driver for DAPs in Northern Ireland has been the need to develop UID solutions. The PC15 capital plan includes very limited funding for additional UID projects. There is therefore a risk that DAPs produced at present will not achieve funding for implementation and will therefore inform the PC21 business plan.

DRAINAGE AREA STUDY PROGRAMMESTATUS AT APRIL 2016

CATEGORY A – Drainage Area Studies Completed Since 2003

Initial DAS	Catchment	Domestic population	DAP date
	Magheralin	2163	Jul-05
	Tandragee	5512	Jun-05
	Waringstown	5388	Jun-05
	Draperstown	2256	Jun-06
	Maghera	4492	Jun-06
	Moneymore	1833	Jun-06
	Greyabbey	1079	Feb-06
	Kircubbin	1347	Feb-06
	Portaferry	2870	Feb-06
	Ballyhalbert	1511	Aug-06
	Ballywalter	2197	Aug-06
	Cloughey	1194	Aug-06
	Portavogie	2624	Aug-06
	Castledawson	792	Nov-06
	Magherafelt	10,952	Nov-06
	Portglenone	2819	Oct-06
	Castlewellan	3570	Oct-06
	Dromore	6084	Nov-06
	Maghaberry	2163	Nov-06
	Donaghadee	6470	Mar-06
	Millisle	2331	Mar-06
	Whitehead	3862	Mar-06
	Newcastle	9577	Dec-05
	Annalong	2430	Jun-06
	Dundrum	1936	Jul-06
	Kilkeel	6807	Jul-06
	Downpatrick	11,974	Sep-05
	Ardglass	1874	Oct-06
	Upper Falls	27683	Apr-09
	Bushmills	2015	Apr-09
	Portballintrae	1785	Apr-09
	Ballyrickard (Newtownards)	39165	Nov-08

	REVISITED DAS		
	Catchment	**Domestic population**	**DAP date**
	East Belfast	100,000	Feb-10
	Greencastle	8500	Apr-10
	Lisburn	40,769	Oct-09
	Ballymoney (Glenstall)	12894	Oct-04
	Seahill	2831	Apr-06
	Dunmurry	35,856	Nov-03
	Hillsborough	3284	Aug-03
	Ballyclare	14,612	Jul-04
	Coleraine	22,730	Nov-06
	Moira	4342	Apr-03
	Lurgan	26512	Apr-03
	Rathfriland	2724	Nov-03
	Bessbrook	3000	Feb-04
	Richhill	2927	Feb-04
	Limavady	13,869	Sep-03
	Strabane	15,463	Sep-03
	Londonderry	75529	Nov-06
	Carrickfergus	28,170	Aug-03
	Randalstown	5734	Mar-08
	Antrim	31983	Mar-08
	Ballycastle	10,592	Jun-05
	Portadown	30,154	Nov-06
	Craigavon	16,281	Nov-06
	Armagh	17,568	Apr-09
	Warrenpoint	6000	Apr-09
	Bangor	59813	Oct-10
CATEGORY A POPULATION		**770892**	

Category B - Catchments Subject to Completed Scoping Studies

	Catchment	**Domestic population**	
	Annahilt	1550	
	Saintfield	3852	
	Crossgar	1892	
	Ballykelly	2091	
	Dungiven	3624	
	Eglinton (Donnybrewer)	4130	
	Greysteel	1977	
	Ballygowan	3029	
	Killyleagh	3276	
	Fintona	1858	
	Fivemiletown	1569	

	Catchment	Domestic population	
	Irvinestown	2240	
	Lisnaskea	4029	
CATEGORY B POPULATION		**34634**	

CATEGORY C - DAS STAGE 1 COMPLETE

Initial DAS	Catchment	Domestic population	
	Coalisland	6576	
	Gilford	2028	
	Markethill	2276	
	Castlederg	3561	
	Newbuildings	4500	
	Newtownstewart	1748	
	Sion Mills	3118	
	Castlerock	1883	
	Bellaghy	1261	
	Garvagh	2159	
	Kilrea	1785	
	Ballycarry	1280	
	Ballystrudder	1026	
	Crossmaglen	2235	
	Dungannon	15,486	
	Keady	3339	
	Glenavy	1434	
	Ballynahinch	6052	
	Newtownbreda	31,785	
	Ballykelly	3662	
	Dungiven	4744	
	Cushendall	4006	
	REVISITED DAS		
	Ballymena	43,620	
	Omagh	22,784	
	Cookstown	12,724	
	Whitehouse	66,885	
	Larne	21749	
	Carrickfergus	28170	
	Ballyclare	14612	

CATEGORY D – DAS YET TO COMMENCE

	Catchment	Domestic population	
NONE			

CATEGORY E - DASs Requiring a Revisit

	Catchment	Domestic population	
	Crumlin	4260	
	Holywood	12000	
	Belfast	239,457	
	Greenisland	8275	

The above domestic PEs have been updated where possible from the 'Master List of AIR12' spreadsheet.

Lines 23 – 25 and Line 30 - 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 2015 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 16

1. For AIR 16 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 Asset Management Section (Performance Team – Above Ground) for the AIR 14 Return. These same PE's were also used to calculate the number of audit samples required per site for the 2015 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 16 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 used in AIR15	PE Supplied by Asset Management	Threshold Being Crossed
Ballymena	113,825	74,879	100,000
Dunmurry	53,605	46,458	50,000
Dromore (Tyrone)	2032	1917	2,000
Dundrum	2613	1674	2,000

The 2012 sample scheduling PE data, which was agreed with NIEA in November 2011, has been applied to 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.

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.

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, Board and CSDD/MT) 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 16 Calculation Spreadsheet

No. of NI Water Only WWTW's = 230
No. of failing NI Water Only works = 17
No. of passing NI Water Only works = 213

213/230 x 100 = 92.61%
Reported to one decimal place = **92.6%**

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 16 Calculation Spreadsheet

PE of failing NI Water Only works = 44823
Total PE of NI Water Only works = 1819373
PE of passing NI Water Only works = 1774550

1774550 / 1819373 x 100 = 97.54
Reported to one decimal place = **97.5%**

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 16 Calculation Spreadsheet

PE of failing NI Water Only works (Exc UT) = 31113
Total PE of NI Water Only works = 1819373
PE of passing NI Water Only works = 1788260

1788260 / 1819373 x 100 = 98.29
Reported to one decimal place = **98.3%**

The data reported in this table was new for AIR15. 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 (pe). 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 27 of these profiled for delivery in 2015/16. 7 of these PC15 FD nominated outputs profiled for 2015/16 were delivered between 01 April 2015 and 31 March 2016. An additional UID which was profiled in the PC15 FD for delivery in a later year (but still within the PC15 timeframe) was also delivered between 01 April 2015 and 31 March 2016.

It is important to note however that NI Water delivered 14 PC13 UIDs in 2015/16 which had originally been profiled for 2014/15.

A further 4 additional UIDs were identified and delivered during 2015/16: these were not included in the PC15 FD and were not PC13 carry-over.
26 UIDs in total were delivered during 2015/16.

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 – it is considered that once these improvements have been in place for a full year, an improvement in the confidence will be possible. For 2015/16, the confidence grades for this line was determined using the reporting guidance and assessed as A2 – based on sound, time specific data captured relevant to each individual UID.

UIDs Delivered during the first year of PC15 – AIR16 Period

Catchment	UID Address	FD Ref.	Project ID	Comments	Operational Date
Armagh WWTW	Scotch Street CSO. 2	UID001	KF330	Closed	25/03/2016
Armagh WWTW	Scotch Street. CSO 1	UID002	KF330	Closed	25/03/2016
Armagh WWTW	Courthouse 1 CSO	UID003	KF330	Closed	30/11/2015
Armagh WWTW	Mall West CSO	UID173	KF330	Closed	23/03/2016
Armagh WWTW	Alexender Road CSO	UID175	KF330	Closed	13/11/2015
Culmore WWTW	Caw Park CSO23	UID114	KL468	6mm Screen	21/03/2016
Culmore WWTW	Gransha Park No2 WWPS	UID380	KL468	6mm Screen	22/03/2016
Culmore WWTW	Upper Galliagh Road WWPS	UID274	KL504	Upgrade of pumps, 6mm screen on overflow.	31/03/2016
Culmore WWTW	Fairview Knockalla CSO	UID433	KL504	Closed	21/03/2016
Culmore WWTW	Glen Road CSO	UID275	KL504	100m of 375mm new storm sewer. Close CSO.	24/04/2015
Downpatrick WWTW	Market St CSO	UID044	KS372	New WWPS/Storm Tank, and 600m of 280mm pumping main to Russells Park WWPS also 1.5km of 710mm storm pumping main to River Quoile.	18/02/2016
North Down WWTW	Killaire WWPS 1	UID177	KS872	6mm screen	31/03/2016
Annalong WWTW	Halfway House CSO 01	UID266	KS903	Upgrade of CSO and 6mm Screen to be fitted	21/03/2016
Annalong WWTW	Marine Park CSO 02	UID267	KS903	Upgrade of CSO and 6mm Screen	21/03/2016
Newcastle WWTW	Pattons Bridge (Blackrock WWPS)	UID259	KS939	Upgrade of CSO with 6mm Screen	24/03/2016
North Down WWTW	Avonlea Park CSO 6	UID185	KS958	Closed	31/03/2016

Catchment	UID Address	FD Ref.	Project ID	Comments	Operational Date
North Down WWTW	Rosemary Crescent / Inglewood Pk CSO 5	UID186	KS958	Closed	31/03/2016
North Down WWTW	Clandeboye Road CSO 5B	UID187	KS958	Closed	31/03/2016
New Holland WWTW	Bow Street CSO 26	UID227	KT391	Pipe Upsizing	22/03/2016
New Holland WWTW	Hilden PS CSO 13A	UID068	KT391	Upgrade CSO chamber and install 6mm screens also upsize pipework	15/10/2015
New Holland WWTW	Laws Yard CSO 14	UID074	KT391	Weir adjustment and 6mm Screens	30/10/2015
New Holland WWTW	Hoggs Weir CSO 04	UID422	KT391	6mm Screen	30/10/2015
New Holland WWTW	Antrim Road CSO 24 + flooding	UID226	KT391	Upgrade CSO chamber and install 6mm screens also upsize pipework	30/10/2015
New Holland WWTW	Grand Street Screen CSO 28	UID229	KT391	Upgrade CSO chamber and install 6mm screens	20/11/2015
New Holland WWTW	Edgewater WWPS	UID421	KT391	Upgrade	04/09/2015
New Holland WWTW	Clonevin Park CSO 10	UID224	KT391	Pipe Upsizing	09/09/2015

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 2015 and 31 March 2016. UWWTW MCERT compliance was a PC15 output. Artigarvin and Castle Archdale were PC13 outputs which have been included in the count for 2015/16 – this will be addressed through Change Control. Annacloy, part of the Kilmore scheme was a PC15 site profiled for delivery in 2015/16 which was delivered in PC13.

Blackrock had been profiled for delivery in 2015/16 but land/ planning issues have delayed completion.

Confidence grades

NI Water has maintained improvements to the reporting process and the cross checking process for this line which were implemented during the AIR14 submission. Improvements in the management of Beneficial Use dates were implemented in January 2016 – it is considered that once these improvements have been in place for a full year, an improvement in the confidence will be possible. For 2015/16, the confidence grades for this line was determined using the reporting guidance and assessed as A2 – based on sound, time specific data captured relevant to each individual WwTW.

WwTWs Delivered during the first year of PC15 – AIR16 Period

Project Name	Project Code	Beneficial Use Date
UWWTW MCERT compliance	KI508	25/03/2016
Artigarvin WwTW	KL493	31/03/2016
Castle Archdale WwTW	KN656	21/03/2016

Line 28 - Investment in improvements to small wastewater treatment works as part of the Rural Wastewater Investment Programme

Four small wastewater treatment works achieved Beneficial Use during 2015/16. Details of the actual works and year delivered are listed below.

CAR Site Reference	Project title	Year claimed
S05877	Straid	2015/16
S03002	Curglasson	2015/16
S01455	Cappagh	2015/16
S01566	Dunmullan	2015/16

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 30 – WWTW's upgraded to comply with PPC Regulations

A new compliance measure has been introduced for AIR16 for Wastewater Treatment Works upgraded to comply with PPC Regulations. There are currently 29 qualifying works reported for this measure.

Improvement works have been carried out a number of sites under the PC15 Year 1 Base Maintenance Programme, as identified in the table above. 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 has set out their priorities for completion of odour modelling. This requires 24 odour modelling assessments to be undertaken, with 5 sites being assessed by NIEA as not requiring odour modelling.

Upon completion of the odour modelling, NI Water and NIEA will be in a position to assess each site 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, all 29 sites are assessed as non-compliant at this stage.

For the 5 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.

NI Water Odour Modelling Requirements:
2016/2017 and beyond

WwTW * priority sites # import sites	Odour Modelling Action Required	Priority	PC15 Year 1 Base Maintenance Complete
Dungannon (Moygashel) *#	Odour Modelling Required	1	
New Holland Plant 1 & 2 *#	Odour Modelling Required	1	Yes
Carrickfergus *	Odour Modelling Required	1	Yes
Whitehouse *	Odour Modelling Required	1	Yes
Culmore Unit 1&2 #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	Yes
Ballymena (Tullygarley) #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	Yes
Antrim #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	Yes
Dunmurry Old & New OCU #	Odour Modelling Required due to imports, potential age of sludge and odour generation. Needed also to include the new OCU. However, odour abatement should be improved and there are no odour issues reported.	2	
Cookstown #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	
Glenstall 1& 2 (Ballymoney) #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	Yes
Limavady #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	Yes
Downpatrick #	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2	Yes
Newcastle	Odour modelling required but there are no imports. However, in close proximity to sensitive receptors	3	Yes
Ballyclare	Odour modelling of new plant required, but there are no imports.	3	Yes
Greenisland	Odour modelling required but there are no imports and a small throughput	3	
Banbridge	Odour modelling required but there are no imports.	3	
Larne	Odour modelling required but there are no imports.	3	Yes
Enniskillen	Odour Modelling required to include the OCU, but there are no imports.	3	
Tandragee	Odour modelling required but there are no imports.	3	
North Coast	Odour modelling of new plant required, but there are no imports.	3	Yes
Magherafelt	Odour modelling required but there are no imports and a small throughput	3	
Omagh	Odour modelling required but there are no imports.	3	Yes
Waringstown	Odour modelling required but there are no imports and a small throughput	3	
Sion Mills	Odour modelling required but there are no imports and a small throughput	3	Yes
Newry A1 & A2 #	1.5ou extend beyond the boundary slightly but **Acceptable**	N/A	
Strabane A1, A2, A3 #	1.5ou extend beyond the boundary slightly but **Acceptable**	N/A	Yes
Newtownbreda	1.5ou extend beyond the boundary slightly but **Acceptable**	N/A	
Dromore	>1.5ou extend beyond the boundary slightly but NIEA previously accepted that no OCU was required	N/A	
Lisnaskea	Odour Monitoring accepted by NIEA. However, NI Water to check that odour levels are not causing increased complaints	N/A	

Odour Modelling Required in 2015/2016 Financial Year - 1st priority
Odour Modelling to be prioritised and completed 2016 onwards - 2nd priority
Odour Modelling to be prioritised and completed after the orange rated sites - 3rd priority
Odour Modelling Not Required

Improvement works has been carried out a number of works under the PC15 Year 1 Base Maintenance Programme and these have been detailed in the table above.

Line 32 - Number of sustainable WwTW solutions delivered (p.e. ≥ 250)

1 WwTW sustainable solution with a P.E. greater than 250 was delivered in 2015/16.
Castle Archdale is an Integrated Constructed Wetland (ICW) with a maximum PE of 849.

Line 33 - Number of sustainable WwTW solutions delivered (p.e. < 250)

Based on the guidance provided in the Annual Information Return Reporting Requirements and Definitions Manual for this line, no WwTW sustainable solutions with a P.E. less than 250 were delivered in 2015/16.

APPENDIX 1

Table 3 – Permitted Exceedances

No of Samples	Permitted Exceedances
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5

APPENDIX 2

NORMAL OPERATING CONDITIONS UNUSUAL SITUATIONS AND NORMAL LOCAL CLIMATIC CONDITIONS

1. THE REGULATIONS' TERMINOLOGY

1.1 The term "normal operating conditions" is used in paragraph 4(b) of Part II of Schedule 3; the phrase "unusual situations such as those due to heavy rain" is used in paragraph 5 of Part II of Schedule 3; "normal local climatic conditions" are referred to in regulation 4(4)(a).

2. INTERPRETATION

2.1 In order to assist in interpreting the weather conditions that might be considered to be abnormal or unusual; a definition of exceptional weather conditions is given below, together with an example of what might be considered to be other kinds of abnormal or unusual operating conditions.

2.2 The abnormal conditions set out below include capital works construction and periods of industrial action. Both are being considered by the Regulatory Committee, along with other possible exceptions suggested by other Member States. An amendment to this guidance note will be issued in the light of any guidance from the Regulatory Committee.

2.3 Definitions

2.3.1 For the purpose of this *registered standard / consent* the works shall be deemed to have been under 'normal operating conditions' except during a period when the following apply:

a. 'Unusual weather conditions' which shall include the following:

i) low ambient temperature as evidenced by effluent temperature of 5^{o}C or less, or by the freezing of mechanical equipment in the works;

ii) significant snow deposits;

iii) fluvial flooding;

iv) weather conditions causing unforeseen loss of power to the works which could not be ameliorated by the reasonable provision and operation of standby generator facilities.

b. A reduction in the level of treatment due to periods of industrial action or acts of vandalism that could not have been reasonably prevented.

c. When the Regulator has issued a variation of the registered standard for reasons such as construction of capital works.

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																	1,500	C3
2	Annual average non-resident population	000	1																	29	C3
3	Volume of sewage collected (daily average)	Ml/d	1																	243	B3
4	Total connected properties	nr	0																	678,743	A2
5	Area of Sewerage District	km^2	0																	13,520	B2
B	**SEWERAGE DATA**																				
6	Total length of sewer	km	0																	15,625	B3
C	**Costs**																				
7	Sewerage: Direct Costs	£000	0																	14,646	
8	Sewerage: Power Costs	£000	0																	[redacted]	
9	Sewerage: Service Charges	£000	0																	148	
10	Sewerage: General & Support Expenditure	£000	0																	[redacted]	
11	Sewerage: Functional Expenditure	£000	0																	[redacted]	

Table 17a Sewerage Explanatory Factors- Sewerage Sub-Area 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 AIR16: Table 13: Line 10, the total connected population (comprising resident and non-resident population) is 1,529.734 x 10^3
- According to AIR16: Table 17a: Line 2, the annual average non-resident population is 29.351 x 10^3
- By calculation, the annual average resident connected population = 1,529.734 x 10^3 - 29.351 x 10^3 = **1,500.384 x 10^3**

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

AIR14	CG	AIR15	CG	AIR16	CG
1,486.9 x 10^3	C3	1,494.3 x 10^3	C3	**1,500.4 x 10^3**	**C3**

The estimated annual average resident sewerage connected population has increased from 1,494.3 x 10^3 in AIR15 to 1,500.4 x 10^3 in AIR16, an increase of 6.0 x 10^3 (0.40%).

Confidence Grade

There are two figures associated with the calculation of AIR16: Table 17a: Line 1: Column 9. The first figure is derived from AIR16: Table 13: Line 10 and was allocated a confidence grade of B3. The second figure is derived from AIR16: 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)

AIR14	CG	AIR15	CG	AIR16	CG
28.0 x 10^3	C3	27.4 x 10^3	C3	**29.4 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

Each year, NI Water reviews all of the latest tourism publications and adopts a methodology which best utilises the information available at the time. Last year, the Company used the NISRA publication *'Northern Ireland Annual Tourism Statistics 2014*

Additional Tables' which listed the estimated annual number of non-resident visitor nights in 2014 and removed the need to estimate this figure using available data for the last quarter of 2013 and the first three quarters of 2014.

This year, because the 2015 annual tourism statistics are not due to be published until 26 May 2016, the Company has reverted to its AIR14 methodology by making use of the NISRA publication *'Northern Ireland Tourism Statistics October 2013 to September 2015 Additional Tables'* which lists the estimated number of non-resident visitor nights for the period October 2014 to September 2015.

For the purposes of calculating the non-resident winter visitor nights, the methodology is still based on the assumption that there is a relationship between the occupancy of hotels and guesthouses/B&Bs and visitor nights.

Last year, the Company recalculated the AIR14 outturn using updated data for overseas plus RoI tourists combined for the entire twelve-month period of 2013 and confirmed a change from 28.0 x 10^3 to 27.2 x 10^3 (3.1%). Next year, it will be necessary to recalculate the AIR16 outturn when updated data becomes available for the entire twelve-month period of 2015.

Statement detailing estimation method used including date of data on which estimate is made

The following statistic was derived from Table 1.4 of the NISRA publication *'Northern Ireland Tourism Statistics October 2013 – September 2015 Additional Tables'*, available as a download from the DETNI website.

	Date Range	Overall Nights
All Visitors (exc. NI Residents)	Oct 14 – Sep 15	**10,695,413**

This year, the outturn for Line 20 has been calculated ahead of the publication of annual tourism statistics for 2015 *(due to be published on 26 May 2016)*. As such, it has been necessary to estimate the annual number of outside NI visitor nights in 2015. Taking available data for the period October 2014 to September 2015, the number of outside NI visitor nights was found to be 10,695,413 and the number of bed-spaces sold for all hotel, guesthouse and B&B establishments was found to be 3,728,267. Based on the assumption that there is a direct relationship between visitor nights and bed-spaces sold, amounting to 2.87 visitor nights for every bed-space sold, the number of outside NI visitor nights in 2015 was estimated as follows:

Bed-spaces sold (Jan 15 to Dec 15) = 3,734,376
Estimated outside NI visitor nights in 2015 = 3,734,376 x 2.87 = 10,712,941

The annual average non-resident population was estimated as follows:
10,712,941 / 365 nights = **29,351**

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

The estimated annual average non-resident sewerage population has increased from 27.4 x 10^3 in AIR15 to 29.4 x 10^3 in AIR16, an increase of 1.9 x 10^3 (7.0%).

According to the 'Hospitality Review NI' website, Northern Ireland's tourism performance was strong in the first eight months of the year and hotel bed-spaces sold were the highest recorded for the period from January to August.

Confidence Grade

The annual average non-resident population is an estimate based on several sources of information:

1. The NISRA publication '*Hotel, Guesthouse, Bed and Breakfast and Guest Accommodation Occupancy Statistics 2011-2015*' provides 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 October 2013 – September 2015 Additional Tables'* provides only an estimate of the annual number 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.

Line 3 – Volume of Sewerage Collected

This figure has been copied from AIR16 Table 14 Line 7 – Volume Waste Water Returned.

Line 4 – Total Connected Properties

Northern Ireland Water's (NIW) property data is provided via a data download of the property database tables held within the RapidXtra billing system. The data is then manipulated within Microsoft SQL to produce the Rapid Property Summary Report.

In AIR12 we introduced an automated tool to populate the figure for Table 17a Line 4. (Rapid Property Summary as the input) Our methodology for AIR16 has remained consistent. Further details are in Appendix A.

The difference between the AIR15 and the AIR16 figures is circa 7900. This can be explained by the following;

1. New Connections during the 2015/16 reporting year.
2. Added as a result of a customer contact. E.g. septic tank empty request, no water complaint, blocked sewer etc. Within this category there are 2 scenarios:
    - The adding of properties NI Water allegedly didn't know about and the adding of duplicates as the customers address couldn't be found on Rapid. For example, 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. Another scenario - The street name may have changed from the time of New Connection to that of customer contact – street names can change in the early stages of site development.
    - The work on data validation has commenced, with new validations 'live' as a result of Phase 1 & 2 implementation, further validations will be implemented in Phase 3 & 3a during 2016/17 & 2017/18.
3. Removal of duplicates/properties as a result of data quality initiatives

4. The increased number of properties within the no water/well water category (further detail provided within the Table 13 Commentary)

In addition to the above, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout.

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 2016. Work is on-going, through the Cost to Serve Project. Cost to Serve is not fully implemented and therefore could not be used for AIR16. 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 decreased by circa £0.6M from AIR15.

The main reason for this was that there was a major review of NI Water capitalisation policy during 15/16. A change in policy resulted in increased capitalisation of assets and networks costs to the value of £597k.

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 £0.6M from AIR15 due to extreme wet weather conditions which resulted in increased usage of power at the waste water treatment works during 2015.

Line 9 – Services Charges

The figure for Service Charges agrees to Table 22, line 7 column 1. The service charges for sewerage remain similar to previous years and they are in the region of £0.2M.

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 increased by almost £0.5M from AIR 15.

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. £0.3m since AIR 15. The combination of higher power costs has been offset by lower direct costs as a result of a change in capitalisation policy. The overall increase is mainly attributable to increased general and support as explained above.

Annex A

Line 4 - Total Connected Properties

Total properties connected for sewerage services (including voids) at year end.

This figure is taken from the AIR16 Rapid Property Summary, as attached.

Rapid Property Summary - Mar 2016

Total Gross Sewerage Properties	End March 2016
Household - Unmeasured	605023
Household - Sewerage Only	6
Household – Measured - Not Charged (test meters)	266
Household - Measured	32172
Household – Site Meters	625
Household - Unmeasured - Not Charged	17
Non-Household - Unmeasured	13942
Non-Household – Sewerage only	18
Non-Household - Measured	26674
Total	**678743**

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
1	Works Name				Belfast		Culmore		Ballymena		Whitehouse		North Coast		Newry		Lisburn		Antrim		Dunmurry		Omagh		Dungannon		Newtownbreda		Carrickfergus	
A	**WORKS SIZE**																													
2	Population equivalent of total load received	000	0	1,170	364	C5	131	C5	70	C5	88	C5	77	C5	62	C5	70	C5	66	C5	46	C5	34	C5	95	C5	34	C5	33	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
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
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
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		
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		
C	**TREATMENT CATEGORY**																													
8	Classification of Treatment Works				TA2		SAS		TA2		TA2		SAS		SAS		TA2		TA2		TA2		TA2		TA2		TA2		TA2	
D	**COSTS**																													
9	Direct cost	£000	0	6,947	2,797		359		415		330		295		447		469		332		293		250		390		289		280	
10	Power costs	£000	0	4,623	2,396		214		243		203		154		218		253		167		144		99		264		134		134	
11	Service Charges	£000	0	180	29		13		8		8		11		15		18		11		12		15		12		13		14	
12	General and support expenditure	£000	0	2,795	457		196		122		128		177		235		275		178		190		231		187		202		216	
13	Functional expenditure	£000	0	9,742	3,255		555		537		458		472		682		745		509		483		481		577		492		496	
14	Estimated terminal pumping costs	£000	0	0	0		0		0		0		0		0		0		0		0		0		0		0		0	
15	Estimated sludge costs	£000	0	0	0		0		0		0		0		0		0		0		0		0		0		0		0	

Table 17b – Sewerage Explanatory Factors (NIW only)
Sewage Treatment Works – Large Works Information Database

Lines 1 - 8 - Works Size, Effluent Consent Standards and Category

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 AIR16 are:

LIMS Code	LIMS Name	Confirmed PE	AIR15 Band	BOD WOC	BOD UWWTR
S34AG	Carrickfergus WWTW	32676	Band 6	30	25
S34AK	Belfast WWTW	364383	Band 6	30	25
S37AB	Dunmurry WWTW	46243	Band 6	10	25
S37AA	Lisburn (New Holland) WWTW	69644	Band 6	10	25
S34AD	Newtownbreda WWTW	34490	Band 6	15	25
S34AE	Whitehouse WWTW	87918	Band 6	30	25
S15AO	Antrim (Milltown) WWTW	65902	Band 6	10	25
S13BE	Ballymena (Tullaghgarley) WWTW	69915	Band 6	15	25
S25AC	Dungannon (Moygashel) WWTW	94502	Band 6	25	25
S27AC	Newry WWTW	62199	Band 6	30	25
S45IB	Omagh WWTW	33667	Band 6	30	25
S43CI	Culmore WWTW	131455	Band 6	30	25
S17HF	North Coast WWTW	76714	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	AIR 14 Band
S36AA	Downpatrick	17524	Band 5
S34AH	Greenisland	12870	Band 5
S36BB	Kilkeel	12750	Band 5
S36BO	Newcastle	16235	Band 5

LIMS Code	LIMS Name	Confirmed PE	AIR 14 Band
S15BS	Larne	23106	Band 5
S17ED	Ballycastle	12797	Band 5
S15AA	Ballyclare	16466	Band 5
S17BP	Ballymoney	20966	Band 5
S13CH	Cookstown	19771	Band 5
S13GK	Magherafelt	16809	Band 5
S27AA	Banbridge	22753	Band 5
S25AB	Coalisland	10074	Band 5
S27AN	Tandragee	12715	Band 5
S27AD	Warrenpoint	14859	Band 5
S47HK	Enniskillen	24735	Band 5
S43GI	Limavady	16373	Band 5
S45JA	Strabane	21553	Band 5

Costs

This table was populated in the same way as AIR15. 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 31st March 2016. 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 AIR16 there are 13 works that fall into Band 6 whereas in AIR15 there were 14. Enniskillen was included in Band 6 in AIR15 whereas in AIR16 it is included in Band 6.

Direct costs have increased by approx. £0.8M from AIR15. This is mainly due to the severe wet weather conditions that NI experienced in 15/16. The amount of rainfall was extreme and this had a major impact on the quantity of waste water that had to be processed through the works.

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 increased in AIR15 by £0.8M which was due to the extreme amount of rain that fell as explained above in direct costs.

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 48:52 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 AIR14 was 45:55 for the Belfast and Incinerators. No costs for the Incinerator have been included in this table in AIR16.

Line 11 – Service Charges

Service Charges in AIR16 remain consistent with AIR15.

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 £0.4m since AIR15. 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 increased since AIR15 by £0.8M mainly due to the additional power costs incurred in 15/16 as explained above.

Line 14 – Terminal Pumping Costs

This information was populated in the same way as AIR15. 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										TOTAL
				PRIMARY	SECONDARY		TERTIARY				SEA OUTFALLS			
					ACTIVATED	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	
A	SMALL WORKS													
1	Number of STWs in size band 1	nr	0	236	23	514	0	0	2	2	0	0	6	783
2	Number of STWs in size band 2	nr	0	0	5	31	3	2	7	7	1	1	0	57
3	Number of STWs in size band 3	nr	0	1	14	47	7	12	15	7	1	0	1	105
4	Number of STWs in size band 4	nr	0	1	14	7	1	15	2	5	3	1	0	49
5	Number of STWs in size band 5	nr	0	0	4	0	2	9	0	1	1	0	0	17
B	LARGE WORKS													
6	Number of STWs in size band 6	nr	0	0	3	0	0	10	0	0	0	0	0	13
7	Total numbers of STWs	nr	0	238	63	599	13	48	26	22	6	2	7	1,024
C	SMALL WORKS WITH AMMONIA CONSENTS													
8	Number of small STWs with NH_3 consent (5 - 10mg	nr	0	45										
9	Number of small STWs with NH_3 consent (< = 5mg	nr	0	61										

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	0	1	0	1	4	0	0	0	0	0	6

C	**SMALL WORKS WITH AMMONIA CONSENTS**			
8	Number of small STWs with NH3 consent (5 - 10m	nr	0	0
9	Number of small STWs with NH3 consent (< = 5mg	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										TOTAL
					SECONDARY		TERTIARY				SEA OUTFALLS			
				PRIMARY	ACTIVATED	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED	
A	**SMALL WORKS**													
1	Number of STWs in size band 1	nr	0	236	23	514	0	0	2	2	0	0	6	783
2	Number of STWs in size band 2	nr	0	0	5	31	3	2	7	7	1	1	0	57
3	Number of STWs in size band 3	nr	0	1	14	47	7	12	15	7	1	0	1	105
4	Number of STWs in size band 4	nr	0	1	14	7	2	15	2	5	3	1	0	50
5	Number of STWs in size band 5	nr	0	0	4	0	2	10	0	1	1	0	0	18
B	**LARGE WORKS**													
6	Number of STWs in size band 6	nr	0	0	4	0	0	13	0	0	0	0	0	17
7	Total numbers of STWs	nr	0	238	64	599	14	52	26	22	6	2	7	1,030
C	**SMALL WORKS WITH AMMONIA CONSENTS**													
8	Number of small STWs with NH3 consent (5 - 10m	nr	0	45										
9	Number of small STWs with NH3 consent (< = 5mg	nr	0	63										

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 85 WWTWs (which were live during AIR16) have been updated.

Changes regarding WWTWs from the AIR15 period are as follows:

- 1 WWTWs has been rationalised and pumped away to larger WWTWs in last financial year – i.e. Artigarvan WWTWs pumped to Ballymagorry WWTWs
- 1 WWTWs (Castle Archdale Country Park WWTWs) has been commissioned and the old one decommissioned (Castle Archdale WWTWs) – i.e. this was a replacement of an existing WWTW with a new WWTW on a new site.
- 4 WWTWS had 'turn of flow' under the RWwIP project (including an upgrade to Straid, Curglasson and Cappagh WWTWs and refurbishment to Dunmullan WWTWs)
- 1 previously private WWTW (Drumconvis Rd 58-62) has been adopted by NIW
- 1 WWTW (Ballydermot Rd 7-9) has been abandoned with the WOC revoked

The above results in a net reduction of 1 WWTWs from AIR15 reporting, with 1024 WWTW live on 31st March 2016.

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)

It should be noted that the bandings of b, c, d and e above are slightly different from those listed in the NIAUR Chapter 17c guidance, to ensure no duplication of works which may have 250, 500, 2000 or 10,000 PE.

Large works

f. Size band 6> 1500kg BOD5/day (population equivalent: > 25,000)

The total number of WWTWs in Table 17c line 7 is the total of all works in this table i.e. 1,024 including the screened outfalls (2 No.) and the unscreened outfalls (7 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 NIAUR 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 AIR16 is 13 No WWTWs.

It should be noted that the AIR16 PEs, used to populate tables 17c and 17d, were forwarded to others within the organisation that 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 AIR16 comparison between the two figures.

Total Residential Population used to Calculate Table 17c for AIR16	1,245,882
Total Population connected to the sewerage system based on Table 13 Line 10	1,529,734
Difference	**283,852**

As can be seen there is a difference of 283,852. 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 AIR16 Trade pe. The non-residential aspect of these pe have been subtracted from the overall AIR16 PPP pe (based on the reported AIR16 PPP BOD Load and divided by 60g/head/day).

Name of WWTWs	Equivalent Population (From PPP Section)	Non-Residential pe held against PPP Catchments*	Residential Population**
North Down WWTW	66533	9430	57103
Armagh WWTW	17683	8100	9583
Richhill WWTW	2683	244	2439
Newtownards (Ballyrickard)	41766	17113	24653
Ballynacor WWTW	119267	48964	70303
Kinnegar	78466	32517	45949
Total	**326398**	**116368**	**210030**

* Includes Non-Residential, Trade, Schools, Large Water Consumers, Caravan Parks
** Based on PPP Equivalent Population. Includes Residential Homes

As can be seen the residential population for the PPP sites is now approximated to be 210030. If this is added to the 17c figure (1,245,882) then the total is 1455912 which is 73822 less than the figure held in Table 13. However the Table 13 Line 10 residential figure includes nursing homes and tourist population. Nursing homes are included in the Trade PE so if this element (6562) and the AIR16 tourist population for both NIW sites (33,318 pe) and PPP sites (1,964) are included this gives a revised figure of 1497756 which is 31978 pe less than the figure held in Table 13, approximately 2.1%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 AIR11 Reporter's Report stated '***The Asset Performance team collates all information into the central spreadsheet from which Band Size for each WwTW can be assessed and any changes highlighted. The size banding of each works is added manually. For AIR12, we consider this process should be automated, for the***

avoidance of any misrepresentation.' Hence NIW has incorporated a means within the central spreadsheet to automate this process.

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 699, and
- the number of WWTWs with a PE greater than 100 but less than or equal to 250 (excluding tourist PE) is 84.

The table below highlights the changes in band sizes from AIR15 to AIR16

Name of Works	CAR ID	AIR15 Band Sizes	AIR16 Band Sizes	Comment
Artigarvan WwTW	S03002	Band 3	N/A	Pumpaway to Ballymagorry WwTW
Ballycarry (WWTW)	S00267	Band 4	Band 3	A change in the Trade Effluent policy has resulted in a trader no longer being charged. The removal of the trade element has resulted in the band change.
Ballydermot Rd (7-9)	S01792	Band 1	N/A	Ballydermot Rd has been abandoned with the WOC revoked
Ballykinler WwTW	S00299	Band 4	Band 3	PE amended following FOI request to MOD and population study being carried out.
Castle Archdale Country Pk WwTW	S05877	N/A	Band 1	This is a newly commissioned WWTW for AIR16
Castle Archdale WWTW	S03041	Band 1	N/A	Castle Archdale has been replaced with new ICW on a new site.
Donaghmore WwTW	S02840	Band 4	Band 3	PE updated with AIR16 Trade Information
Drumconvis Rd 58-62 WWTW	S05767	N/A	Band 1	This is a newly adopted/consented WWTW for NIW
Enniskillen	S03218	Band 6	Band 5	PE updated with AIR16 Trade Information
Greenisland WwTW	S03218	Band 4	Band 5	PE updated with AIR16 Trade Information

It should be highlighted that for AIR14 NIW re-assessed the treatment categories for a number of sites. This followed a query from NIW with OFWAT as to the definition of what constitutes a tight consent. At this time it was confirmed that that a company is given a tight consent if it has a Suspended Solids consent of less than or equal to 30mg/l AND a

BOD of less than or equal to 20mg/l. Also a company is given a tight consent if its ammonia consent is less than or equal to 5mg/l.

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 physic-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 physic-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 physic-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 AIR16. In line with the AIR15 Reporter's Recommendation No 33 (Table 17c S7) NI Water will monitor the possible impact of this interpretation of tertiary treatment in future reporting.

The table below highlights the changes in treatment category from AIR15 to AIR16.

Name of Works	CAR ID	AIR15 Treatment Category	AIR16 Treatment Category	Comment
Artigarvan WwTW	S03002	Sec Bio	Pumpaway	Pumpaway to Ballymagorry WwTW
Belfast (WWTWS)	S00345	Sec Act	Ter A2	Changed from Sec Act to Ter A2 due to nutrient control to achieve TN Standard
Carrickfergus	S00261	Sec Act	Ter A2	Changed from Sec Act to Ter A2 due to nutrient control to achieve TN Standard
Dunmurry	S00346	Ter A1	Ter A2	Changed from TA1 to TA2, as the microstrainers have not been operational during the AIR16 period, but nutrient management still remains
Whitehouse	S00265	Sec Act	Ter A2	Changed from Sec Act to Ter A2 due to nutrient control to achieve TN Standard
Lisburn (New Holland)	S00329	Ter A1	Ter A2	Changed from TA1 to TA2, as the microstrainers have not been operational during the AIR16 period, but nutrient management still remains
Ballydermot Rd (7-9)	S01792	Prim	N/A	Ballydermot Rd has been abandoned with the WOC revoked
Cappagh WwTW	S02857	Sec Act	Sec Bio	Upgraded for AIR16 under RWwIP.

Name of Works	CAR ID	AIR15 Treatment Category	AIR16 Treatment Category	Comment
Castle Archdale Country Park WWWTW	S05877	N/A	Ter B1	This is a newly commissioned WWTW for AIR16
Castle Archdale WwTW	S03041	Sec Act	N/A	Castle Archdale has been replaced with new ICW on a new site.
Drumconvis Rd 58-62 WWTW	S05767	N/A	Prim	This is a newly adopted/consented WWTW for NIW

Difference between AIR15 and AIR16 for total in Table 17c (column 11, row 7)

Total Number of Works for AIR 15 -	**1,025**
Total Number of Works for AIR 16 -	**1,024**
Total Difference -	**1**

With reference to lines 8 and 9, data regarding the ammonia consents of the Small WWTWs was obtained from a spreadsheet of standards obtained from the Environmental Regulation Team.

Changes to lines 8 and 9 of this table, from AIR15 to present are summarised below:

Line	Nr AIR15	Nr AIR16	Difference	Comment
8	45	45	0	Enniskillen WWTWs now appears in Line 8 due to the change in Band Size from 6 in AIR15 to 5 in AIR16 Drumsurn WWTWs appeared in Line 8 in AIR15 due to its ammonia consent of 7.5, but has moved into Line 9 for AIR16, due to its change of ammonia consent to 5. Net change - zero
9	59	61	2	1 new site – Castle Archdale Country Pk WwTW 1 site with new consent standard - Drumsurn WwTW

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 AIR16 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 PC15 Business Plan submission and given the reduction in funding over the first 2 years of PC15 they are not currently prioritised for inclusion in the capital works programme.

WWTWs	Site ID	AIR16	Actual PE

		Actual PE	recognised by NIEA
Ballymena (WWTW)	S01456	69915	113825
Dromore (Tyrone)	S03083	1917	2032
Dundrum (Down)	S00297	1674	2613
Dunmurry	S00346	46243	53605

PPP

Lines 1-6

There are no changes to the PPP sewage works treatment categories.

Line 9

There are no changes to the PPP sewage works treatment categories

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 AIR 16 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	138	100	1,415	0	0	58	25	0	0	47	1,783	C3
2	Load received by STWs in size band 2	kg BOD_5/day	0	0	121	677	61	34	161	163	248	69	0	1,534	C3
3	Load received by STWs in size band 3	kg BOD_5/day	0	91	1,121	2,667	421	816	994	455	42	0	55	6,662	C3
4	Load received by STWs in size band 4	kg BOD_5/day	0	350	3,306	1,359	130	4,150	316	1,280	778	195	0	11,864	C3
5	Load received by STWs in size band 5	kg BOD_5/day	0	0	3,722	0	1,656	10,387	0	1,009	768	0	0	17,542	C3
B	LARGE WORKS														
6	Load received by STWs in size band 6	kg BOD_5/day	0	0	16,222	0	0	53,960	0	0	0	0	0	70,182	C3
7	Total loads rec'd (daily average all size bands)	kg BOD_5/day	0	579	24,592	6,118	2,268	69,347	1,529	2,932	1,836	264	102	109,567	C3
C	SMALL WORKS WITH AMMONIA CONSENTS														
8	Load rec'd by small STW w. NH_3 consent (5 - 10mg	kg BOD_5/day	0	6,398											
9	Load rec'd by small STW w. NH_3 consents (< = 5m	kg BOD_5/day	0	14,120											

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				161							161	B3
5	Load received by STWs in size band 5	kg BOD5/day	0					1,061						1,061	B3
B	LARGE WORKS														
6	Load received by STWs in size band 6	kg BOD5/day	0	0	4,708	0	0	13,654	0	0	0	0	0	18,362	B3
7	Total loads rec'd (daily average all size bands)	kg BOD5/day	0	0	4,708	0	161	14,715	0	0	0	0	0	19,584	B3
C	SMALL WORKS WITH AMMONIA CONSENTS														
8	Load rec'd by small STW w. NH3 consent (5 - 10m	kg BOD5/day	0	0											
9	Load rec'd by small STW w. NH3 consents (< = 5m	kg BOD5/day	0	1,222											

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	138	100	1,415	0	0	58	25	0	0	47	1,783	C3
2	Load received by STWs in size band 2	kg BOD5/day	0	0	121	677	61	34	161	163	248	69	0	1,534	C3
3	Load received by STWs in size band 3	kg BOD5/day	0	91	1,121	2,667	421	816	994	455	42	0	55	6,662	C3
4	Load received by STWs in size band 4	kg BOD5/day	0	350	3,306	1,359	291	4,150	316	1,280	778	195	0	12,025	C3
5	Load received by STWs in size band 5	kg BOD5/day	0	0	3,722	0	1,656	11,448	0	1,009	768	0	0	18,603	C3
B	LARGE WORKS														
6	Load received by STWs in size band 6	kg BOD5/day	0	0	20,930	0	0	67,614	0	0	0	0	0	88,544	C3
7	Total loads rec'd (daily average all size bands)	kg BOD5/day	0	579	29,300	6,118	2,429	84,062	1,529	2,932	1,836	264	102	129,151	C3
C	SMALL WORKS WITH AMMONIA CONSENTS														
8	Load rec'd by small STW w. NH3 consent (5 - 10m	kg BOD5/day	0	6,398											
9	Load rec'd by small STW w. NH3 consents (< = 5m	kg BOD5/day	0	15,342											

Table 17d - Sewage Treatment Works Loads

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 85 WWTWs (which were live during AIR16) 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.

1,025 WWTWs were reported on in Table 17d for AIR15. Hence there has been an overall net reduction of 1 in the number of WWTWs being reported from AIR15 to AIR16, which is summarised as follows:

- 1 WWTWs has been rationalised and pumped away to larger WWTWs in last financial year – i.e. Artigarvan WWTWs pumped to Ballymagorry WWTWs
- 1 WWTWs (Castle Archdale Country Park WWTWs) has been commissioned and the old one decommissioned (Castle Archdale WWTWs) – i.e. this was a replacement of an existing WWTW with a new WWTW on a new site.
- 4 WWTWS had 'turn of flow' under the RWwIP project (including an upgrade to Straid, Curglasson and Cappagh WWTWs and refurbishment to Dunmullan WWTWs)
- 1 previously private WWTW (Drumconvis Rd 58-62) has been adopted by NIW
- 1 WWTW (Ballydermot Rd 7-9) has been abandoned with the WOC revoked

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 AIR16 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. The AIR11 Trade Information, for nursing homes and clinics, has been maintained for AIR16 in order to allow for this proportion of the influent entering the WWTWs. 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 365,000Pe was agreed. This figure has been updated for AIR16 with the latest trade information giving a new figure of 364,383 PE. However it should be noted that there are a number of projects currently been carried out for NIW that are investigating the PEs discharging to Belfast and early indications would suggest the equivalent PE discharging to the WWTWs is much higher than currently stated. The main projects involved are:

- Belfast WwTW Appraisal Study (which includes a full 12 month flow and load study). The study is due to be completed in the summer of 2017 ,
- Glenmachan Sewers Project, and
- Compliance with the Surface Water (Shellfish) Regs (NI) – Belfast Lough.

The outcomes of these projects are likely to influence the PE for Belfast for AIR17 but a full flow and load assessment may not be completed and accepted by NIEA until AIR18. 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 NIAUR 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. 1,024 including the screened outfalls (2 No.) and the unscreened outfalls (7 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 confidence grades of the data in lines 1 - 7 remain as C3 as stated in AIR15.

The AIR11 Reporter's report stated '***We suggest that NI Water consider comparing the results from the ongoing programme of flow and load surveys against the previous assumptions for each site to determine if there is a statistically significant difference which should be extrapolated into the larger population of WwTW sites.'***

There was some analysis on this within the AIR13 commentary however it was concluded that there was not a large enough sample to justify extrapolating the differences. Since AIR13 only one additional Flow & Load PE has been adopted and this was for Kilkeel WWTWs and therefore the sample is still not large enough to extrapolate.

The Reporter also recommended in AIR11 that significant variances in load of WWTWs (i.e. greater than 15%) should be investigated. Below is a table detailing these sites and the reason for the change in PEs. There are 11 no. WWTWs included in the table.

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	Difference*	Comments
Artigarvan WwTW	S03002	949	Pumpaway	-949	Pumpaway to Ballymagorry WwTW
Ballykinler WwTW	S00299	2257	1672	-585	PE updated with AIR16 Trade Information. A PE review was carried out for this site and reviewed and adopted for AIR16.
Ballymagorry WwTW	S03018	838	1787	949	Rationalisation of Artigarvan to Ballymagorry WwTW
Castle Archdale WwTW	S03041	849	Abandoned	-849	Castle Archdale has been replaced with new ICW on new site.
Castle Archdale Country Pk WwTW	S05877	N/A	849	849	This is a new WWTW for AIR16
Comber Rd (102-106)	S00848	9	5	-4	A population study was carried out for this site and reviewed and adopted for AIR16.
Drumconvis Rd 58-62	S05767	N/A	10	10	This is a newly consented WWTW for NIW
Dungannon WwTW	S02850	76976	94502	17526	PE updated with AIR16 Trade Information
Glenoe WwTW	S01462	121	160	39	A population study was carried out for this site and reviewed and adopted for AIR16.
Greenisland WwTW	S00263	9599	12870	3271	PE updated with AIR16 Trade Information
Largy Cottages (1)	S01776	30	47	17	A population study was carried out for this site and reviewed and adopted for AIR16.

***(-ve indicates AIR15 figure larger)**

It should be highlighted that for AIR14 NIW re-assessed the treatment categories for a number of sites. This followed a query from NIW with OFWAT as to the definition of what constitutes a tight consent. At this time it was confirmed that that a company is given a tight consent if it has a Suspended Solids consent of less than or equal to 30mg/l AND a BOD of less than or equal to 20mg/l. Also a company is given a tight consent if its ammonia consent is less than or equal to 5mg/l.

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 physic-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 physic-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 physic-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 AIR16.

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 109566.5kg BOD/day from all NIW (only) WWTWs reconciles with the Total load entering sewerage system (BOD/year) of *39991.7 t BOD/year*, from Table 15 line 5.

The Total load receiving primary treatment in table 17d (line 7, column 1) of 578.7 kg BOD/day is consistent (allowing for rounding up/down and conversions) with total load receiving primary treatment in table 15 (line 3) of *211.21 t BOD/yr.*

The Total load receiving secondary and tertiary treatment in table 17d (line 7, sum of columns 2–7) i.e. 106786.7 kg BOD/day is consistent (allowing for rounding up/down and conversions) with total load receiving secondary treatment in table 15 (line 2) i.e. *38977.1 t BOD/yr*.

The Total load receiving preliminary treatment in table 17d (line 7, column 8) of 1835.5 kg 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 *669.94 t BOD/yr.*

The table below depicts changes in PEs at WWTWs from AIR15 to AIR16.

The following table depicts how PE changes have occurred at WWTWs during the last financial year.

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	Difference*	AIR15 Band	AIR16 Band	Band Size Change
Annalong (WWTW)	S00300	3475	3252	223	Band 4	Band 4	
Annsborough	S02687	5876	5879	-3	Band 4	Band 4	
Antrim (WWTW)	S01422	66228	65902	326	Band 6	Band 6	
Ardglass (WWTW)	S00268	2584	2757	-173	Band 4	Band 4	
Artigarvan	S03002	949	Pumpaway	949	Band 3	Pumpaway	Y
Ballycarry	S00267	2116	1754	362	Band 4	Band 3	Y
Ballycastle WwTW	S01071	11174	12797	-1623	Band 5	Band 5	
Ballyclare	S01467	16576	16466	110	Band 5	Band 5	
Ballydermot Rd 7-9	S01792	6	Abandoned	6	Band 1	-	Y
Ballykelly (L/Derry)	S03016	3662	3669	-7	Band 4	Band 4	
Ballykinler (WWTW)	S00299	2257	1672	585	Band 4	Band 3	Y
Ballymagorry (WWTW)	S03018	838	1787	-949	Band 3	Band 3	
Ballymena (WWTW)	S01456	78442	69915	8527	Band 6	Band 6	
Ballynahinch (Down)	S00311	8097	7942	155	Band 4	Band 4	
Banbridge (WWTW)	S02102	22411	22753	-342	Band 5	Band 5	
Belfast (WWTW)	S00345	365177	364383	794	Band 6	Band 6	
Bushmills (WWTW)	S01178	5539	5541	-2	Band 4	Band 4	
Carrickfergus (WWTW)	S00261	32902	32676	226	Band 6	Band 6	
Castle Archdale (WwTW)	S03041	849	0	849	Band 1	N/A	Y
Castle Archdale Country Pk (WWTW)	S05877	N/A	849	-849	N/A	Band 1	Y
Castlederg (WWTW)	S03042	3915	3908	7	Band 4	Band 4	
Clady (Tyrone)	S04149	773	757	16	Band 3	Band 3	
Coalisland	S02828	10131	10074	57	Band 5	Band 5	
Comber Rd (102-106)	S00848	9	5	4	Band 1	Band 1	
Cookstown (WWTW)	S01582	19672	19771	-99	Band 5	Band 5	
Culmore (WWTW)	S03071	130648	131455	-807	Band 6	Band 6	
Derryhale	S02570	1134	1122	12	Band 3	Band 3	
Donaghmore (WWTW)	S02840	2024	1936	88	Band 4	Band 3	Y
Donemana	S03103	802	800	2	Band 3	Band 3	
Donnybrewer	S03080	5372	5185	187	Band 4	Band 4	
Downpatrick (WWTW)	S00771	17539	17524	15	Band 5	Band 5	
Draperstown	S01615	3275	3250	25	Band 4	Band 4	
Dromore (Down)	S02127	7365	7367	-2	Band 4	Band 4	
Drumconvis Rd 58-62	S05767	N/A	10	-10	N/A	Band 1	Y

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	Difference*	AIR15 Band	AIR16 Band	Band Size Change
Dundrod	S00326	218	191	27	Band 1	Band 1	
Dungannon	S02850	76976	94502	-17526	Band 6	Band 6	
Dungiven	S03101	4744	4758	-14	Band 4	Band 4	
Dunmurry	S00346	46325	46243	82	Band 6	Band 6	
Enniskillen	S03218	25978	24735	1243	Band 6	Band 5	Y
Fivemiletown (WWTW)	S03113	2128	2115	13	Band 4	Band 4	
Glenoe	S01462	121	160	-39	Band 1	Band 1	
Glenstall	S01109	21561	20966	595	Band 5	Band 5	
Greenisland (WWTW)	S00263	9599	12870	-3271	Band 4	Band 5	Y
Greysteel (WWTW)	S03123	2188	2182	6	Band 4	Band 4	
Hilltown (WWTW)	S02701	2025	2024	1	Band 4	Band 4	
Keady (Armagh)	S02553	4563	4588	-25	Band 4	Band 4	
Kesh (WWTW)	S03140	2678	2681	-3	Band 3	Band 3	
Kilkeel (WWTW)	S00313	12738	12750	-12	Band 5	Band 5	
Killinchy (WWTW)	S00252	4100	4062	38	Band 4	Band 4	
Killygonlan (WWTW)	S02043	1299	1293	6	Band 3	Band 3	
Kilrea	S01156	2510	2447	63	Band 4	Band 4	
Largy Cottages (1)	S01776	30	47	-17	Band 1	Band 1	
Larne (WWTW)	S02044	23531	23106	425	Band 5	Band 5	
Limavady (WWTW)	S03162	17029	16373	656	Band 5	Band 5	
Lisburn (New Holland)	S00329	70477	69644	803	Band 6	Band 6	
Lisnaskea (WWTW)	S03171	6380	6381	-1	Band 4	Band 4	
Loughinisland (WWTW)	S00298	229	229	-1 (rounding)	Band 1	Band 1	
Maghaberry	S02412	4225	4597	-372	Band 4	Band 4	
Maghera (L/Derry)	S01629	6576	6579	-3	Band 4	Band 4	
Magherafelt (WWTW)	S01621	16046	16809	-763	Band 5	Band 5	
Mayboy	S01163	165	184	-19	Band 1	Band 1	
Moneymore (WWTW)	S01589	2826	2821	5	Band 4	Band 4	
Moy (WWTW)	S02859	3117	2964	153	Band 4	Band 4	
Newcastle (WWTW)	S00303	16236	16235	1	Band 5	Band 5	
NewMills (WWTW)	S02852	723	724	-1	Band 3	Band 3	
Newry (WWTW)	S02685	59655	62199	-2544	Band 6	Band 6	
Newtownbreda (WWTW)	S00342	40019	34490	5529	Band 6	Band 6	
Newtownbutler (WWTW)	S03200	1285	1286	-1	Band 3	Band 3	
Newtown-Crommelin	S01447	162	141	21	Band 1	Band 1	
Newtownstewart (WWTW)	S03202	2169	2168	1	Band 4	Band 4	

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	Difference*	AIR15 Band	AIR16 Band	Band Size Change
North Coast (WWTWs)	S04150	77432	76714	718	Band 6	Band 6	
Oliver Plunkett Pk	S02284	84	81	3	Band 1	Band 1	
Omagh (WWTW)	S03999	36173	33667	2506	Band 6	Band 6	
Pomeroy (WwTW)	S01593	979	980	-1	Band 3	Band 3	
Roughfort (WWTW)	S01470	436	439	-3	Band 2	Band 2	
Strabane	S03223	20129	21553	-1424	Band 5	Band 5	
Swatragh (WWTW)	S01637	716	728	-12	Band 3	Band 3	
Tamnamore (WWTW)	S02862	632	614	18	Band 3	Band 3	
Tandragee	S02174	14185	12715	1470	Band 5	Band 5	
Trillick (WWTW)	S03231	603	611	-8	Band 3	Band 3	
Warrenpoint (WWTW)	S02720	14894	14859	35	Band 5	Band 5	
Waterfoot Road (WWTW)	S01643	187	198	-11	Band 1	Band 1	
Whitehouse	S00265	88079	87918	161	Band 6	Band 6	
	Total	-2833					

***(-ve indicates AIR16 figure larger)**

The change in PE equates to an increase in load of 169.98kg BOD/day (i.e. 2833 x 0.06 for 60g/hd/day) from AIR15 to AIR16

Difference between AIR16 and AIR15 for the total load entering WWTWs as shown in Table 17d - column 11, row 7

Total Load Received at WWTWs for AIR15 -	**109396.5**
Total Load Received at WWTWs for AIR 16 -	**109567**
Total Difference -	**170.5**

The difference between the above totals is due to rounding.

The interpretation of the treatment categories is as below:-

AIR16 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
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 AIR15 to AIR16.

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	PE Change*	Comments
Derryhale	S02570	1134	1122	12	PE updated with AIR16 Trade Information
Donaghmore (WWTW)	S02840	2024	1936	88	PE updated with AIR16 Trade Information
Draperstown	S01615	3275	3250	25	PE updated with AIR16 Trade Information
Drumsurn	S03100	592	592 (but for Line 8, now 0 for AIR16)	592	Following a consent change this WWTW has been removed from 5-10 ammonia list and added to the <=5 ammonia list.
Enniskillen	S03218	25978 (but for Line 8 had been 0 for AIR15)	24735	-24735	PE updated with AIR16 Trade Information. This WwTW is now a Band 5 WWTWs, and is now included in Line 8. It had not previously been included as Works had been in Band 6.
Hilltown (WWTW)	S02701	2025	2024	1	PE updated with AIR16 Trade Information
Kesh (WWTW)	S03140	2678	2681	-3	PE updated with AIR16 Trade Information. PE updated with AIR16 Trade Information
Lisnaskea (WWTW)	S03171	6380	6381	-1	
Maghaberry	S02412	4225	4597	-372	A PE review was carried out for this site and reviewed and adopted for AIR16.
Maghera (L/Derry)	S01629	6576	6579	-3	PE updated with AIR16 Trade Information
Newtownstewart	S03202	2169	2168	1	PE updated with AIR16 Trade Information
Strabane	S03223	20129	21553	-1424	PE updated with AIR16 Trade Information
Swatragh	S01637	716	728	-12	PE updated with AIR16 Trade Information
			Total	- 25831	

***(-ve Indicates AIR16 PE Higher)**

The change in PE equates to an increase in load of 1549.9 kg/d (i.e. 25831 x 0.06 for 60g/hd/day) from AIR15 to AIR16, for line 8.

Total Load rec'd by small WWTWs with NH3 consents (5-10mg/l) for AIR15-	**4848.3**
Total Load rec'd by small WWTWs with NH3 consents (5-10mg/l) for AIR16-	**6398.2**
Total Difference –	**1549.9**

The major increase in the AIR16 value for Line 8 is as a result of the Band Size changing from a 6 to a 5 for Enniskillen WWTWs.

Changes in Line 9 - Small works with ammonia consent (between 0 and 5) from AIR15 to AIR16.

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	PE Change*	Comments
Annsborough	S02687	5876	5879	-3	PE updated with AIR16 Trade Information
Ballyclare	S01467	16576	16466	110	PE updated with AIR16 Trade Information
Ballynahinch (Down)	S00311	8097	7942	155	PE updated with AIR16 Trade Information
Banbridge (WWTW)	S02102	22411	22753	-342	PE updated with AIR16 Trade Information
Coalisland	S02828	10131	10074	57	PE updated with AIR16 Trade Information
Cookstown (WWTW)	S01582	19672	19771	-99	PE updated with AIR16 Trade Information
Downpatrick (WWTW)	S00771	17539	17524	15	PE updated with AIR16 Trade Information
Dromore (Down)	S02127	7365	7367	-2	PE updated with AIR16 Trade Information
Drumsurn WWTW	S03100	N/A	592	-592	Following a consent change this WWTW has been removed from 5-10 ammonia list and added to the <=5 ammonia list.
Dungiven	S03101	4744	4758	-14	PE updated with AIR16 Trade Information
Keady (Armagh)	S02553	4563	4588	-25	PE updated with AIR16 Trade Information
Killinchy (WWTW)	S00252	4100	4062	38	PE updated with AIR16 Trade Information
Limavady (WWTW)	S03162	17029	16373	656	PE updated with AIR16 Trade Information

Name of Works	CAR ID	AIR15 Actual PE	AIR16 Actual PE	PE Change*	Comments
Magherafelt (WWTW)	S01621	16046	16809	-763	PE updated with AIR16 Trade Information
Moneymore (WWTW)	S01589	2826	2821	5	PE updated with AIR16 Trade Information
Newtownbutler (WWTW)	S03200	1285	1286	-1	PE updated with AIR16 Trade Information
Pomeroy (WWTW)	S01593	979	980	-1	PE updated with AIR16 Trade Information
Tandragee	S02174	14185	12715	1470	PE updated with AIR16 Trade Information
Castle Archdale Country Pk WwTW	S05877	N/A	849	-849	This WwTW is an addition to the WWTW list with Ammonia <=5
			Total	-185	

***(-ve Indicates AIR16 PE Higher)**

The change in PE equates to an increase in load of 11.6 kg/d (i.e. 185 x 0.06 for 60g/hd/day) from AIR15 to AIR16 for line 9.

Total Load rec'd by small WWTWs with NH3 consents (0-5mg/l) for AIR15-	**14108.5**
Total Load rec'd by small WWTWs with NH3 consents (0-5mg/l) for AIR16-	**14119.6**
Total Difference -	**11.1**

PPP

Lines 1 – 7

The variation in load data from AIR 15 is solely due to the variation in influent loads received by the same PPP works from the NI Water catchments over the AIR 16 Period.

Line 9

The variation in load data is due to the variation in influent loads received by the Richhill STW and Armagh STW over the AIR 16 Period.

Specific company commentary;

- There have been no changes to the number of PPP operated STW's in each Treatment Category
- There are currently the following Capital Works Project plans to close, or divert flows arriving to, PPP operated works.
- There are currently a number of Capital Works Projects proposed in PPP catchments;
    - KG189 Cornakinnegar Road Lurgan, Foul and Storm Sewer Extension.
    - KG203 Portadown DAP (Storage at Seagoe WWPS).
    - KR568 Loughries PS Newtownards *(Diversion into Ballyrickard).*
    - KS958 Bangor DAP Wks Pkge 5 Clandeboye Stream UIDs Phase II.
    - KF330 Armagh DAP Stage 1.
    - KR480 Holywood Sewer Network Improvements.
    - KI515 DG5 Minor Works – Bullays Hill PS Lurgan.
    - KG184 Portadown Drainage Area Network Improvements.
    - KR576 Belfast WWTW PLC Upgrades.
    - KI561 Donaghadee Base Maintenance – Flooding.
    - KI562 Wastewater Pumping East Base Maintenance.
    - KS930 Millisle DAP.
    - KR599 Belfast WwTW – Appraisal study.

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
					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	56.334	89.436	647.195	0.000	0.000	23.773	10.443	0.000	0.000	16.059	843.239
2	Direct costs of STWs in size band 2	£000	3	0.000	74.041	309.145	37.585	21.104	68.426	92.446	86.688	32.230	0.000	721.665
3	Direct costs of STWs in size band 3	£000	3	32.038	603.320	1,125.353	191.466	476.523	393.828	243.753	20.043	0.000	19.020	3,105.345
4	Direct costs of STWs in size band 4	£000	3	9.197	614.260	199.808	28.492	1,158.996	12.263	115.630	29.426	1.201	0.000	2,169.272
5	Direct costs of STWs in size band 5	£000	3	0.000	647.204	0.000	315.034	2,086.365	0.000	192.707	0.000	0.000	0.000	3,241.309
B	LARGE WORKS													
6	Direct costs of STWs in size band 6	£000	3		4,508.858	0.000	762.388	1,675.906	0.000	0.000	0.000	0.000	0.000	6,947.153
C	ALL WORKS													
7	Total direct costs of STWs - all sizes	£000	3	97.568	6,537.118	2,281.500	1,334.965	5,418.895	498.290	654.979	136.157	33.431	35.079	17,027.982
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	97.568	6,537.118	2,281.500	1,334.965	5,418.895	498.290	654.979	136.157	33.431	35.079	17,027.982
10	Sewage Treatment: Power costs	£000	3	1.731	4,430.947	513.241	717.751	3,022.149	85.285	263.727	39.658	1.201	0.000	9,075.689
11	Sewage Treatment: service charges	£000	3	8.677	166.846	159.662	51.636	185.414	38.356	27.626	7.411	2.842	3.079	651.549
12	Sewage Treatment: General and Support	£000	3	134.864	2,593.369	2,481.705	802.608	2,881.974	596.188	429.410	115.200	44.168	47.866	10,127.352
13	Sewage Treatment: Functional Expenditure	£000	3	232.432	9,130.487	4,763.205	2,137.573	8,300.869	1,094.478	1,084.390	251.356	77.598	82.944	27,155.333

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											
2	Direct costs of STWs in size band 2	£000	3											
3	Direct costs of STWs in size band 3	£000	3											
4	Direct costs of STWs in size band 4	£000	3				36.473							36.473
5	Direct costs of STWs in size band 5	£000	3					133.313						133.313
B	LARGE WORKS													
6	Direct costs of STWs in size band 6	£000	3					1,809.172						1,809.172
C	ALL WORKS													
7	Total direct costs of STWs - all sizes	£000	3	0.000	0.000	0.000	36.473	1,942.485	0.000	0.000	0.000	0.000	0.000	1,978.958
8	Sludge Treatment and Disposal Adjustments	£000	3											0.000
9	Sewage Treatment: Direct costs	£000	3				36.473	1,942.485						1,978.958
10	Sewage Treatment: Power costs	£000	3				[redacted]	[redacted]						[redacted]
11	Sewage Treatment: service charges	£000	3											0.000
12	Sewage Treatment: General and Support (NIW	£000	3		30.720		26.747	106.986						164.453
13	Sewage Treatment: Functional Expenditure	£000	3	0.000	30.720	0.000	[redacted]	[redacted]	0.000	0.000	0.000	0.000	0.000	[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	56.334	89.436	647.195	0.000	0.000	23.773	10.443	0.000	0.000	16.059	843.239
2	Direct costs of STWs in size band 2	£000	3	0.000	74.041	309.145	37.585	21.104	68.426	92.446	86.688	32.230	0.000	721.665
3	Direct costs of STWs in size band 3	£000	3	32.038	603.320	1,125.353	191.466	476.523	393.828	243.753	20.043	0.000	19.020	3,105.345
4	Direct costs of STWs in size band 4	£000	3	9.197	614.260	199.808	64.965	1,158.996	12.263	115.630	29.426	1.201	0.000	2,205.745
5	Direct costs of STWs in size band 5	£000	3	0.000	647.204	0.000	315.034	2,219.678	0.000	192.707	0.000	0.000	0.000	3,374.622
B	LARGE WORKS													
6	Direct costs of STWs in size band 6	£000	3	0.000	4,508.858	0.000	762.388	3,485.078	0.000	0.000	0.000	0.000	0.000	8,756.325
C	ALL WORKS													
7	Total direct costs of STWs - all sizes	£000	3	97.568	6,537.118	2,281.500	1,371.438	7,361.380	498.290	654.979	136.157	33.431	35.079	19,006.940
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	97.568	6,537.118	2,281.500	1,371.438	7,361.380	498.290	654.979	136.157	33.431	35.079	19,006.940
10	Sewage Treatment: Power costs	£000	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Sewage Treatment: service charges	£000	3	8.677	166.846	159.662	51.636	185.414	38.356	27.626	7.411	2.842	3.079	651.549
12	Sewage Treatment: General and Support	£000	3	134.864	2,624.089	2,481.705	829.355	2,988.960	596.188	429.410	115.200	44.168	47.866	10,291.805
13	Sewage Treatment: Functional Expenditure	£000	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Table 17f - Sewage Treatment Works

NIW only

An updated Population Equivalent (PE) database with treatment type by WWTW's from Asset Management was used to populate Line 1-13. Ballycastle WWTW's falls into Band 5 – Line 5. Ballycastle does not have a separate W finance location however with the further implementation of Cost to Serve the costs can be separately identified.

Table 17f has been completed based on the figures available at for the year ended 31st March 2016 for sewage treatment – Activity 510 less M & E expenditure which is treated as general & support.

A Small Works

Linea 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 decreased in Lines 1-4 from AIR15 by circa £0.2M.

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. Ballycastle is not separately identifiable with a W finance location code for, it is included under X25 – Ballymena Area, however, with the use of EAM and the cost to serve project the majority of costs for Ballycastle can be separately identified using CAR ID. Enniskillen is included in Size Band 5 in AIR16; this WWTW's was included in Bank 6 in AIR15.

The costs against this line have increased by circa £0.3M mainly due to the extreme weather conditions in 15/16 and all the additional power costs and chemical costs etc.

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 increased from AIR15 by circa £0.7M. The main reason for this is the increased Hired and Contracted costs due to additional de-gritting at Aeration Lanes and sump cleans during 2015/16.

Power costs for TPS that are intrinsically connected to the works cannot be separately identified as there is only one electric metre. Ballymena has been noted separately and is included in the power costs in this table.

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 AIR15 by circa £0.8M. This is primarily due to a decrease in hired and contracted costs as mentioned earlier, and also due to the extreme wet weather that was experienced in 2015/16 which resulted in a large increase in running costs.

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. This figure agrees with Table 22, Column 2 Line 2.

Line 11 – Service Charges

£0.65M of environmental regulatory charges are included in Sewage, in line with AIR15.

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 £0.4M from AIR15. Overall General and Support costs have increased in AIR16 and the apportionment of costs to Sewage Treatment has increased. 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 AIR15 by circa £1.3M for all the reasons mentioned under the lines above. Refer to Table 22 commentary for further explanation.

PPP Only

A Small Works

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.

B Large Works

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 Ballinacor (all TA2) include power costs only derived from the Oracle system using appropriate location codes.

C All Works

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 from AIR16 as a result of a reduced tariff in 2015/16.

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	CG	2 FARMLAND CONVENTIONAL	CG	3 FARMLAND ADVANCED	CG	4 INCINERATION	CG	5 TO PPP	CG	6 LANDFILL	CG	7 COMPOSTED	CG	8 LAND RECLAMATION	CG	9 OTHER	CG	10 TOTAL	CG
1	Resident population served	000	1	0.0	0	0.0	0	0.0	0	0.0	0	1464.8	C3	35.6	C3	0.0	0	0.0	0	0.0	0	1,500.4	C3
2	Amount of sewage sludge	ttds	1	0.0	0	0.0	0	0.0	0	0.0	0	32.9	A2	0.8	B2	0.0	0	0.0	0	0.0	0	33.7	B2
3	Sludge treatment: direct costs	£000	3									0.000		0.000						1,903.897		1,903.897	
4	Sludge disposal: direct costs	£000	3									2,246.560		132.787						0.000		2,379.347	
5	Sludge treatment & disposal: direct costs	£000	3									2,246.560		132.787						1,903.897		4,283.244	
6	Sludge treatment & disposal: power costs	£000	3									0.000		0.000						1,247.688		1,247.688	
7	Sludge treatment & disposal: service charges	£000	3									0.000		0.000						184.758		184.758	
8	Sludge treatment & disposal: general & support exp.	£000	3									1,460.882		0.000						0.921		1,461.803	
9	Sludge treatment & disposal: functional expenditure	£000	3									3,707.442		132.787						1,904.818		5,745.047	

Table 17g - Sewerage explanatory factors - sludge treatment and disposal information

NIW only

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 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 2015/16 (tds) as recorded by PPP and monthly by Ww Area Sludge Officers (reconciled using the SLS) and presented in the monthly Sludge Management Report 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.

Lines 3-9

The methodology has not changed from AIR15. 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 31st March 2016.

Line 3 – Sludge Treatment: Direct Costs

Expenditure has been input in Column 9.

The costs for Sludge Treatment have reduced by £0.3M from AIR15. A special project was set up in 15/16 to look at reducing sludge treatment costs over the period of PC15. There has been greater focus on the types of chemicals used and also some capital money has been invested to make the sludge treatment facilities more efficient and as a result the costs have decreased. Sludge treatment costs for WWTW's are coded using activity 621 and can be separately identified to populate Column 9.

Power costs in AIR16 do not include the Incinerator or any PPP sites.

Line 4 - Sludge Disposal: Direct Costs

Columns 5 and 6 have been populated on this line. The direct costs have decreased by approx. £0.1M from AIR15. This is mainly due to a reduction in contractors costs, as a new contract was awarded during 15/16 and better rates were negotiated. There was also some additional money spent to improve the sludge thickening facilities which has resulted in improved sludge quality, thus achieving operational efficiencies.

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 only) column 3 line 9. Costs have decreased by circa £0.5M from AIR15, primarily due to the reduction in negotiated contractor costs, reduction in chemicals and the plant being more efficient as mentioned above.

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 AIR15 was 45:55 and in AIR16 is 48:52 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 AIR16.

Line 7 - Sludge treatment & disposal: Service Charges

The Service Charges figure is approx. £0.2m in AIR16 and this is similar to what the costs were in AIR15. 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 AIR15. Overall General and Support costs have decreased from AIR15. 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 reduced by £0.9M 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

	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 2021-22
1	Turnover	£m	3	366.398	361.313	364.407	367.287					
2	Operating costs (excluding HCD)	£m	3	-202.316	-209.933	-205.450	-207.727					
3	Historical cost depreciation	£m	3	-44.871	-48.580	-47.523	-54.364					
4	Operating income	£m	3	0.334	0.276	0.525	0.799					
5	Operating profit	£m	3	119.545	103.076	111.959	105.995					
6	Other income	£m	3	0.000	0.000	0.000	0.000					
7	Net interest receivable less payable	£m	3	-55.067	-48.580	-51.957	-53.609					
8	Profit on ordinary activities before taxation	£m	3	64.478	54.496	60.002	52.386					
9	Current tax	£m	3	0.000	0.000	-0.017	-0.017					
10	Deferred tax	£m	3	-24.872	13.798	-24.037	2.536					
11	Profit on ordinary activities after taxation	£m	3	39.606	68.294	35.948	54.905					
12	Extraordinary items	£m	3	0.000	0.000	0.000	0.000					
13	Profit for the year	£m	3	39.606	68.294	35.948	54.905					
14	Dividends	£m	3	-26.587	-21.391	-21.562	-22.888					
15	Retained profit for the year	£m	3	13.019	46.903	14.386	32.017					

Table 18 – HC Profit and Loss account for the year ending 31 March 2016

- Results of unappointed activities are shown separately in the published regulatory accounts.
- There are no exceptional charges or income.
- Accounting treatments under Historical Cost and Current Cost are the same.
- There are no minority interests.
- PPP charges for 2015/16 can be analysed as follows:

	Gross Charge	Residual interest credit	Lease repayment	Capital maintenance	HC Depreciation	Net P&L Charge
	£m	£m	£m	£m	£m	£m
Alpha	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Omega	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Kinnegar	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

* includes lease interest 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]

The Current and Deferred tax charge

Factors affecting the tax charge for the current period

The company adopted International Financial Reporting Standards (IFRS) for the first time in its statutory accounts for the year end 31st March 2011. The regulatory accounts will continue to be produced under 'Old'* UK generally accepted accounting policies (UK GAAP). However as the corporation tax computation for the company will be based on the IFRS statutory accounts it has been agreed with the Regulator that the tax charge and provision in the regulatory accounts should be the same as those shown in the statutory accounts.

*'Old' UKGAAP - this is UK GAAP in existence prior to the introduction of FRS100, FRS101 and FRS102

The income tax credit in the statutory accounts for the period is £2.320m which is lower than the charge based on the standard rate of corporation tax in the UK (20%). The differences are explained below:

Reconciliation of effective tax rate	**£m**
Profit for the year	101.461
Income tax expense	(2.320)
Profit before income tax	99.141
Income tax using the Company's domestic tax rate (21%)	19.828
Reduction in tax rate	(21.919)
Non deductible expenses	(0.214)
Adjustment to prior years	(0.015)
	(2.320)

The statutory accounts income tax credit of £2.320m can be shown as follows:

Tax recognised in profit and loss	**£m**
Current tax expense	
Current year	(0.216)
Adjustment for prior years	-
	(0.216)
Deferred Tax	
(Origination)/ reversal of timing differences	**(19.398)**
Adjustment to prior years	**0.015**
Reduction in tax rate (20% to 18%) (2015:no rate change)	**21.919**
	2.536
Tax credit on profit on ordinary activities	**2.320**

This statutory income tax credit of £2.320m under IFRS is shown in the Regulatory Accounts as follow:

	Appointed activities	**Unappointed activities**	**Total**
	£m	**£m**	**£m**
Current tax	0.017	0.199	0.216
Deferred tax	(2.536)	-	(2.536)
Total	**(2.519)**	**0.199**	**(2.320)**

The statutory accounts deferred tax credit of £2.536m 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 current tax charge of £0.216m relates to three specific income streams - interest receivable (wholly appointed - see Commentary to Table 18d), aerial site income (unappointed activity) and rental income (unappointed activity). The current tax charge has been allocated as follows:

Income stream	**Income £m**	**Current tax charge £m**	**Appointed £m**	**Unappointed £m**
Interest Receivable	0.096	0.017		0.017
Aerial sites	0.877	0.144	0.144	
Rental Income	0.307	0.055	0.055	
Total	**1.280**	**0.216**	**0.199**	**0.017 Table 18 Line 9**

The statutory deferred tax liability at 31st March 2016 is £194.174m. Table 19 shows a deferred tax liability on the appointed balance sheet of £195.465m (with zero balance at 31st March 2016 for unappointed activities). This liability under UKGAAP reconciles to the IFRS based statutory accounts balance at 31st March 2016 of £194.174m as the IFRS Accounts are required to show the deferred tax asset of £1.291m associated with the pension liability within the deferred tax balance rather than the UKGAAP approach of

showing this amount separately within the pension account. The statutory balance of £194.174m can be summarised as follows:

	2016 £m Excluding Pension	2016 £m Pension	**2016 £m Total**
Opening liability	197.982	(2.326)	**195.656**
Current year deferred tax charge/ (credit) to profit and loss account	(2.502)	(0.019)	**(2.521)**
Prior year deferred tax (credit)/charge to P&L	(0.015)	-	**(0.015)**
Current year deferred year tax charge to the Statement of Total Recognised Gains and Losses	0.000	1.054	**1.054**
Closing liability	195.465	(1.291)	**194.174**

The UKGAAP approach (FRS 17) aspect of 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:

	2016 £m
Benefit obligation at end of year	(214.733)
Fair value of plan assets at end of year	207.562
Net liability	(7.171)
Less deferred tax	1.291
Pension liability after deferred tax	**(5.880)**

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-16	**31-Mar-15**
Discount rate	3.70%	3.40%
Rate of compensation increase	1.95% for the next 4 years, 2.95% thereafter	2% for 5 yrs 3% thereafter
Rate of increase in pensions in payment	2.95%	3.00%
Rate of increase in pensions in deferment	2.95%	3.00%
Inflation RPI	2.95%	3.00%
Inflation CPI	1.95%	2.00%

Weighted average assumptions used to determine net pension cost for year ended:		
	31-Mar-16	**31- Mar-15**
Discount rate	3.40%	4.60%
Rate of compensation increase	2% for 5 yrs 3% thereafter	4.30%
Rate of increase in pensions in payment	3.00%	3.30%
Inflation	3.00%	3.30%

Any changes to the assumptions from 2015 to 2016 have been advised by the independent actuaries.

There is a pension liability at 31 March 2016 of £5.880m (after deferred tax). In agreement with the Pension Trustees the cash contribution rate to the Fund changed on 1st July 2015 from 26.9% of pensionable pay to 24.6% of pensionable pay thereafter (2014/15: 26.9%).

A dividend of £24.736m was proposed, approved and paid in 2015/16 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 2016 £22.888 m of the statutory dividend of £24.736m was allocated to appointed activities and £1.848m allocated to unappointed activities.

Operating Costs

The following table shows a reconciliation between the operating costs as reported in the regulatory historic cost accounts (Table 18 line 2) and regulatory current cost accounts (Table 20 line 2).

Operating Costs	**£m**
Table 18 Line 2	**(207.727)**
Add back HC amortisation of grants and contributions	(0.954)
Less CC amortisation of grants and contributions	4.047
Less CC depreciation	(110.522)
Table 20 line 2	**(315.156)**

Cost components in Operating Costs

The following cost components of Line 2 (£207.727m) exceed £5m in 2015-16:

Wages and Salaries	43.904m*^
Other pension costs	10.168m*
Power	30.042m*
Rates	26.547m*
Contractors	18.822m*

Out sourced billing 5.987m
PPP Operating Charges –Alpha [redacted]
PPP Operating Charges –Omega [redacted]^^
Total [redacted] **([redacted]% of total operating costs)**

* 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).
^^ stated net of residual interest credit.

Interest

Interest received and payable can be summarised as follows:

	£m	£m
Interest received		
Bank Interest	0.096	
Total Interest received		**0.096**
Interest Payable:		
On bonds held as security	(0.068)	
On all other loans	(46.536)	
On PPP finance lease	[redacted]	
On Pension Fund	(0.400)	
Total Interest Payable		[redacted]
Net Interest		[redacted]

Capitalisation of costs

During 2015/16 £12.723m of costs were capitalised from the profit and loss account. This can be broken down as follows:

Cost	**£m**
Staff Costs	10.521
Labour charge	0.149
Temporary staff	0.170
Consultants	0.150
Overheads capitalised	1.733
Total	**12.723**

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 2014/15 and to PC15 can be shown as follows:

	Actual	**Actual**	**PC15**
	2015 -2016	**2014 -2015**	**2015 -2016**
	£m	**£m**	**£m**
Sales	367.287	364.407	368.600
Expenditure	(261.292)	(252.448)	(268.200)
Net Operating Profit	105.995	111.959	100.400
Operating	*28.9%*	*30.7%*	*27.2%*

Margin			
Interest payable	(53.609)	(51.957)	(55.900)
Tax charge	2.519	(24.054)	(7.700)
Profit for the year	54.905	35.948	36.800
Net Profit Margin	*14.9%*	*9.9%*	*10.0%*

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.

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 2021-22
A	CAPITAL EXPENDITURE CATEGORIES											
1	Profit for the year	£m	3	13.019	46.903	14.386	32.017					
2	Actuarial gains/losses on post employment plans	£m	3	-11.535	8.012	-11.081	4.294					
3	Other gains and losses	£m	3	0.000	0.000	0.000	0.000					
4	Total recognised gains and losses for the year	£m	3	1.484	54.915	3.305	36.311					

Table 18c – STRGL (HCA)

Line 2 shows £4.294m of actuarial gains/losses on post-employment plans.

Line 3 is nil as there are no other recognised gains or losses for the year.

Although the Regulatory Accounts are based on 'old' UKGAAP (see commentary to Table 18) the actuarial gain noted above of £4.294m is taken from the IFRS statutory accounts. Similar to last year the application of the amended version of IAS 19 (Employee Benefits) has led to the UKGAAP and IFRS approaches on accounting for pension costs being different. The IFRS approach was used in the Regulatory Accounts for the following reasons:

- The primary difference in IFRS and 'old' UKGAAP in this area arises in the allocation of pension costs as an expense to the profit and loss account or directly to reserves. If the actuarial gain had been calculated in line with 'old' UKGAAP rather than IFRS the actuarial gain charged directly to reserves (through the STRGL) would have been approximately £1.2m lower and the pension costs charged to the profit and loss account would have been approximately £1.2m lower. There would have been no overall balance sheet impact on either the profit and loss account reserves or on the pension asset of following IFRS as opposed to 'old' UKGAAP.
- Adopting this approach avoided the additional costs of requesting the company actuary to provide year end pension disclosures for both statutory accounts and regulatory accounts purposes.

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 2021-22
A	**DIVIDEND ANALYSIS**											
1	Dividends in respect of a financial re-organisation	£m	3	0.000	0.000	0.000	0.000					
2	Other ordinary dividends	£m	3	-26.587	-21.391	-21.562	-22.888					
3	Total dividends	£m	3	-26.587	-21.391	-21.562	-22.888					
B	**INTEREST ANALYSIS**											
4	Interest receivable/payable on intercompany balances	£m	3	0.000	0.000	0.000	0.000					
5	Interest receivable/payable in respect of a financial re-organisation	£m	3	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					
7	Preference share dividends	£m	3	0.000	0.000	0.000	0.000					
8	Other interest receivable	£m	3	0.134	0.112	0.079	0.096					
9	Other interest payable	£m	3	-44.137	-41.459	-45.367	-46.604					
10	Other finance charges - post employment costs	£m	3	0.849	-0.300	0.155	-0.400					
11	Other finance charges	£m	3	-11.913	-6.933	-6.824	-6.701					
12	Total net interest	£m	3	-55.067	-48.580	-51.957	-53.609					

Table 18d – Analysis of dividends and interest charges

There has been no financial reorganisation during the year.

A dividend was proposed and approved in 2015/16 and this is shown on line 2. The full dividend for 2015/16 was £24.736m with £22.888m apportioned to appointed activities and £1.848m 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 (£0.096m) relates to monies held on deposit.

Interest payable of £46.604m is comprised of £46.537m relating to the loan notes held with DRD, £0.068m relating to interest payable on cash bonds and £(0.001)m for the release of an accrual no longer required for the late payment of corporation tax. The interest on loan notes has increased from last year by £1.225m (2.7%). This increase is due to the additional interest on the drawdown of £36m additional loan notes drawn down in 2015/16 (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).

Other finance charges – post employment plans is a cost of £0.400m for the finance interest cost relating to post employment plans calculated by the actuaries of the pension fund at year end.

During 2015/16 an amount of [redacted] has been included as other finance charges. This relates to the imputed interest on the [redacted]

The following table compares the actual net interest payable and balance of loan notes with the 2015/16 budget and PC15:

	Actual	**Budget**	**PC15**
	£m	**£m**	**£m**
Net Interest payable	53.609	53.200	55.900
Loan notes	983.560	1,006.600	1,035.000

The drawdown of loans is £51.44m less than the PC15 projected for 2015/16. This is primarily driven by a lower working capital requirement than was anticipated particularly for capital creditors.

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 2021-22
A	**FIXED ASSETS**											
1	Tangible fixed assets	£m	3	1907.525	1994.848	2073.392	2139.613					
2	Investment - loan to group company	£m	3	0.000	0.000	0.000	0.000					
3	Investment - other	£m	3	0.106	0.091	0.091	0.091					
4	Total fixed assets	£m	3	1907.631	1994.939	2073.483	2139.704					
B	**CURRENT ASSETS**											
5	Stocks	£m	3	2.379	2.021	2.269	2.368					
6	Debtors	£m	3	28.824	27.167	30.759	29.832					
7	Cash	£m	3	9.102	1.637	0.792	2.015					
8	Short term deposits	£m	3	5.300	0.600	0.020	1.000					
9	Infrastructure renewals prepayment	£m	3	3.341	0.050	0.000	0.000					
10	Total current assets	£m	3	48.946	31.475	33.840	35.215					
C	**CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR**											
11	Overdrafts	£m	3	0.000	0.000	0.000	0.000					
12	Infrastructure renewals accrual	£m	3	0.000	0.000	-0.702	-5.844					
13	Creditors	£m	3	-118.022	-124.404	-132.752	-131.139					
14	Borrowings	£m	3	0.000	0.000	0.000	0.000					
15	Corporation tax payable	£m	3	0.000	0.000	0.000	-0.189					
16	Ordinary share dividends payable	£m	3	0.000	0.000	0.000	0.000					
17	Preference share dividends payable	£m	3	0.000	0.000	0.000	0.000					
18	Total creditors	£m	3	-118.022	-124.404	-133.454	-137.172					
19	Net current assets	£m	3	-69.076	-92.929	-99.614	-101.957					
D	**CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR**											
20	Borrowings	£m	3	-882.560	-911.560	-947.560	-983.560					
21	Other creditors	£m	3	-96.187	-95.302	-93.773	-91.751					
22	Total creditors	£m	3	-978.747	-1,006.862	-1,041.333	-1,075.311					
E	**PROVISION FOR LIABILITIES AND CHARGES**											
23	Deferred tax provision	£m	3	-187.416	-173.693	-197.982	-195.465					
24	Deferred income - grants and contributions	£m	3	-19.456	-19.785	-21.969	-22.301					
25	Post employment asset / (liabilities)	£m	3	-4.123	2.784	-9.304	-5.880					
26	Other provisions	£m	3	-9.589	-10.315	-5.837	-5.035					
F	**PREFERENCE SHARE CAPITAL**											
27	Preference share capital	£m	3	0.000	0.000	0.000	0.000					
28	Net assets employed	£m	3	639.224	694.139	697.444	733.755					
G	**CAPITAL AND RESERVES**											
29	Called up share capital	£m	3	500.000	500.000	500.000	500.000					
30	Share premium	£m	3	0.000	0.000	0.000	0.000					
31	Profit and loss account	£m	3	-32.466	22.449	25.754	62.065					
32	Other reserves	£m	3	171.690	171.690	171.690	171.690					
33	Capital and reserves	£m	3	639.224	694.139	697.444	733.755					

Table 19 – HC Balance Sheet as at 31 March 2016

The balance sheet in the published regulatory accounts includes a separate analysis of unappointed activities.

There are no Group companies.

The retained profit for the year is £32.017m (post dividend).

The P&L reserves in the Balance Sheet increased by £36.311m and this movement can be shown as follows:

Retained profit for the year	£32.017m
Pension scheme actuarial gain net of deferred tax	£ 4.294m
Movement in P&L Account	**£36.311m**

The company has adopted International Financial Reporting Standards (IFRS) in its statutory accounts for the year end 31st March 2016. The regulatory accounts will continue to be produced under 'Old'* UK generally accepted accounting policies (UK GAAP). As the corporation tax computation for the company will be based on the IFRS statutory accounts it has been agreed with the Regulator that the tax charge and provision in the regulatory accounts should be the same as those shown in the statutory accounts.

*'Old' UKGAAP - this is UK GAAP in existence prior to the introduction of FRS100, FRS101 and FRS102

No minority interests exist.

The elements of PPP included in the table are as follows:

Line 1 - Tangible Fixed Assets

	Alpha	**Omega**	**Kinnegar**	**Total**
	£m	£m	£m	**£m**
Gross	[redacted]	[redacted]	[redacted]	[redacted]
Acc. Deprec	[redacted]	-	-	[redacted]
NBV	[redacted]	[redacted]	[redacted]	[redacted]

[redacted] the NIW assets transferred to and utilised by the concessionaire and subsequent additions of capital maintenance.

Line - 13 Creditors falling due within one year

	Alpha	**Omega**	**Kinnegar**	**Other PPP expense**	**Total**
	£m	£m	£m	£m	£m
Lease obligation due < 1 yr	[redacted]	-	-	-	[redacted]
Accruals	[redacted]	[redacted]	[redacted]	-	[redacted]
Total	**5.180**	**16.251**	**0.223**	**-**	[redacted]

Line 21 - Other creditors falling due after more than one year

	Alpha
	£m
Lease obligation due > 1 yr	[redacted]

Line 26 - Other provisions

	Omega
	£m
Provisions	[redacted]

Significant features and movements

Fixed Assets

Increase of £66m in line with in year additions of £181m, capital contributions of £39m, HC depreciation of £80m, disposals of £0.9m and a movement from an infrastructure accrual of £0.702m to an infrastructure accrual of £5.844m.

Debtors

Decreased by £0.927m from £30.759m to £29.832m (3.0%). This is primarily due to:

- Measured, unmeasured and TE debtors decreased by £3.1m
- Measured, unmeasured and TE bad debt provision decreased by £1.5m
- Accrued income from measured and TE customers increased by £0.8m.
- VAT receivable debtors decreased by £1.0m.
- DRD Subsidy debtor increased by £0.2m
- Other Prepayments increased by £0.3m
- PPP Capital maintenance increased by [redacted]

Cash and Short term deposits

Cash has increased by £1.223m from £0.792m to £2.015m (154.4%) and Short term deposits have increased by £0.980 from £0.020m to £1.000m (490.0%).

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	£126m
Net Interest paid	£ 53m
Dividend paid	£ 23m
PPP Lease payments	£ [redacted]
Increase in cash	£ 1m
Increase in deposit monies	£ 1m
Total	[redacted]

Funded by:

Generated from operations	£170m
Loans	£ 36m
Total	[redacted]

Deferred tax

The deferred tax balance has decreased from £197.982m to £195.465m. An explanation for this has been included in the commentary to Table 18.

Borrowings > 1 year

Borrowings have increased by £36m from £947.56m to £983.560m. The additions to capital expenditure during the year were £181.0m. 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 £9.304m decreased to a Pension liability of £5.880m (a change in value of 36.8%).

This can be shown as follows:

	£m
Opening balance at 1.4.15	**(9.304)**
Current Service Costs	(11.175)
Administration Costs	(0.769)
Past Service Costs	1.129
Contributions	10.326
Finance Cost	(0.400)
Actuarial Gain	5.348
Decrease in Deferred tax asset on liability	(1.035)
Closing balance 31.3.16	**(5.880)**

Other provisions

Decreased from £5.837m to £5.035m (15.9%).

This decrease of £0.802m can be summarised as follows:

	£m
Decrease in Environmental provision	(2.403)
New provision for holiday pay	1.511
Increase in PL/EL	0.090
Total	**(0.802)**

PPP – Infrastructure renewals charge (IRC) and expenditure (IRE)
– Capital Maintenance

The table below summarises the IRC, IRE and capital maintenance during 2015/16 in relation to the PPP projects:

	Alpha	**Omega**	**Kinnegar**	**Total**
	£m	£m	£m	**£m**
IRE	-	-	-	**-**
IRC	-	-	-	**-**
Capital maintenance	1.228	-	-	**1.228**

Alpha

Alpha is treated as ‘on balance sheet’ and an amount of the unitary charge for Alpha is deemed to be related to the carrying out of capital maintenance by the operator. For 2015-16 this is confirmed by the operator to be [redacted] This amount is credited to the Profit and Loss account and debited to Alpha fixed assets.

This capital maintenance is assumed to be 100% non-infrastructure and there are no infrastructure additions to Alpha in 2015-16 (2014-15: nil). There has therefore been no apportionment of IRC in 2015-16 (2014-15: nil).

Omega and Kinnegar

Both Omega and Kinnegar are treated as ‘off balance sheet’ and the additions in year relate to the residual interest asset with no related IRE, IRC or capital maintenance aspects.

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	MATURITY years 0dp	PRINCIPAL SUM £m 3dp	principle sum £m 3dp	REAL COUPON % 2dp	INTEREST RATE % 2dp	EQUIVALENT £m 3dp	EQUIVALENT £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	11	627.560	6903.160	3.65%	5.25%	32.947	32.947	627.560
302	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	20.000	220.000	3.43%	5.03%	1.006	1.006	20.000
303	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	20.000	220.000	3.29%	4.89%	0.978	0.978	20.000
304	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	20.000	220.000	2.88%	4.48%	0.896	0.896	20.000
305	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	10.000	110.000	3.53%	5.13%	0.513	0.513	10.000
306	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	10.000	110.000	3.56%	5.16%	0.516	0.516	10.000
307	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	10.000	110.000	3.67%	5.27%	0.527	0.527	10.000
308	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	20.000	220.000	3.45%	5.05%	1.010	1.010	20.000
309	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	3.20%	4.80%	0.240	0.240	5.000
310	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	15.000	165.000	2.79%	4.39%	0.659	0.659	15.000
311	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	7.000	77.000	1.90%	3.50%	0.245	0.245	7.000
312	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	10.000	110.000	1.77%	3.37%	0.337	0.337	10.000
313	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	15.000	165.000	2.02%	3.62%	0.543	0.543	15.000
314	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	18.000	198.000	2.08%	3.68%	0.662	0.662	18.000
315	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	8.000	88.000	2.04%	3.64%	0.291	0.291	8.000
316	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	8.000	88.000	1.76%	3.36%	0.269	0.269	8.000
317	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	1.62%	3.22%	0.161	0.161	5.000
318	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	20.000	220.000	1.46%	3.06%	0.612	0.612	20.000
319	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	10.000	110.000	1.53%	3.13%	0.313	0.313	10.000
320	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	24.000	264.000	1.62%	3.22%	0.773	0.773	24.000
321	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	2.39%	3.99%	0.200	0.200	5.000
322	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	8.000	88.000	2.50%	4.10%	0.328	0.328	8.000
323	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	2.35%	3.95%	0.198	0.198	5.000
324	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	11.000	121.000	2.31%	3.91%	0.430	0.430	11.000
325	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	2.26%	3.86%	0.193	0.193	5.000
326	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	2.12%	3.72%	0.186	0.186	5.000
327	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	2.31%	3.91%	0.196	0.196	5.000
328	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	1.55%	3.15%	0.158	0.158	5.000
329	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	1.60%	3.20%	0.160	0.160	5.000
330	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	8.000	88.000	1.20%	2.80%	0.224	0.224	8.000
331	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	3.000	33.000	1.01%	2.61%	0.078	0.078	3.000
332	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	13.000	143.000	1.06%	2.66%	0.346	0.346	13.000
333	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	1.46%	3.06%	0.153	0.153	5.000
334	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	8.000	88.000	1.32%	2.92%	0.234	0.234	8.000
335	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	1.07%	2.67%	0.134	0.134	5.000
336	Capital loan note issued under GBP £1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	11	5.000	55.000	0.88%	2.48%	0.124	0.124	5.000
C2	Floating rate instruments								
351									
"									
400									
C3	Index linked instruments								
401									
"									
450									
	TOTAL FOR OTHER BORROWINGS		983.560				46.837	46.837	983.560
D	TOTALS		983.56	10819.16			46.837	46.837	983.560

E	RPI assumption	1.6%

F	ANALYSIS	
F	INDICATIVE INTEREST RATES	
F1	Nominal interest	4.8%
F2	Cash interest	4.8%

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	11

Table 19a – Analysis of Borrowings due after more than One Year

At 31 March 2016 NIW borrowings related to Capital Loan Notes issued under a £1,280,200,000 Fixed Coupon Unsecured Loan note 2027. Loan notes were issued under this facility in the period to 31 March 2016. This facility provided finance for capital investment only.

The loan note subscription agreement provides 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 UK HM Government Debt Management Office on the date of issue of the loan note.

In 2015/16 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 in a £20m overdraft facility. That facility was not utilised during 2015/16.

For the period beyond 31 March 2016 NIW has access to borrowings through:

A £600m **Fixed Coupon Unsecured Loan Note 2034**. Loan notes can be issued under this facility in the period from 1 April 2016 to 31 March 2021. These loan notes will carry fixed interest rates based on a margin of 0.85% above the reference gilt rate published by UK HM Government Debt Management Office on the date of issue of the loan note.

An **Overdraft facility**, for £20m, provides financing for working capital requirements of NIW. This is available until 31 March 2021 at a cost of Libor + 0.35%.

Other than for column 8 the calculated cells match the guidance definitions.

Column 8 requests details of the full year equivalent cash interest payment. For fixed rate instruments this should be copied from the full year equivalent nominal interest. However the guidance indicates that this is in column 6 whereas it is detailed in column 7. The information disclosed was copied from column 7.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 20 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)
PROFIT AND LOSS ACCOUNT 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 2021-22
1	Turnover	£m	3	366.398	361.313	364.407	367.287					
2	Current cost operating costs (including CCD & IRC)	£m	3	-349.470	-343.723	-306.624	-315.156					
3	Operating income	£m	3	0.303	0.208	0.488	0.091					
4	Working capital adjustment	£m	3	2.641	2.001	0.840	1.516					
5	Current cost operating profit	£m	3	19.872	19.799	59.111	53.738					
6	Other income	£m	3	0.000	0.000	0.000	0.000					
7	Net interest receivable less payable	£m	3	-55.067	-48.580	-51.957	-53.609					
8	Financing adjustment	£m	3	30.464	23.962	9.183	16.324					
9	Current cost profit before taxation	£m	3	-4.731	-4.819	16.337	16.453					
10	Current tax	£m	3	0.000	0.000	-0.017	-0.018					
11	Deferred tax	£m	3	-24.872	13.798	-24.037	2.536					
12	Current cost profit on ordinary activities	£m	3	-29.603	8.979	-7.717	18.971					
13	Extraordinary items	£m	3	0.000	0.000	0.000	0.000					
14	Current cost profit attributable to shareholders	£m	3	-29.603	8.979	-7.717	18.971					
15	Dividends	£m	3	-26.587	-21.391	-21.562	-22.887					
16	Current cost profit retained	£m	3	-56.190	-12.412	-29.279	-3.916					

Table 20 – CC Profit and Loss account for year ending 31 March 2016

There are no exceptional charges or income. Atypical and reorganisation costs are shown separately in the commentary to Table 21 and 22.

The calculation of the financing adjustment excludes dividends payable. There are no minority interests.

PPP charges within operating costs line 2 can be summarised as follows:

	Gross Charge	Residual interest credit	Lease repayment	Capital maintenance	CC Depreciation	Net P&L Charge
	£m	£m	£m	£m	£m	£m
Alpha	[redacted]	-	[redacted]	[redacted]	[redacted]	[redacted]
Omega	[redacted]	[redacted]	-	-	-	[redacted]
Kinnegar	[redacted]	[redacted]	-	-	-	[redacted]
Total	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Line 7 Net interest receivable less payable includes [redacted] interest payable on Alpha PPP finance lease.

Comparison with prior year results

	2015-2016	2014-2015	Variance
		£m	%
Turnover	367.287	364.407	0.8
CC Operating profit	53.738	59.111	9.1
CC profit/(loss) attributable to shareholders	18.971	(7.717)	345.8
Dividends	(22.887)	(21.562)	6.1
CC (loss) retained	(3.916)	(29.279)	86.6%

Sales have increased in 2016 by £2.880m (0.8%) due to:

- Increase in unmeasured household income £1.800m
- Increase in unmeasured non-household income £0.090m
- Increase in measured non-household income £4.961m
- Increase in trade effluent income £0.996m
- Increase in road drainage income £0.875m
- Decrease in large user income (£5.887m)
- Increase in other income £0.045m

  Total increase **£2.880m**

(See Table 23 for detail on water and sewerage income changes).

Operating costs have risen by £8.532m (2.8%) over the same period and the overall impact is that the CC operating profit margin has fallen from 16.2% to 14.6%. As in previous years the overall focus on cost reduction throughout the business has continued during 2015-16 although overall operating costs before taking account of IRC, CCD and amortisation have risen by £9.4m from £174.0m to £183.4 (5.4%). The main driver of this overall cost increase is the increase in Rates from £12.7m to £26.6m (109.4%). This is due to the revaluation for rating purposes of NIW properties carried out by Land and Property Services. Some of the main changes in operating costs in 2016 include:

- Employment costs have risen by £1.6m (7.4%)
- Power costs have fallen by £2.5 m (7.8%)
- Hired and Contracted services have fallen by £2.3m (12.5%)
- Rates costs have risen by £12.7m (91.2%)
- General and support costs have risen by £1.5m (4.6%)
- Other Business Activities have fallen by £0.8m (40.7%)
- Doubtful debts have fallen by £1.1m (131.6%)
- CCD has risen by £6.5m (6.3%).
- IRC has fallen by £7.0m (21.7%)

The loss attributable to shareholders in 2014-15 of £29.279m has been reduced to a loss attributable to shareholders of £3.916m in 2015-16 (an increase in profitability of £25.363m or 86.6%) primarily due to:

- Net interest payable increase by £1.65m.
- Deferred tax has moved from a charge of £24.0m to a credit of £2.5m decreasing costs year on year by £26.5m.
- Working capital and financing adjustments increased by £7.8m (although remain credit items).

Offset by:

- Operating costs increase by £8.5m.
- Sales increase of £2.9m.
- Dividends increase of £1.3m
- Decrease in cc profit on disposal of £0.4m.

There was a dividend declared and approved for 2014/15 of £24.736m (accounted for in 2015-16) with £22.887m attributed to appointed activities.

Cost components in Operating Costs

The following cost components of Line 2 (£315.156m) exceed £5m in 2015-16:

Wages and Salaries	43.904m*^
Other pension costs	10.168m*
Power	30.042m*
Rates	26.547m*
Contractors	18.822m*
Out sourced billing	5.987m
PPP Operating Charges –Alpha	[redacted]
PPP Operating Charges –Omega	[redacted]
IRC	25.286m
Current cost depreciation	110.522m
Total	[redacted]
	([redacted] of total Operating Costs)

***** 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).

^^ stated net of residual interest credit.

Voluntary Early Retirement and Pension

The VER schemes in 2015/16 and 2014/15 can be summarised as follows:

	2015-16	**2014-15**

Number	2*	4*
Non pension element	-	-
Pension element	£0.468m	£0.540m
Total	£0.468m	£0.540m

***** [redacted] ill health retirees (2014/15-[redacted] ill health retirees).

Voluntary Severance (VS) Scheme

The VS schemes in 2015/16 and 2014/15 can be summarised as follows:

	2015-16	**2015-16**	**2015-16**	**2014-15**	**2014-15**	**2014-15**
	VS Under 55	VS 60+	**Total**	VS Under 55	VS 60+	**Total**
Number	-	7	7	-	7	**7**
Total	-	£0.115m	£0.115m	-	£0.154m	**£0.154m**

The future VER/VS schemes are still to be finalised.

The total costs, payments and accruals for VER and VS are as follows:

	2015-16	**2014-15**	**2015-16**	**2014-15**
	VER	**VER**	**VS**	**VS**
Total Cost	£0.468m	£0.540m	£0.115m	£0.154m
Payments in year	Nil	Nil	£0.059m	Nil
Accrual at year end due to employees	Nil	Nil	£0.056m	£0.154m
Accrual at year end due to pension fund	£0.468m	£0.540m	Nil	Nil

The entries for the pension related elements of VER and the change in the pension asset (before deferred tax) over the year can be summarised as follows:

	BS	**BS**	**BS**	**P&L**	**P&L**	**P&L**	**P&L**	**P&L**	**P&L**
	A/C 2956	**A/C 1752**	**A/C 3119**	**A/C 5150**	**A/C 5117**	**A/C 5155**	**A/C 5140**	**A/C 4511**	**TOTAL**
	£m	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**	**£m**
Opening Deficit-pension	(11.630)								
Current Service Costs	(11.175)			0.049	2.802	6.597	1.727		11.175
Admin. Costs	(0.769)					0.769			0.769
Past Service Credit	1.129						(1.129)		(1.129)
Paid	10.326	(10.326)							(10.326)
Net Finance Interest Cost	(0.400)							0.400	0.400
Actuarial Gain	5.348		(5.348)						
Closing Liability-pension	(7.171)								

Key to Account codes

Code		
2956	BS	Pension

1752	BS	Bank
3119	BS	STRGL
5150	P&L Acct	Salaries- Basic
5117	P&L Acct	Superannuation – Industrial
5155	P&L Acct	Superannuation – Non Industrial
5140	P&L Acct	Retirement –movement in provision
4511	P&L Acct	Interest Received

There are no non pension related lump sums in relation to VER 2015/16 as the two leavers left under ill-health retirement with pension fund payments only.

The accounting entries for the VS schemes for 2015/16 are as follows:

Dr 5140 Retirement movement in provision	£0.115 m
Cr 1752 Bank	£0.059 m
Cr 2313 Accruals	£0.056 m

NIW Pension Fund

The Statutory Accounts at 31 March 2016 (Note 21) shows a full disclosure for the NIW pension fund. An extract of this is shown below:

Movements in fair value of plan assets

	Total year to 31 March 2016	Total year to 31 March 2015
	£000	£000
At the beginning of the year	**204,113**	170,993
Movement in year		
Expected return on assets	**-**	-
Interest on pension scheme assets	**7,006**	8,018
Contributions by plan participants	**1,083**	881
Contributions by employer	**10,326**	10,536
Actuarial gain/(loss)	**(10,312)**	17,328
Benefits paid	**(3,885)**	(2,901)
Settlement payments from plan	**-**	-
Administrative expenses and insurance	**(769)**	(742)
	207,562	204,113

Movement in present value of defined benefit obligations

Total year to 31 March 2016	Total year to 31 March 2015
£000	£000

At the beginning of the year	**215,743**	167,513
Movement in year		
Current service cost	**11,175**	10,190
Interest on scheme liabilities	**7,406**	7,863
Past service costs	**(1,129)**	1,018
Actuarial (gain)/loss	**(15,660)**	31,179
Contributions by plan participants	**1,083**	881
Benefits paid	**(3,885)**	(2,901)
Settlement payments from plan	**-**	-
	214,733	215,743

Scheme assets and liabilities

	Total at 31 March 2016	Total at 31 March 2015
	£000	£000
Equities	**60,998**	59,871
Corporate bonds	**27,831**	26,447
Gilts	**55,455**	54,588
Other	**41,640**	43,042
Property	**21,638**	20,165
Total market value of assets	**207,562**	204,113
Actuarial value of liabilities	**(214,733)**	(215,743)
Surplus/ (deficit) in the scheme - pension asset / (liability)	**(7,171)**	(11,630)
Related deferred tax (liability)/asset	**1,291**	2,326
Net pension asset / (liability)	**(5,880)**	(9,304)

The year-end pension liability as shown above before deferred tax is £7.171m.

There have been no pension costs directly allocated to non-appointed costs as management consider that the cost of obtaining this information would outweigh any benefits of it being available. However the operating costs attributed to non-appointed activities would include an apportionment of pension costs.

Business Improvement costs

Business improvement costs are not analysed through the Oracle financial system but are separately identified at month end for reporting purposes only. These costs are included within line 2 – current cost operating costs and can be summarised as follows:

	£m
Salaries	1.331
Hired and contracted	0.309
Materials and Equipment	0.016
Other costs of employment	0.015
Other expenses	0.012
Total	**1.683**

Reprofiling of costs may occur during the year as part of the quarterly reforecasting process.

Capitalisation of costs

During 2015/16 £12.723m of costs were capitalised from the profit and loss account. This can be broken down as follows:

Cost	**£m**
Staff Costs	10.521
Labour charge	0.149
Temporary staff	0.170
Consultants	0.150
Overheads capitalised	1.733
Total	**12.723**

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.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (CURRENT 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	3.573	10.559	14.131
2	Power	£m	3	4.616	3.280	7.897
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	2.196	5.294	7.490
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	3.565	0.510	4.075
7	Service charges	£m	3	0.650	0.013	0.663
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	0.003	0.046	0.049
10	Total direct costs	£m	3	14.602	19.703	34.305
11	General and support expenditure	£m	3	6.974	8.719	15.693
12	Functional expenditure	£m	3	21.576	28.422	49.998
B	**OPERATING EXPENDITURE**					
13	Customer services	£m	3			4.222
14	Scientific services	£m	3			1.321
15	Other business activities	£m	3			0.619
16	Total business activities	£m	3			6.161
17	Rates	£m	3			9.288
18	Doubtful debts	£m	3			0.302
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			65.750
21	Third party services - opex	£m	3			0.000
21a	PPP Unitary Charges (Opex element)	£m	3			
22	Total operating expenditure	£m	3			65.750
22a	Payment by concessionaire to operator	£m	3			
C	**OPEX)**					
23	Reactive and planned maintenance infrastructure	£m	3	0.000	7.150	7.150
24	Reactive and planned maintenance non-infrastructure	£m	3	1.058	4.521	5.579
D	**CAPITAL MAINTENANCE**					
25	Infrastructure renewals charge (excluding third party services)	£m	3	14.410	0.000	14.410
26	Current cost depreciation (allocated)	£m	3	18.282	20.071	38.353
27	Amortisation of deferred credits	£m	3			-1.588
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities current cost depreciation (non-allocated)	£m	3			0.164
30	Capital maintenance excluding third party services	£m	3			51.339
31	Third party services - current cost depreciation	£m	3			0.000
32	Third party services - infrastructure renewals charge	£m	3			0.000
33	Total capital maintenance	£m	3			51.339
34	Total operating costs	£m	3			117.089

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (CURRENT 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	[redacted]	[redacted]	[redacted]
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	0.081	0.000	0.081
8	Bulk supply imports	£m	3			
9	Other direct costs	£m	3	0.000	0.000	0.000
10	Total direct costs	£m	3	4.652	0.000	4.652
11	General and support expenditure (NIW Only)	£m	3	[redacted]	[redacted]	[redacted]
12	Functional expenditure	£m	3	4.682	0.000	4.682
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			[redacted]
18	Doubtful debts	£m	3			
19	Exceptional items	£m	3			
20	Total opex less third party services	£m	3			11.197
21	Third party services - opex	£m	3			
21a	PPP Unitary Charges (Opex element)	£m	3			[redacted]
22	Total operating expenditure	£m	3			[redacted]
22a	Payment by concessionaire to operator	£m	3	[redacted]	[redacted]	[redacted]
C	OPEX)					
23	Reactive and planned maintenance infrastructure	£m	3			
24	Reactive and planned maintenance non-infrastructure	£m	3			
D	CAPITAL MAINTENANCE					
25	Infrastructure renewals charge (excluding third party services)	£m	3	0.000	0.000	0.000
26	Current cost depreciation (allocated)	£m	3	4.146	0.000	4.146
27	Amortisation of deferred credits	£m	3			0.000
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities current cost depreciation (non-allocated)	£m	3			0.000
30	Capital maintenance excluding third party services	£m	3			4.146
31	Third party services - current cost depreciation	£m	3			0.000
32	Third party services - infrastructure renewals charge	£m	3			0.000
33	Total capital maintenance	£m	3			4.146
34	Total operating costs	£m	3			[redacted]

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (CURRENT 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	3.573	10.559	14.131
2	Power	£m	3	[redacted]	[redacted]	[redacted]
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	2.196	5.294	7.490
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	3.565	0.510	4.075
7	Service charges	£m	3	0.731	0.013	0.744
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	0.003	0.046	0.049
10	Total direct costs	£m	3	19.254	19.703	38.957
11	General and support expenditure	£m	3	[redacted]	[redacted]	[redacted]
12	Functional expenditure	£m	3	26.258	28.422	54.680
B	**OPERATING EXPENDITURE**					
13	Customer services	£m	3			4.222
14	Scientific services	£m	3			1.321
15	Other business activities	£m	3			0.619
16	Total business activities	£m	3			6.161
17	Rates	£m	3			[redacted]
18	Doubtful debts	£m	3			0.302
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			76.947
21	Third party services - opex	£m	3			0.000
21a	PPP Unitary Charges (Opex element)	£m	3			[redacted]
22	Total operating expenditure	£m	3			[redacted]
22a	Payment by concessionaire to operator	£m	3	[redacted]	[redacted]	[redacted]
C	**OPEX)**					
23	Reactive and planned maintenance infrastructure	£m	3	0.000	7.150	7.150
24	Reactive and planned maintenance non-infrastructure	£m	3	1.058	4.521	5.579
D	**CAPITAL MAINTENANCE**					
25	Infrastructure renewals charge (excluding third party services)	£m	3	14.410	0.000	14.410
26	Current cost depreciation (allocated)	£m	3	22.428	20.071	42.499
27	Amortisation of deferred credits	£m	3			-1.588
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities current cost depreciation (non-allocated)	£m	3			0.164
30	Capital maintenance excluding third party services	£m	3			55.485
31	Third party services - current cost depreciation	£m	3			0.000
32	Third party services - infrastructure renewals charge	£m	3			0.000
33	Total capital maintenance	£m	3			55.485
34	Total operating costs	£m	3			[redacted]

Tables 21 & 22 Activity Costing Analysis – Water & Sewerage Service

The costs in Tables 21 & 22 are populated with the updated information available at 9th May 2016 for the year ended 31 March 2016.

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 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;
    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 AIR16. 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 AIR15 to AIR16 (by circa £1.5M). 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 AIR16.

Allocation of General and Suppo	Water		Sewerage			
Description	R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp	Comments
G&S Overhead Pot 1	24.7%	26.3%	19.4%	24.2%	5.5%	Non ops general spend. Excludes CS, SS & Regulation
G&S Overhead Pot 2a - Water	48.5%	51.5%	0.0%	0.0%	0.0%	Water related activities only
G&S Overhead Pot 2b - Sewerage	0.0%	0.0%	39.5%	49.3%	11.2%	Sewerage activities only
G&S Overhead Pot 3 SA 390	24.7%	26.3%	19.4%	24.2%	5.5%	Water and sewerage networks spend only
G&S Overhead Pot 3 M&E	8.0%	19.0%	31.0%	42.0%	0.0%	Function

The percentage splits in AIR16 used to allocate General & Support expenditure are consistent with AIR15. The allocation to Water from General & Support Overhead Pot 1, which contains approx. 70% of the costs, remains consistent with AIR15. The main change in allocations from AIR15 is in the allocation of G&S Overhead Pot 3 M&E which has increased its allocation to water from 17% in AIR15 to 27% in AIR16. This is due to a revision of the split as advised by the M&E Function based on their activity carried out in the various Functions during the financial year. Further explanation is detailed later in the commentary.

The costs of the CRC Energy Efficiency Scheme are 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 2015/16 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 has increased slightly from 50.7% in AIR15 to 51.0% in AIR16 while allocation to Sewerage has decreased slightly from 49.3% in AIR15 to 49.0% in AIR16.

The table below shows the basis of apportionment for AIR16.

Apportionment of business activities	Water		Sewerage		
Description	R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp
BASIS - Total spend (Includes general & Support)	24.6%	26.5%	19.2%	24.2%	5.5%
Apportionment					
Water / Sewerage split	51.0%		49.0%		

Rates were allocated between Table 21 and Table 22 using the rates bills. The rates charge can be specifically identified from the rates bill. In AIR16 overall rates are split 59.5% Water and 40.5% Sewerage which is only slightly different from the AIR15 split of 57% Water 43% Sewerage. The reason for the change is due to ongoing work with Land & Property Services (LPS) which has resulted in a more refined basis for the accrual for unbilled WWTWs.

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:

Reorganisation costs

Reorganisation costs included within reported totals on Tables 21 and 22 are provided in the table below:

Description	Amount	Table 21/22 location
Business Improvement Programme	£1.7M	General & Support – all activities
Voluntary Early Retirement Scheme \ Voluntary Severance (VER \ VS)	£0.6M	Employment Costs and General & Support – all activities
Total	**£2.3M**	

Business Improvement Programme

The Business Improvement Programme ("BIP") 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 AIR16 was £1.7M which is relatively unchanged from AIR15 (£1.6M).

Voluntary Early Retirement

During 2015/16 NI Water further reduced the workforce resulting in the release of Voluntary Early Retirement (VER) and Voluntary Severance (VS) schemes. Further details on the staff reduction programme is contained within the Annual Report.

The cost of £0.6M can be broken down as follows:

Description	Amount
VER / VS scheme payments	£0.1M
Ill Health Retirement payments	£0.5M
Total	**£0.6M**

The payments made during the year totalled £0.6M in relation to the 2015/16 scheme while the corresponding charge for AIR15 was £0.7M.

Holiday Pay on Overtime

In the 2015/16 accounts £2.1M has been allowed for holiday pay on overtime. This is made up of an accrual of £0.6M and a provision of £1.5M. Entitlement to paid holiday leave is provided for by the Working Time Regulations 1998, however after a number of challenges ended up in employment tribunals (outside NI Water), with rulings that holiday pay should be equivalent to a worker's "normal" pay with overtime being part of normal pay, a provision for NI Water staff was made. The accrual covers the period 2014/15 and 2015/16 as there has been legislation in GB that limits past liabilities to 2 years. The provision covers 2010/11 to 2013/14 as employees may seek underpayments for a maximum of 6 year period.

Negative Opex

NIW generate income from the sale of electricity and Renewable Obligation Certificates (ROCs) by way of water turbine and solar installations. In 2015/16 this income amounted to £0.3m.

Employment Costs

Staff costs for total NI Water come to circa £48M as detailed below which is consistent with AIR15. These costs include the £0.7M VER\VS costs outlined above. Only circa £24M is included in Employment Costs (Line 1) in Tables 21 & 22 (AIR15 circa £22M).

The table below provides the reconciliation between these amounts:

Description	**Amount**	**Table 21/22 location**
Industrial Wages	£18.8M	
Salaries	£27.0M	
Temporary Staff	£1.0M	
Other Costs of Employment	£0.9M	
Staff Expenses	£1.0M	
Total NI Water staff costs	**£48.7M**	
Less:		
Customer Services	(£3.6M)	Customer Services
Scientific Services	(£1.3M)	Scientific Services
Regulation	(£0.6M)	Other Business Activities
Unallocated	(£19.6M)	General & Support
Total Employment Costs	**£23.6M**	**£14.1M Table 21 and £9.5M Table 22**

The unallocated amount of circa £19.6M 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 £1.8M from AIR15 due to an increase in Industrial wages of £1.8M and Salaries of £0.3M which was offset by an decrease of £0.1M in Temporary Staff; Other Costs of Employment of £0.1M and Staff Expenses of £0.1M.

The increase in Industrial Wages was due to the provision made for holiday pay on overtime as mentioned above. Salaries have also increased due to the annual inflationary pay rise.

Hired & Contracted

Hired and Contracted Services of circa £16M in Table 21 and Table 22 are split out in the table below. The corresponding charge in the AIR15 was circa £18M.

Hired & Contracted Services:	**Table 21**	**Table 22**	**TOTAL**
Operational Contractors	£7.2M	£8.7M	£15.9M
Other Contractors	£0.3M	£0.0M	£0.3M
Consultants	£0.0M	£0.0M	£0.0M
TOTAL	**£7.5M**	**£8.7M**	**£16.2M**

Within the Operational Contractors costs of £7.2M in Table 21, circa £2.2M relates to the cost of contractors for Water Treatment with the balance being the cost for the hire of plant and contractors to facilitate the maintenance of the networks. This is consistent with AIR15. Within the Operational Contractors cost of £8.7M in Table 22, circa £2.2M is for the cost of the various Sludge Disposal Routes, circa £4.7M 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.). This is a reduction of £1.8M from AIR15 which will be explained in Table 22 Line 4 below.

There is no spend on Consultants Fees within Hired and Contracted in AIR16.

General & Support Costs

General & Support costs have increased by circa £1.5M from AIR15 (£33.6M) to AIR16 (£35.1M).

The principal costs in this expenditure line are:

Description	**Amount**	**Table 21/22 location**
Unallocated Employment Costs	£19.6M	Included in General & Support (Removed from Employment Costs)
Unallocated Power	£0.2M	Included in General & Support (Removed from Power Costs)
Unallocated Hired & Contracted Costs	£6.2M	Included in General & Support (Removed from Hired & Contracted)
Unallocated Materials & Consumables	£1.4M	Included in General & Support (Removed from Materials & Consumables)
Unallocated Other Direct Costs	£4.6M	Included in General & Support (Removed from Other Direct Costs)
Communication	£1.1M	General & Support
Mobile V&P Charges	£1.7M	General & Support
Other	£0.3M	General & Support
Total	**£35.1M**	**£15.7M Table 21 and £19.4M 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 AIR15 and AIR16. See the **Allocation of costs between service areas** section at the start of the commentary.

The main increases from AIR15 are in Unallocated Hired & Contracted Costs (£1.1M increase) and Unallocated Materials & Consumables (£0.2M increase).

The Unallocated Hired & Contracted Costs have increased by £0.9M in operational contractors due to £0.4M credit received in AIR15 which was not available in AIR16 and an increase in Information Services outsourcing costs.

Table 21 – NI Water Total

A - Direct Costs

Table 21 Total Functional Expenditure in AIR16 has increased by circa £6.8M from AIR15 to AIR16. This is mainly driven by a substantial increase in Rates of £7.9M being off-set by a reduction in Power costs of £1.6M and various other variances which are explained on a line by line basis below:

- Line 1: Employment costs have increased by circa £0.7M from AIR15. This is due to the provision for holiday pay on overtime as mentioned above.
- Line 2: Power costs include electricity costs, fuel costs for power generation and costs for the CRC Energy Efficiency Scheme. Overall the costs have reduced by £1.6M from AIR15. The main reason for the reduction is due to reduced energy tariffs. Power costs include [redacted] related to PPP.
- Line 3: Agencies – there are no costs in this line.
- Line 4: Hired and Contracted Services have decreased by circa £0.4M from AIR15. The decrease has been driven by an decrease in Water Distribution (WD) of £0.5M off-set by an increase of £0.1M in Water Resources & Treatment (WRT). The main reason for the decrease in WD was as a reduction in costs for the maintenance of the network.
- Line 5: Associated companies – there are no costs in this line.
- Line 6: Materials & Consumables have increased by circa £0.1M from AIR15.
- Line 7: Service Charges – the costs are £0.7M with the majority of the costs in WRT for abstraction licences. These are consistent with AIR15. Service Charges include circa [redacted] 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 AIR15.
- Line 10: Total Direct Costs – this is a calculated line and is the total of Line 1-9. AIR16 direct costs are £1.3M less than AIR15. This is driven by the decrease in Power and Hired & Contracted which have been off-set by the increases in the Employment Costs as detailed above.
- Line 11: General & Support expenditure has increased by circa £1.3M from AIR15 to AIR16. The reason for the increase in the costs in Table 21 is the increase in the overall General & Support expenditure (as already discussed) combined with the changes in allocation.

  The percentages used are calculated on the total of Direct Costs for General & Support Pot 1 & 2 which have remained in line with AIR15. However General & Support Pot 3 M&E has changed from AIR15. WRT has increased marginally from 7% to 8% while WD has increased from 10% to 19% resulting in a total increase for Table 21 of 10%. 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 remained constant from AIR15. Line 12 includes [redacted] of costs associated with PPP (AIR15 [redacted]).

B - Operating Expenditure

- Line 13: Customer Services costs have decreased by circa £0.1M compared to AIR15 in Table 21. Customer Services costs are apportioned based on the percentage of direct costs from Table 21 & 22 and are broadly in line with the split

in previous years. In AIR16 the percentage split was calculated at 51.0% Table 21 and 49.0% Table 22. In AIR15 the percentage split was 50.7% and 49.3% between Table 21 & 22 respectively.

- Line 14: Scientific Services costs have remained unchanged from AIR15. 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 from AIR15 by circa £0.4M in Table 21. This is due to a decrease in payments to the NIAUR. 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. The decrease from AIR15 of circa £0.6M is driven by the decreases as detailed above.
- Line 17: Local authority rates have increased dramatically in AIR16 from [redacted] in AIR15 to [redacted] in AIR16. The increase is due to LPS carrying out a revaluation of all commercial properties in the financial year. Rates include circa [redacted] relating to PPP sites.
- Line 18: Doubtful debts have decreased by £0.3M from AIR15 with a charge of £0.3M in AIR16. The doubtful debts have split between Table 21 and Table 22 on a specific line by line basis, consistent with what was done in AIR15.
- 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 £7.0M from AIR15 driven by the increases in the Rates costs as detailed above.
- Line 21: Third party services are immaterial.
- Line 21a: Total PPP Unitary Charge has decreased slightly by circa [redacted] from the AIR15 charge at [redacted] in AIR16. 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 £6.8M from AIR15 mainly due to the huge increase in the Rates expenditure as discussed above. This agrees to Table 35 line 24.
  Total operating expenditure includes circa [redacted] relating to PPP (AIR15 [redacted]).
- Line 22a: This figure has increased by £0.1M from AIR15 and varies 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 decreased by circa £1.3M from AIR15. This is as a result of a reduction on spend on all the activities that feed into this line in WD. The reduction is a combination of reduced activity and rates.
- Line 24: Non-infrastructure, this figure has increased by circa £0.2M from AIR15.

Leakage costs

Operating costs relating to leakage have increased marginally from £5.3M in AIR15 to £5.4M in AIR16. Capital expenditure has remained consistent from AIR15 to AIR16.

Table 22 – NI Water Total

A - Direct Costs

Total Functional Expenditure in Table 22 has increased by circa £2.6M from AIR15 to AIR16. This is mainly driven by a substantial increase in Rates of £4.8M being off-set by a reduction in Power costs of £0.9M; Hired and Contracted Services of £1.9 and various other variances which are explained on a line by line basis below:

- Line 1: Employment costs have increased in Sewerage by circa £0.5M and Sewage Treatment by circa £0.5M from AIR15. This is due to the provision for holiday pay on overtime as mentioned above.
- Line 2: Power costs include electricity costs and fuel costs for power generation and costs for the CRC Energy Efficiency Scheme. Overall the costs have decreased by £0.9M in AIR16 from AIR15. The main reason for the reduction is due to reduced energy tariffs.

  In AIR16 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 AIR16.

  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 44:56 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 AIR15 the estimated split was 48:52.

  Power costs include [redacted] for PPP (AIR15 [redacted]).
- Line 3: Agencies – there are no costs in this line.
- Line 4: Hired and Contracted services have decreased by £1.9M from AIR15. Sewerage has decreased by £1.3M; Sewage Treatment by £0.3M and Sludge Treatment & Disposal of £0.2M. The decrease is due to a reduction in spend on the network through capitalisation and rate reduction and a new sludge contract which resulted in a more favourable rate.
- Line 5: Associated companies– there are no costs in this line.
- Line 6: Materials & Consumables have remained the same as AIR15.
- Line 7: Service Charges – the costs are £1.0M and are consistent with AIR15. The vast majority of these fees relate to NIEA Discharge Consents.
- 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. AIR16 direct costs are £1.8M lower than AIR15. This is driven by the reduction in Power and Hired and Contracted services as detailed above.
- Line 10: General & Support expenditure has increased marginally by circa £0.3M from AIR15 to AIR16. 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 AIR15. However General & Support Pot 3 M&E has changed from AIR15. Sewerage has increased slightly from 32% to 33% while Sewage Treatment has significantly decreased from 51% to 42% resulting in a total decrease for Table 22 of 10%. 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 [redacted] for PPP. This is consistent with AIR15.

- Line 11: This is the calculated total line for Functional Expenditure which has decreased by £1.5M. This decrease is driven by the decreases in Power and Hired and Contracted services as discussed above. Line 11 includes costs of [redacted] associated with PPP (AIR15 [redacted]).

B - Operating Expenditure

- Line 12: Customer Services costs have decreased by circa £0.2M compared to AIR15 in Table 22. Customer Services costs are apportioned based on the percentage of direct costs from Table 21 & 22. In AIR15 the percentage split was calculated at 51.0% Table 21 and 49.0% Table 22. In AIR15 the percentage split was 50.7% and 49.3% between Table 21 & 22 respectively.
- Line 13: Scientific Services costs have decreased marginally from AIR15. 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 have decreased from AIR15 by circa £0.4M in Table 22. This is due to a decrease in payments to the NIAUR. 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. There has decreased by circa £0.6M from AIR15.
- Line 16: Local authority rates have increased dramatically by circa £4.8M from AIR15. The reason for the change is due to ongoing work with Land & Property Services (LPS). This has resulted in a more refined basis for the accrual for unbilled WWTWs and due to LPS carrying out a revaluation of all commercial properties in the financial year. Line 16 includes circa [redacted] for PPP rates.
- Line 17: Doubtful debts have decreased from AIR15 by circa £0.8M. The doubtful debts have split between Table 21 and Table 22 on a specific line by line basis, consistent with what was done in AIR15.
- 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 £1.8M from AIR15. This is primarily driven by the decrease in Power; Hired and Contracted services being off-set by in the increase in Rates as detailed above.
- Line 20: Third party services are immaterial.
- Line 20a: Total PPP Unitary Charge has increased by circa [redacted] from AIR15. 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 £2.5M from AIR15.
  Total operating expenditure includes [redacted] of costs associated with PPP (AIR15 [redacted]).
- 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 [redacted] to [redacted] in AIR16.

C - Reactive & Planned Maintenance

- Line 22: Infrastructure, this figure has reduced by circa £1.1M from AIR15 to £2.5M. This is as a result of a reduction on spend on all the activities that feed into this line in Sewerage. The reduction is a combination of activity and rate and more spend satisfying the capitalisation rules.
- Line 23: Non-infrastructure, this figure has increased by circa £1.8M from AIR15 to £14.3M. The increase is mainly within Sewage Treatment and is due to a increase in M&E expenditure in Sewage Treatment.

Reactive and planned maintenance

The overall approach and allocation process for Tables 21 and 22 has remained consistent with AIR15. 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 2016 were £11.2M (AIR15 £11.8M) which amounts to £10.8M before interest costs of £0.4M (AIR15 £11.9M before interest income of £0.1M) and these were charged to the profit and loss account. This is made up of current service costs of £11.9M (AIR15 £10.9M) and a past service credit of £1.1M (AIR15 past service cost of £1.0M). 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 £10.3M (AIR15 £10.5M) including £0.5M relating to payment of 2014/15 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 2016 shows a reduction in the liability position over the period from £11.6m to £7.2m (before deferred tax).

Further disclosures on pensions are contained in the statutory accounts which are based on the company's actuarial report at 31 March 2016.

Third party costs

Third party costs remain negligible in AIR16 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.

Table 21 – Water Service PPP

Line 2 - Power costs

Power costs for the PPP Alpha sites of [redacted] have fallen by 16.5% from the AIR15 figure. This reduction is largely related to rate but is partially offset by an increase in the Carbon Reduction Commitment charge in 2015/16.

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 AIR15 but this has not changed the reported figure.

Line 11 - General & support expenditure

General and support expenditure has been calculated on the same basis as in AIR15. Costs have fallen slightly as the proportion of salaries attributed to Alpha has fallen in 2015/16.

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 have risen by 96% from AIR15. This is a direct result of the recent revaluation of our cumulo rateable value. At overall level, NI Water have seen a 118% rise in NAV compared to 96 % within PPP. Rates charges are allocated to PPP on the basis of total water supply and the proportion of total water supplied.

Line 21a - PPP unitary charges (Opex)

This line data is drawn directly from the Company's accounts. No additional reconciliation is required.

During 2015/16 the Alpha Concessionaire recognised performance deductions of [redacted] and this is reflected in the [redacted] opex charge. The charge also includes atypical income of [redacted] as follows:

Quality Monitoring Change credit	([redacted])
EIB Step-down	([redacted])
Refund in respect of reorganisation costs	([redacted])
Total	([redacted])

Further details on each of these are given in the commentary to table 42 line 10.

The decrease of [redacted] in the unitary charge cost in AIR15 is made up as follows:

Inflationary increase in capacity charge	[redacted]
Decrease in volumetric charge (inflation and flow related)	[redacted]
Increase in performance deductions	[redacted]

Decrease in atypical credits [redacted]
Increase in amounts capitalised [redacted]
Decrease in interest element of charge [redacted]
[redacted]

Table 22 – Sewerage Service PPP

Line 2 - Power costs

Power costs have reduced from AIR15 by 3.7% as a result of reduced tariffs in 2015/16.

Costs for Duncrue and a 35% allocation of the Ballynacor site costs have been included in column 3 as sludge treatment and disposal costs. This is consistent with AIR15.

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 AIR15 reflecting all costs associated with P101 cost centre. These costs have remained at similar levels to AIR15.

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.

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 increased from AIR15 as a result of the inclusion of sampling for the incinerator. This has increased the total proportion of PPP samples thereby increasing the costs allocated from R113 cost centre. The inclusion of sampling for the incinerator was omitted in error in previous years.

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 AIR16 is 11.8% arising from a revaluation in the NAV. This increase is much lower than the overall NI Water NAV which increased by 72% as a result of the revaluation.

Line 20a - PPP unitary charges (Opex)

The charge for Kinnegar included in this line of [redacted] reflects the invoiced/accrued amounts for the year. These costs have been reduced by the credit for residual interest of [redacted].

The Omega charge of [redacted] reflects unitary charge invoiced and accrued of [redacted] performance deductions of [redacted], the credit for residual interest of [redacted] and atypical costs of ([redacted]) as follows:

North Down and Ards Disinfection Change	([redacted])
Supplemental 4 Agreement	([redacted])
Change in Calibration Frequency	([redacted])
Claim re TE management obligations	[redacted]
2015/16 out of spec sludges	[redacted]
Agreed DWF change at Ballynacor	([redacted])
NIW Payment for Access Gate at NDA	([redacted])
Total	([redacted])

Further details on all of these atypical amounts are given in the commentary to line 10 of table 42.

The charge on this line has increased by [redacted] from AIR15. This movement can be summarised as follows:

Increase in volumetric charge (inflationary and flow related)	[redacted]
Decrease in performance deductions	[redacted]
Decrease in atypical costs	([redacted])
Increase in amounts capitalised	([redacted])
	[redacted]

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 22 REGULATORY ACCOUNTS (CURRENT 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	4.367	4.959	0.214	9.540
2	Power	£m	3	5.331	8.809	-0.278	13.862
3	Agencies	£m	3	0.000	0.000	0.000	0.000
4	Hired and contracted services	£m	3	4.657	1.865	2.163	8.684
5	Associated companies	£m	3	0.000	0.000	0.000	0.000
6	Materials and consumables	£m	3	0.132	0.468	0.473	1.074
7	Service charges	£m	3	0.148	0.652	0.185	0.984
8	Other direct costs	£m	3	0.012	0.009	0.001	0.021
9	Total direct costs	£m	3	14.646	16.762	2.757	34.165
10	General and support expenditure	£m	3	7.780	9.962	1.409	19.151
11	Functional expenditure	£m	3	22.426	26.724	4.166	53.316
B	**OPERATING EXPENDITURE**						
12	Customer services	£m	3				4.049
13	Scientific services	£m	3				1.169
14	Other business activities	£m	3				0.594
15	Total business activities	£m	3				5.811
16	Rates	£m	3				9.680
17	Doubtful debts	£m	3				-0.566
18	Exceptional items	£m	3				0.000
19	Total opex less third party services	£m	3				68.241
20	Third party services - opex	£m	3				0.000
20a	PPP Unitary Charges (Opex element)	£m	3				
21	Total operating expenditure	£m	3				68.241
21a	Payment by concessionaire to operator	£m	3				
C	**OPEX)**						
22	Reactive and planned maintenance infrastructure	£m	3	2.501	0.000	0.000	2.501
23	Reactive and planned maintenance non-infrastructure	£m	3	10.494	3.799	0.000	14.293
D	**CAPITAL MAINTENANCE**						
24	Infrastructure renewals charge (excluding third party services)	£m	3	10.876		0.000	10.876
25	Current cost depreciation (allocated)	£m	3	2.513	63.691	1.653	67.857
26	Amortisation of deferred credits	£m	3				-2.459
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities current cost depreciation (non-allocated)	£m	3				0.004
29	Capital maintenance excluding third party services	£m	3				76.278
30	Third party services - current cost depreciation	£m	3				0.000
31	Third party services - infrastructure renewals charge	£m	3				0.000
32	Total capital maintenance	£m	3				76.278
33	Total operating costs	£m	3				144.519

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (CURRENT 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	[redacted]	[redacted]	[redacted]	[redacted]
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	1.979	1.526	3.505
10	General and support expenditure (NIW Only)	£m	3	[redacted]	[redacted]	[redacted]	[redacted]
11	Functional expenditure	£m	3	0.000	2.144	1.579	3.723
B	**OPERATING EXPENDITURE**						
12	Customer services	£m	3				
13	Scientific services	£m	3				0.098
14	Other business activities	£m	3				
15	Total business activities	£m	3				0.075
16	Rates	£m	3				1.064
17	Doubtful debts	£m	3				
18	Exceptional items	£m	3				
19	Total opex less third party services	£m	3				4.885
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**						
24	Infrastructure renewals charge (excluding third party services)	£m	3	0.000		0.000	0.000
25	Current cost depreciation (allocated)	£m	3	0.000	0.000	0.000	0.000
26	Amortisation of deferred credits	£m	3				0.000
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities current cost depreciation (non-allocated)	£m	3				0.000
29	Capital maintenance excluding third party services	£m	3				0.000
30	Third party services - current cost depreciation	£m	3				0.000
31	Third party services - infrastructure renewals charge	£m	3				0.000
32	Total capital maintenance	£m	3				0.000
33	Total operating costs	£m	3				[redacted]

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (CURRENT 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	4.367	4.959	0.214	9.540
2	Power	£m	3	[redacted]	[redacted]	[redacted]	[redacted]
3	Agencies	£m	3	0.000	0.000	0.000	0.000
4	Hired and contracted services	£m	3	4.657	1.865	2.163	8.684
5	Associated companies	£m	3	0.000	0.000	0.000	0.000
6	Materials and consumables	£m	3	0.132	0.468	0.473	1.074
7	Service charges	£m	3	0.148	0.652	0.185	0.984
8	Other direct costs	£m	3	0.012	0.009	0.001	0.021
9	Total direct costs	£m	3	14.646	18.741	4.283	37.670
10	General and support expenditure	£m	3	[redacted]	[redacted]	[redacted]	[redacted]
11	Functional expenditure	£m	3	22.426	28.868	5.745	57.039
B	**OPERATING EXPENDITURE**						
12	Customer services	£m	3				4.049
13	Scientific services	£m	3				1.267
14	Other business activities	£m	3				0.594
15	Total business activities	£m	3				6.535
16	Rates	£m	3				10.744
17	Doubtful debts	£m	3				-0.566
18	Exceptional items	£m	3				0.000
19	Total opex less third party services	£m	3				73.126
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	2.501	0.000	0.000	2.501
23	Reactive and planned maintenance non-infrastructure	£m	3	10.494	3.799	0.000	14.293
D	**CAPITAL MAINTENANCE**						
24	Infrastructure renewals charge (excluding third party services)	£m	3	10.876		0.000	10.876
25	Current cost depreciation (allocated)	£m	3	2.513	63.691	1.653	67.857
26	Amortisation of deferred credits	£m	3				-2.459
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities current cost depreciation (non-allocated)	£m	3				0.004
29	Capital maintenance excluding third party services	£m	3				76.278
30	Third party services - current cost depreciation	£m	3				0.000
31	Third party services - infrastructure renewals charge	£m	3				0.000
32	Total capital maintenance	£m	3				76.278
33	Total operating costs	£m	3				[redacted]

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
				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	SUBSIDY WATER INCLUDED	SUBSIDY SEWERAGE INCLUDED	CG	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
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	138.923	264.200	125.277	138.923	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	0.968	1.132	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	126.245	140.055	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	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	8.897	5.736	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	8.897	5.736	A2															
7	Trade effluent	£m	3		4.326	4.326		3.889	3.889		3.561	3.561		4.557	4.557	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	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	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	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	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	0.000	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	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	0.196	0.260	0.456	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	0.000	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	A2															
16	Total turnover	£m	3	167.776	198.622	366.398	168.150	193.163	361.313	173.591	190.816	364.407	172.302	194.985	367.287	135.142	145.791	A2															
B	**OPERATING INCOME**																																
17	Current cost profit or loss on sale of fixed assets	£m	3	-0.133	-0.170	-0.303	0.208	0.000	0.208	0.255	0.233	0.488	-0.083	0.174	0.091			A2															
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			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			A2															
20	Total operating income	£m	3	-0.133	-0.170	-0.303	0.208	0.000	0.208	0.255	0.233	0.488	-0.083	0.174	0.091			A2															
C	**WORKING CAPITAL ADJUSTMENT**																																
21	Working capital adjustment	£m	3	2.641	0.000	2.641	2.001	0.000	2.001	0.840	0.000	0.840	1.516	0.000	1.516			A2															
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	A2															

Table 23 – Analysis of turnover and operating income

Working Capital Adjustment

The commentary to Table 26 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 F&R and CS to analyse the system adjustments made in the month and to understand better any budget/forecast variances in the month.

During Day 4, NI Water performs 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; and
- The amount of provision to be made against the accrued income (based on those items of accrued income greater than 210 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 the latest forecast. An initial meeting between Finance and Regulation (F&R) and Customer Services (CS) 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 performance, in advance of the Monthly Accounts meetings held with the Director of F&R (which normally occur around day 6 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 CS, 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.

NI Water also analyses billed income each month by volume and consumption, in what is termed the "Actuals Report". A monthly meeting between F&R and CS is held to review this.

It should be noted that 2015/16 represented the first year of the new Customer Billing Contact (CBC) contract, which Echo were successful in winning, following on from a tender exercise.

Movements in Income against budget

Following on from the monitoring process detailed above, the 2015/16 year-end position of income against budget was as follows:

Income	**Actual Income 2015/15 £m**	**Budget Income 2015/15 £m**	**Variance £m**
Subsidy:			
Domestic phasing subsidy – water	125.3	125.3	0.0
Domestic phasing subsidy – sewerage	139.0	139.0	0.0
Non- domestic phasing subsidy – water	1.0	1.0	0.0
Non - domestic phasing subsidy – sewerage	1.1	1.1	0.0
Domestic Allowance - water	8.9	8.1	0.8
Domestic Allowance - sewerage	5.7	4.4	1.3
Septic tank subsidy	2.5	2.6	(0.1)
Total subsidy	**283.5**	**281.5**	**2.0**
Non domestic income:			
Measured water	36.0	35.5	0.5
Measured sewerage	20.3	21.6	(1.3)
Unmeasured water	0.9	0.9	0.0
Unmeasured sewerage	1.0	1.1	(0.1)
Trade effluent	7.5	6.2	1.3
Total non domestic income	**65.7**	**65.3**	**0.4**
Road drainage income	**20.0**	**20.0**	**0.0**
Other	**3.6**	**3.7**	**(0.1)**
TOTAL INCOME	**372.8**	**370.5**	**2.3**

The above table includes both appointed and un-appointed income.
Specific reasons for the £2.3m increase over budget are:

- With domestic allowance subsidy, this reflects the rateable allowances being claimed by customers, which are refunded to NI Water. During 2015/16, a new report was developed, following on from the introduction of the new CBC contract. This report picked up adjustments that were not being picked up in the previous report. In addition, more customers appear to be applying for the domestic allowance.
- With measured water:
    - While there has not been the level of back-billing seen in 2015/16 compared to 2014/15, there has still been around £0.3m of large back-billings e.g. [redacted].
    - Furthermore, there have been instances of increases in consumption for some customers in measured water (coming to around £0.2m), the major ones being [redacted]
    - To compensate for these, there was an increase in the provision set aside for future system adjustments against back-billed accounts of £0.2m, the provision previously being recognised against bad debt.
- Measured sewerage:
    - The fall in measured sewerage against budget is mainly due to the impact of the TE/Hospital Review. There were reductions in 2015/16 of £2.8m, against a £1.3m release in provision, meaning a net "hit" of £1.5m.
    - Like measured water, there was also an increase in the future system adjustments provision against back-billed accounts of £0.2m, the provision previously being recognised against bad debt. To compensate for this, there has been around £0.2m of large back-billings e.g. [redacted]
- Trade effluent income benefitted from the TE/Hospital Review by approximately £0.5m. The rest of the increase over budget is explained by:
    - The increase in production at the [redacted] site led to an approximate £0.3m increase in revenue.
    - A £0.2m rise in consumption/strengths for other customers e.g. [redacted]
    - A £0.2m increase for [redacted], tied in with EPIC related to measured sewerage customers.
    - £0.1m of other increases.

Movements in Income between 2015/16 and 2014/15

The table below details the income for the year ended 31 March, for both 2016 and 2015:

Income	Actual Income 2015/16 £m	Actual Income 2014/15 £m	Variance £m
Subsidy:			
Domestic phasing subsidy - water	125.3	126.6	(1.3)
Domestic phasing subsidy - sewerage	139.0	135.8	3.2
Non-domestic phasing subsidy - water	1.0	1.0	0.0
Non-domestic phasing subsidy - sewerage	1.1	1.1	0.0
Domestic allowance - water	8.9	8.2	0.7
Domestic allowance - sewerage	5.7	4.5	1.2
Septic tank subsidy	2.5	2.5	0.0
Total subsidy	283.5	279.7	3.8
Non-domestic income:			
Measured water	36.0	36.8	(0.8)
Measured sewerage	20.3	23.1	(2.8)
Unmeasured water	0.9	0.8	0.1
Unmeasured sewerage	1.0	0.9	0.1
Trade effluent	7.5	5.9	1.6
Total non domestic income	65.7	67.5	(1.8)
Road drainage income	20.0	19.1	0.9
Other	3.6	3.8	(0.2)
TOTAL INCOME	**372.8**	**370.1**	**2.7**

The above table includes both appointed and un-appointed income.

The income has increased by £2.7m, due to:

- An increase in the subsidy for domestic properties of £1.9m, which reflects the first year of the PC15 Final Determination.
- A £1.9m rise in the level of the rateable allowances being claimed by customers, following the introduction of a new report (see above).
- For measured water, there was a small tariff increase (1%). However,
    - Measured water had a number of back-billing incidents during 2014/15, arising from the likes of zero read meters and meters which had not been entered on to Rapid e.g. [redacted] . There was not such a level of back-billing in 2015/16, though £0.2m occurred for [redacted]).
    - There have been consumption increases for some of the larger customers e.g. £0.1m for [redacted] where production increased (see also trade effluent below).

- For measured sewerage, there was also a tariff increase against 2014/15 (2%). Again, as in the analysis against budget, the big movements which have negated the tariff uplift have been:
  - The net impact of the TE/Hospital Review exercise of (£1.5m).
  - There was a £0.9m release of provisions in 2014/15; in 2015/16, there was an uplift in income provisions of £0.2m.
- For unmeasured income, there has been some back-billing of income, arising from the Metering and Billing project.
- Trade effluent income in 2015/16 included the net impact of the TE/Hospital Review of £0.5m. Furthermore, there has been:
  - The increase in production at the [redacted] site led to a £0.3m increase in revenue.
  - A £0.2m rise in consumption/strengths for other customers e.g. [redacted]
  - A £0.2m increase for [redacted], tied in with EPIC related to measured sewerage customers.
  - Income of £0.2m from new customers e.g. [redacted]
  - £0.2m of other increases.

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 2016:

Measured and unmeasured income	**£m**
Billed income	62.0
Billed income (TE/Hospital Review)	(2.8)
Movement in accrued income	0.4
2016/17 accrued income	(2.3)
Movement in referred bills	0.2
[redacted] release	0.1
[redacted] NRTS allowance	(0.1)
Movement in Hospital TE/TE review provisions	1.3
Movement in future system adjustments provision	(0.7)
Rounding	0.1
Total income per accounts	58.2

Accrued income at 31 March 2016 represented 22% (2015:19%) of annual billed income.

Trade Effluent	**£m**
Billed income	6.9
Billed income (TE/Hospital Review)	0.9
Movement in accrued income	0.1
Movement in Hospital TE/TE review provisions	(0.4)
Total income per accounts	7.5

Accrued income at 31 March 2016 represented 11% (2015:19%) 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 2015/16, and are not expected to recur:

- [redacted] release – this was reversed out in 2015/16, from what was put through in 2014/15.

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.
- 2016/17 unmeasured billing deferred – the annual unmeasured billing will always be deferred, assuming that the invoicing is carried out in March.
- Movement in referred bills – there will always be a small variance over a period of a year.
- [redacted] NRTS allowance – this is expected to be reversed out in early 2016/17.
- Movement in Hospital TE/TE Review provision – there will be movements in this provision during 2016/17, once the refunds have been completed for the remaining customers. This is expected to be completed by Q1 of 2016/17.
- Movement in Future system adjustments provision – there will always be the need to provide for estimated future system adjustments.

Reconciliations and Controls carried out

A number of reconciliations are carried out on the income information sent by Echo:

- 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 each month by FA (see Appendix E).
- The number of meters to be billed is reconciled to what has actually been billed (see Appendix F).
- The invoices and system adjustments as per the 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).

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". The bill will then be investigated.

Review by Internal Audit

There were no internal audit reviews carried out in 2015/16 on income reporting.

Balance Sheet Nominal Ledger Accounts

The table below gives details of the relevant balance sheet accounts as at 31 March 2016, together with a comparison to the balances as at 31 March 2015.

	Balance 2015/16 £m	Balance 2014/15 £m	Variance £m
Debtors	9.9	12.2	(2.3)
Bad Debt provision	(2.8)	(4.4)	1.6

Within the £2.3m fall in debtors there was:

- Overall debit balances decreasing by £3.0m; this arises from the following:
  - A re-statement of debit balances, such that if a customer account previously a debit balance in water and sewerage and a credit balance in trade effluent, it is now shown as one net balance. This accounted for c. £0.4m of a drop.
  - Cash received maintaining its 2014/15 level, despite the fall in billed income. During 2015/16, there was cash received against some large back-billed debtors e.g. [redacted].
  - An increased bad-debt write-off, especially for a £0.5m write-off for old (greater than 3 years) mixed supply debt.
- Overall credit balances decreasing by £0.7m, reflecting both the re-statement (as mentioned in debit balances), plus credit balances arising from the TE/Hospital Review exercise being cleared during the year.

Similarly, there was a significant fall in the bad debts provision, largely due to:

- A decreased level of aged debt at 31 March 2016; in particular, debt greater than six months reduced from £5.1m at March 2015 to £3.7m at March 2016, thereby decreasing the "basic" bad debt provision. This has arisen due to a mixture of cash received (notable accounts being [redacted], [redacted], system adjustments and write-offs.
- Repayments arrangements for various back-billed customers, who had aged debt at March 2015 (e.g. [redacted]).

Accrued Income

In essence, there has been no change in how income has been accrued from the previous year, despite the introduction of the new contract. 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 which are used for the calculation of the accrual.

Accruals for trade effluent income are based on an excel spreadsheet model built by Xansa. 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 % uplift/reduction in prices from the previous year. The other parameter which has been built into the model is that the report will not create an accrual, if either:

- A monthly customer has not been billed for 3 months; or
- A six monthly customer has not been billed for 500 days;

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.

A high level reconciliation is performed by Echo each month, looking for any major differences in the month from the previous month.

Each month, the E039 report is reviewed by Customer Services for any unusual items, and an adjustment made for those. The adjustment made in March 2016 is shown in Appendix H.

The accrued income in the last two years has been:

	Accrued Income 2015/16 £m	Accrued Income 2014/15 £m	Variance £m
Accrued income:			
Measured water and sewerage	9.4	8.0	1.4
Trade effluent	0.8	1.4	(0.6)
TOTAL ACCRUED INCOME	**10.2**	**9.4**	**0.8**

This rise of £0.8m against the previous year can be explained as follows:

- There was £1.8m of provisions against the TE/Hospital Review in Measured Water and Sewerage at March 2015; this was £0.3m at March 2016, a fall of £1.5m.
- For trade effluent, accrued income in 2014/15 included £0.5m for the TE/Hospitals review.

Subsidy Income

In 2015/16, NI Water had total subsidy income of £283.5m. This was broken down as follows:

- £264.3m for domestic phasing subsidy for water and sewerage, in lieu of domestic charges.
- £2.1m for non-domestic phasing subsidy, representing 50% of unmeasured non-domestic income.
- £14.6m 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.).

- £2.5m for septic tank subsidy. NI Water receives subsidy income for all septic tanks which it empties, except for those customers who receive a charge if they have more than one empty in a 12 month period.

Road Drainage Income

The road drainage charge for 2015/16 was based on the projections of NI Water's costs of operation (see the table below). The basis for the calculation has been approved by both the Regulator and by DRD. A total of £20.0m was invoiced in 2015/16 to DRD, compared to £19.1m in 2014/15. 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	£0.4234 / M^3	£0.1990 / M^3	
Cost of Run off	£13,686,489	£6,343,086	£20,029,575

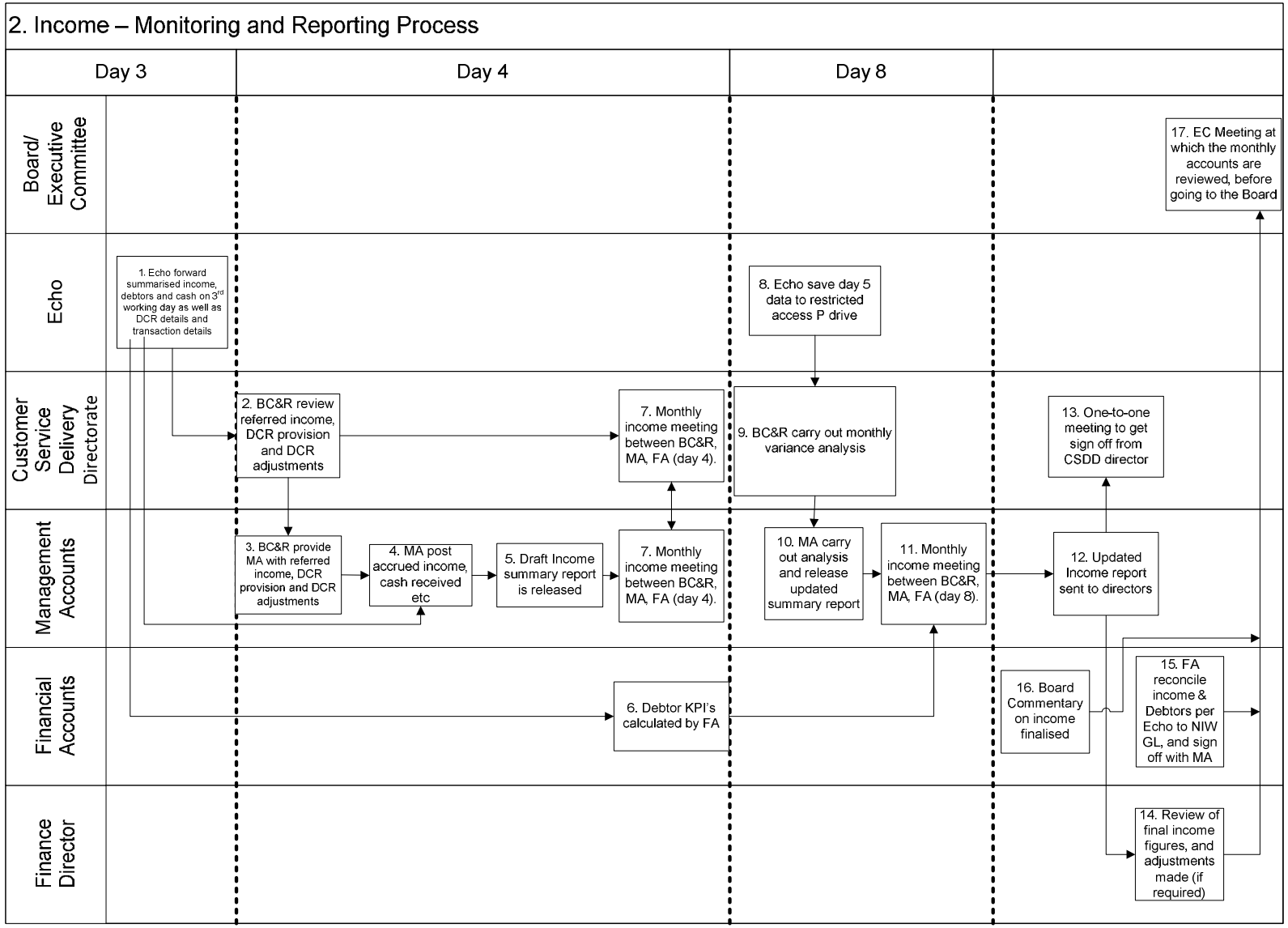
Non-tariff Basket Income

There is no net income movement out of the tariff basket for either water or sewerage.

Other Income

Other income was £3.6m for the 2015/16 year, against a budget of £3.7m, largely as a result of a fall in vehicle maintenance income from Transport NI.

Appendix A - Monthly Process for Monitoring Income



Appendix B – Day 3 & Day 5 Data received from Echo

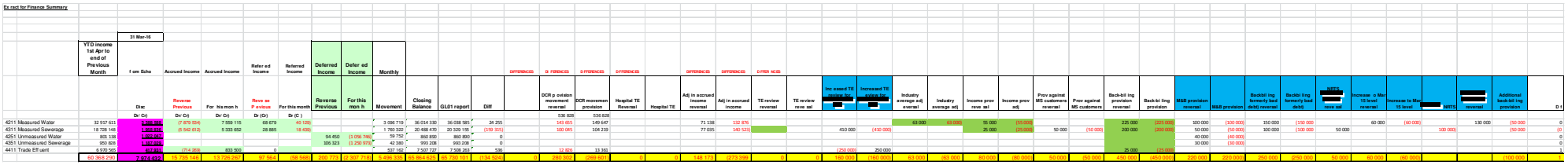
Along with the actual summary Day 3 report, Echo also send:

- 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 2016



Ex ract for Finance Summary																																										
		31 Mar-16																																								
	YTD Income 1st Apr to end of Previous Month	f om Echo	Accrued Income	Accrued Income	Refer ed Income	Referred Income	Deferred Income	Defer ed Income	Monthly				DIFFERENCES	DI FFERENCES	D FFERENCES	D FFERENCES		DIFFERENCES	DIFFERENCES	D FFER NCES																							
		Dtec	Reverse Previous	For his mon h	Reve se P evious	For this month	Reverse Previous	For this mon h	Movement	Closing Balance	GL01 report	Diff		DCR p ovision movement reversal	DCR movemen provision	Hospital TE Reversal	Hospital TE	Adj in accrued income reversal	Adj in accrued income	TE review reversal	TE review reve sal	Inc eased TE review Sch [redacted]	Increased TE review Sch [redacted]	Industry average adj eversal	Industry average adj	Income prov reve sal	Income prov adj	Prov against MS customers reversal	Prov against MS customers	Back-bil ing provision reversal	Back-bil ling provision	M&B provision reversal	M&B provision	Backbil ing formerly bad debt reversal	Backbil ling formerly bad debt	NIRS2 [redacted] reve sal	Increase o Mar 15 level reversal	Increase to Mar 15 level	[redacted] NIRS	[redacted] reversal	Additional back-bill ing provision	D I
		Dr Cr	Dr Cr	Dr Cr	Dr (Cr)	Dr (C)								536 826	536 826																											
4211 Measured Water	32 917 611	3 388 765	(7 879 534)	7 559 115	68 679	40 129			3 096 719	36 014 330	36 038 585	24 255		145 655	149 647			71 138	132 876					63 000	63 000	55 000	(55 000)			225 000	(225 000)	100 000	(100 000)	150 000	(150 000		60 000	(60 000)		130 000	(50 000	0
4311 Measured Sewerage	18 728 148	1 928 036	(5 542 612)	5 333 652	28 885	18 439			1 760 322	20 488 470	20 529 155	(159 315)		100 045	104 219			77 095	140 523			410 000	(430 000)			25 000	(25 000)	50 000	(50 000)	200 000	(200 000)	50 000	(50 000)	100 000	(100 000	50 000			100 000		(50 000	(0
4351 Unmeasured Water	805 139	1 852 842					94 450	(1 056 766)	59 732	860 895	860 895	0																			40 000	(40 000)									0
4351 Unmeasured Sewerage	950 828	1 187 062					106 323	(1 250 979)	42 380	993 208	993 208	0																			30 000	(30 000)									0
4411 Trade Eff uent	4 930 56	437 561	(714 263)	833 500	0				527 162	7 507 727	7 508 263	536		12 826	13 362							(250 000)	250 000							25 000	(25 000)									1
	60 368 242	7 974 400	15 735 148	13 726 267	97 564	(58 568)	200 773	(2 307 718)	5 486 320	65 864 425	65 730 107	(134 529)	0	258 526	(259 601)	0	0	148 173	(273 399)	0	0	160 000	(160 000)	63 000	(63 000)	80 000	(80 000)	50 000	(50 000)	450 000	(450 000)	220 000	(220 000)	250 000	(250 000	50 000	60 000	(60 000)			(100 000)	

Appendix D – Reconciliation of Debtors account on Oracle

NORTHERN IRELAND WATER LIMITED AS AT 31 MARCH 2016	
Summary of Debtors	
Water & Sewerage Debtors GL code 1210	**Mar 2016**
Opening Balance	**£7,352,344.85**
Take on Bills/New Bills- TOTAL	**£7,364,163.88**
Take on Bills/New Bills- Sewerage	2,016,891.13
Take on Bills/New Bills- Water	2,813,499.54
Take on Bills/New Bills- VAT	163,509.44
Annual Billing	2,307,718.45
Annual Billing - VAT	62,545.32
Discounts	(42.66)
System Adjustments- Total	**£648,587.94**
System Adjustments- Sewerage	20,439.95
System Adjustments- Water	550,602.40
System Adjustments- VAT	77,545.59
Manual Adjustments- Total	**-£154,687.11**
Manual Adjustments- Sewerage	(141,491.62)
Manual Adjustments- Water	(10,474.92)
Manual Adjustments- VAT	(2,720.57)
Write Off Adjustments Total	**-£695.31**
Write Off Adjustments- Sewerage	**(946.80)**
Write Off Adjustments- Water	**262.95**
Write Off Adjustments- VAT	**(11.46)**
NIWS Bad Debt Authorised Write Off- Total	**-£76,122.93**
NIWS Authorised Write Off- Sewerage	(18,971.01)
NIWS Authorised Write Off- Water	(55,437.23)
NIWS Authorised Write Off- VAT	(1,714.69)
Net Cash	**(4,985,972.05)**
Refunds	302,736.89
Water & Sewerage GL code 1210 Closing Balance	**£10,450,313.50**
Check	
Metered & Unmetered Water & Sewerage Debtors	**£10,450,313.50**
(AS per Crystal)	
Per Tb GL code 1210	**8,211,265.90**
Variance	**£2,239,047.60**
Due to:	
Variance (Oct = w/off Income 0708 in Oct08)	
Referred Bills **NOT** Recognised NET	(58,568.01)
Write-off of mixed supply debt > 3 years	(490,181.40)
System Adjustment Reduction	(1,550,000.00)
Various MS Adjustments	(140,000.00)
Unknown	-£298.19
Trade Effluent Debtors GL code 1213	
Opening Balance	**£1,902,050.47**
Take on Bills/New Bills	446,854.15
Referred Bills	
Annual Billing	
System Adjustments	**-£34,378.03**
Manual Adjustments	**£5,455.06**
Write Off Adjustments	
NIWS Authorised Bad Debt Write Off	**£0.00**
Net Cash	**-£619,823.90**
Refunds	**£0.00**
Trade Effluent GL code 1213 Closing Balance	**£1,700,157.75**
Variance	**£0.00**
Per Trial Balance general ledger code 1213	**1,700,158**
Due to:	
Trade Effluent	
Referred Bills	
Total Opening Balance GL code 1213 & 1210	**£9,254,395.32**
Take on Bills/New Bills	**£5,503,299.58**
Annual Billing	**£2,307,718.45**
Discounts	**-£42.66**
System Adjustments	**£614,209.91**
Manual Adjustments	**-£149,232.05**
Write Off Adjustments	**-£695.31**
NIWS Authorised Bad Debt Write Off	**-£76,122.93**
Net Cash	**-£5,605,795.95**
Refunds	**£302,736.89**
Total Closing Balance GL code 1213 & 1210	**£12,150,471.25**
Balance as per FN012 Summary	£12,150,001.66
Difference	£469.59
Echo Debtor Ledger	£12,105,275.89
Balance as per FN012 Summary	£12,150,001.66
Suspense Ac FN012 Summary	£42,081.58
Difference	-£86,807.35
Prepared By	[redacted]
Date	
Reviewed By	[redacted]
Date	

Appendix E – Reconciliation of Accrued Income Account

NIW Accrued Income	
	Mar-16
Per Echo	
Measured Water	7,559
MW Accrued Income Adj	
Measured Sewerage	5,334
Trade Effluent	834
Accrued income	**13,726**
Accrued income adjustments	
Voids not billed in unmeasured	0
DCR Provision	-270
DCR Further	-500
Accrued Income provision	-273
Increase in provision (MS)	-110
Industry average adj	-63
Income prov adj	-80
Icemos	0
[redacted]	0
Future System Adjustments	-620
BackBilled Income Provision	-1170
TE Review	-310
Hospital TE	0
[redacted] NRTS	-100
Accrued income posted	10,230
Per TB (1420/1423)	10,230
Difference	0
Miscellanous accrued Income	259
Interest Received Accrual	7
Total Accrued Income	**10,495**
Signed:	
TB Check	
1420 - Metered Water Accrued Income	9,388,635.38
1423 - Trade Effluent Accrued Income	841,144.47
1426 - Miscellaneous Accrued Income	258,740.20
1451 - Interest Received Accrual	6,827.63
	10,495,347.68

Appendix F – Reconciliation of Meters

2015/16 - Meter Reconciliation Analysis

Meters to be read	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Estimated	859	447	218	184	258	292	1,110	1,279	505	168	1,274	1,520
No Read	470	642	636	547	708	767	895	857	639	564	699	738
Read	12,395	13,961	9,541	9,814	11,259	13,371	11,758	12,904	9,248	9,798	10,229	12,137
Total Meters	13,724	15,050	10,395	10,545	12,225	14,430	13,763	15,040	10,392	10,530	12,202	14,395
No Reads to be investigated - Code Red	6	48	9	7	1	16	41	17	17	8	8	15

Meters to be billed	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Billable Meters	12,873	14,102	9,755	9,969	11,503	13,665	12,900	14,096	9,761	9,966	11,502	13,663
Non-Billable Meters	851	948	640	576	722	765	863	944	631	564	700	732
Total Meters	13,724	15,050	10,395	10,545	12,225	14,430	13,763	15,040	10,392	10,530	12,202	14,395
Total Meters Billed	12,769	13,969	9,648	9,847	11,388	13,548	13,763	13,959	9,656	9,847	11,378	13,551
Meters to be investigated	104	133	107	122	115	117	155	137	105	119	124	112
Billable Meters	12,873	14,102	9,755	9,969	11,503	13,665	13,918	14,096	9,761	9,966	11,502	13,663
Meters to be investigated - Code Red	15	25	23	26	16	21	58	18	14	15	18	16

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Estimated reads as % of Total Meters to be read	6%	3%	2%	2%	2%	2%	8%	9%	5%	2%	10%	11%
No Reads as a % of Total Meters to be read	3%	4%	6%	5%	6%	5%	7%	6%	6%	5%	6%	5%
Read Meters as % of Total Meters to be read	90%	93%	92%	93%	92%	93%	85%	86%	89%	93%	84%	84%
Total Meters	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Code Red as % of Meters to be investigated	1%	7%	1%	1%	0%	2%	5%	2%	3%	1%	1%	2%
Estimated % (Excl 'No Reads')	6%	3%	2%	2%	2%	2%	9%	9%	5%	2%	11%	11%

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Billable Meters as % of Total Meter Records	94%	94%	94%	95%	94%	95%	94%	94%	94%	95%	94%	95%
Non - Billable Meters as % of Total Meter Records	6%	6%	6%	5%	6%	5%	6%	6%	6%	5%	6%	5%
Total Meters	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Meters Billed as a % of Billable Meters	99%	99%	99%	99%	99%	99%	107%	99%	99%	99%	99%	99%
Meters to be investigated as a % of Billable Meters	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Billable Meters	100%	100%	100%	100%	100%	100%	108%	100%	100%	100%	100%	100%
Code Red as % of Meters to be investigated	14%	19%	21%	21%	14%	18%	37%	13%	13%	13%	15%	14%

Appendix G – Reconciliation of invoices and system adjustments as at 31 March 2016

	Trans Rpt	GL Posting	Variance
Measured Water	3,388,588	3,388,588	0
Measured Sewerage	1,958,836	1,958,836	0
Unmeasured Water	1,022,047	1,022,047	0
Unmeasured Sewerage	1,187,029	1,187,029	0
TE	417,931	417,931	0
Sub-total	7,974,432	7,974,432	0
Discount	(43)	(43)	0
VAT	300,868	300,868	0
TOTAL	**8,275,258**	**8,275,258**	**0**

Appendix H – Accrued Income Adjustments at 31 March 2016

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 stormwater 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	Cost (£) Per cubic metre	Application
R (Reception)	0.1990	Run off into Storm water sewers
V (Volumetric)	0.2244	Run off into Combined sewers
R+V	0.4234	

Appendix J – Monthly Income Check Sheet

NI WATER

Income check for March 2016

		ACTION BY	COMPLETE BY
1.	Transaction report for income, bad debt and discount ties up to the GL posting.	[redacted]	05/04/16
2.	DCR listing and TE accrual totals agree to the Table in the Day 3 report.	[redacted]	05/04/16
3.	The number of days in the DCR detailed listing has been increased by the correct number of days in the month.	[redacted]	05/04/16
4.	There are no obvious large incorrect items of accrued income in the DCR listing.	[redacted]	06/04/16
5.	Review top 300 customers on DCR for any material over-statement arising from leakage/incorrect meter exchange/faulty meter, etc.	[redacted]	06/04/16
6.	Review DCR for any records where accrued volume is zero, but there is a £ amount.	[redacted]	06/04/16
7.	Total for “Ordinary Customers N-stops” agrees total per “Referred Bills Summary” agrees to total per “N-stop Detail”.	[redacted]	06/04/16
8.	N-stop detail does not contain any duplicate or triplicate lines.	[redacted]	06/04/16
9.	Debit balance and credit balances in the Day 3 report agree to the debt report.	[redacted]	06/04/16
10.	Cash in the FN012 summary agrees to the cash report.	[redacted]	06/04/16
11.	The FN012 Summary Total has the correct balance c/f and b/f.	[redacted]	06/04/16
12.	Have all the correct adjustments been made for additional provisions/provision release?	[redacted]	06/04/16
13.	Does the summary Excel income report agree to Oracle?	[redacted]	06/04/16

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 24 REGULATORY ACCOUNTS (CURRENT COST)
BALANCE SHEET AS AT 31 MARCH (TOTAL)

				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	2021-22
A	FIXED ASSETS											
1	Tangible assets	£m	3	8,438.992	8,707.701	8,859.341	9,043.822					
2	Third party contributions	£m	3	-313.278	-384.624	-440.445	-481.575					
B	OTHER OPERATING ASSETS AND LIABILITIES											
3	Working capital	£m	3	-81.590	-93.032	-97.443	-96.556					
4	Cash	£m	3	9.102	1.637	0.792	2.015					
5	Short term deposits	£m	3	5.300	0.600	0.020	1.000					
6	Overdrafts	£m	3	0.000	0.000	0.000	0.000					
7	Infrastructure renewals prepayment/(accrual)	£m	3	3.341	0.050	-0.702	-5.844					
8	Net operating assets	£m	3	-63.847	-90.745	-97.333	-99.385					
C	NON-OPERATING ASSETS AND LIABILITIES											
9	Borrowings	£m	3	0.000	0.000	0.000	0.000					
10	Non-trade debtors	£m	3	0.007	0.020	0.197	0.176					
11	Non-trade creditors due within one year	£m	3	-5.218	-2.203	-2.477	-2.746					
12	Investment - loan to group company	£m	3	0.000	0.000	0.000	0.000					
13	Investment - other	£m	3	0.106	0.091	0.091	0.091					
14	Corporation tax payable	£m	3	0.000	0.000	0.000	0.000					
15	Ordinary share dividends payable	£m	3	0.000	0.000	0.000	0.000					
16	Preference share dividends payable	£m	3	0.000	0.000	0.000	0.000					
D	CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR											
17	Borrowings	£m	3	-882.560	-911.560	-947.560	-983.560					
18	Other creditors	£m	3	-96.184	-95.668	-93.773	-91.751					
E	PROVISION FOR LIABILITIES AND CHARGES											
19	Deferred tax provision	£m	3	-187.416	-173.693	-197.982	-195.465					
20	Post employment asset / (liabilities)	£m	3	-4.123	2.784	-9.304	-5.880					
21	Other provisions	£m	3	-9.589	-10.315	-5.837	-5.035					
F	PREFERENCE SHARE CAPITAL											
22	Preference share capital	£m	3	0.000	0.000	0.000	0.000					
23	Net assets employed	£m	3	6,876.890	7,041.788	7,064.918	7,178.692					
G	CAPITAL AND RESERVES											
24	Called up share capital	£m	3	500.000	500.000	500.000	500.000					
25	Share premium	£m	3	0.000	0.000	0.000	0.000					
26	Profit and loss account	£m	3	-355.720	-360.120	-400.480	-400.102					
27	Current cost reserve at 31 March	£m	3	6560.920	6730.218	6,793.708	6,907.104					
28	Other reserves	£m	3	171.690	171.690	171.690	171.690					
29	Total capital and reserves	£m	3	6,876.890	7,041.788	7,064.918	7,178.692					

Table 24 – CC Balance Sheet as at 31 March 2016

The retained current cost loss for the year is £3.916m. The P&L reserves in the balance sheet increased by £0.378m. The difference of £4.294m represents the gain on the pension fund net of deferred tax, as shown below:

Retained loss for the year	(£ 3.916m)
Pension scheme gain net of deferred tax	£ 4.294m
Movement in P&L Account	**£ 0.378m**

- No minority interests exist.

The elements of PPP included in the table are as follows:

Line 1 - Tangible assets

	Alpha	Omega	Kinnegar	Total
	£m	£m	£m	**£m**
Gross	*			
Acc. Deprec		-	-	
NBV				

* Includes original capital value of Alpha PPP, assets passed to the concessionaire at the commencement of the contract and subsequent additions of capital maintenance all elements indexed to give a current cost value.

Line 3 - Working capital

	Alpha	Omega	Kinnegar	Total
	£m	£m	£m	**£m**
Accruals				

Line 11 - Non-trade creditors due within one year

	Alpha
	£m
Lease obligation due < 1 yr	

Line 18 - Other creditors

	Alpha
	£m
Lease obligation due > 1 yr	

Line 21 - Other provisions

	Omega
	£m
Provisions	

Significant features and movements

Line 1 - Tangible assets

See commentary to Table 19.

Line 2 - Third party contributions

Increased by approximately £41.1m shown as follows:

	£m
Infrastructure contributions (including £32.4m sewers adopted)	39.4
Non Infrastructure contributions (including £0.3m adoptions)	1.3
Amortisation of non-infrastructure contributions and government grants	(4.1)
Indexation	4.5
	41.1

Line 3 - Working capital

See commentary to Table 26.

Line 4 - Cash

See commentary to Table 19.

Line 5 - Short term deposits

See commentary to Table 19.

Line 17 - Borrowings

See commentary to Table 19.

Line 19 - Deferred tax provision

See commentary to Table 19.

Line 20 - Post employment asset / (liability)

See commentary to Table 19.

Line 21 - Other provisions

See commentary to Table 19.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 25 REGULATORY ACCOUNTS (CURRENT 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	3,419.883	1,076.600	52.596	4,549.079	3,497.471	1,692.728	48.902	5,239.101	9,788.180
2	AMP adjustment	£m	3				0.000				0.000	0.000
3	RPI adjustment	£m	3	53.315	15.949	0.806	70.070	53.231	25.890	0.958	80.079	150.149
4	Disposals	£m	3	0.000	-0.624	-1.360	-1.984	0.000	-0.793	-1.242	-2.035	-4.019
5	Additions	£m	3	23.405	26.671	3.914	53.990	45.579	59.535	1.797	106.911	160.901
6	Gross replacement cost at 31 March	£m	3	3,496.603	1,118.596	55.956	4,671.155	3,596.281	1,777.360	50.415	5,424.056	10,095.211
B	DEPRECIATION											
7	Depreciation at 1 April	£m	3	53.773	310.624	38.905	403.302	2.746	480.185	42.606	525.537	928.839
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
10	lives	£m	3				0.000				0.000	0.000
11	RPI adjustment	£m	3	0.841	4.817	0.611	6.269	0.040	7.463	0.673	8.176	14.445
12	Disposals	£m	3	0.000	-0.220	-1.044	-1.264		-0.317	-0.836	-1.153	-2.417
13	Charge for year	£m	3	0.000	38.032	4.631	42.663	0.000	62.440	5.419	67.859	110.522
14	Depreciation at 31 March	£m	3	54.614	353.253	43.103	450.970	2.786	549.771	47.862	600.419	1,051.389
15	Net book amount at 31 March	£m	3	3,441.989	765.343	12.853	4,220.185	3,593.495	1,227.589	2.553	4,823.637	9,043.822
16	Net book amount at 1 April	£m	3	3,366.110	765.976	13.691	4,145.777	3,494.725	1,212.543	6.296	4,713.564	8,859.341

Table 25 – Analysis of Fixed Assets by Asset Type (Total)

Commentary and Methodology

Methodology

The following asset categories have been analysed in the table as follows:

'Infrastructure assets' include infrastructure assets only.

'Non-specialised operational assets' include active market value land, buildings and civils.

'Specialised operational assets' include land, buildings, civils and fixed plant.

'Other tangible assets' include surplus land, buildings and civils, mobile plant and IT.

Gross Replacement Cost at 1 April and Depreciation at 1 April

The total opening balances for gross replacement cost and depreciation at 1 April 2015 have been brought forward from the total closing balances for gross replacement cost and depreciation at 31 March 2015. The analysis across asset categories is based on analysis within the fixed asset register.

AMP Adjustment

There was no AMP adjustment during the year.

RPI Adjustment

In April 2015, all assets in the Fixed Asset Register (FAR) were indexed upwards using year end Retail Price Index (RPI) to be consistent with OFWAT.

Impairment

There was an impairment of surplus lands, buildings and civils during the year totalling £552.2k following a review of assets for disposal by McKibbin & Co.

Disposals

Disposals during the year mainly consisted of surplus land, buildings, civils, mobile plants (lorries and vans) and IT assets. All disposals have depreciation in the month of disposal.

Decommissioned Assets

A number of assets (NCRC - £8,440,642.07) were decommissioned during the year. Decommissioned assets are assets which are no longer in use but still have a net current replacement cost (NCRC) value at the time. In order to account for this, the assets are fully depreciated in year to bring the NCRC 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.

In accordance with the regulatory accounting guidelines, fixed asset additions are stated gross of capital contributions but net of IRE. This gives rise to the reconciliation with the capital works programme and statutory accounts below:

	£'000
Total expenditure in CWP (incl.) Operations)	**142,165**
Add: Water and sewer connections	2,754
Add: Capital maintenance Omega and Kinnegar	[redacted]
Add: adopted assets – infrastructure	32,436
Add: adopted assets – non-infrastructure	286
Less: de-capitalised assets	(153)
Add: capitalised interest	2,721
Less: expenditure classified as opex under IFRS	(1,194)
Total additions per statutory accounts	[redacted]
Less Capital maintenance Omega and Kinnegar	[redacted]
Add back: IRE treated as opex repairs under IFRS	1,194
Less: interest capitalised	(2,721)
Less: IRE	(20,144)
Add: PPP residual interest	[redacted]
Total additions per regulatory accounts	**160,900**

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.

There is also additional residual interest for PFI Kinnegar asset and Omega asset with a current cost of [redacted] which is included in Table 25 under specialised operational civil. The total residual interest at 31 March 2016 is [redacted] (31 March 2015: [redacted]) which includes indexation for 2015-16 of £371k.

Depreciation Charge for Year

Current cost depreciation charge during the year was calculated based on the opening GCRC at 1 April 2015. 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 GCRC of £88,043,454.52 (14/15: £89,078,740.57) as at 31 March 2016, 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 unappointed business relating to vehicle maintenance carried out for third parties. This has been adjusted through Water Services – Other Assets.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 26 REGULATORY ACCOUNTS
WORKING CAPITAL

	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 2021-22
1	Stocks	£m	3	2.379	2.021	2.269	2.368					
2	Trade debtors - measured household	£m	3	0.000	0.000	0.000	0.000					
3	Trade debtors - unmeasured household	£m	3	0.000	0.000	0.000	0.000					
4	Trade debtors - measured non household	£m	3	7.596	8.037	8.647	7.110					
5	Trade debtors - unmeasured non household	£m	3	0.402	2.764	2.681	2.714					
6	Other trade debtors	£m	3	0.612	0.383	0.364	0.367					
7	Measured income accrual	£m	3	10.777	9.180	9.438	10.230					
8	Prepayments and other debtors	£m	3	9.431	6.783	9.432	9.235					
9	Trade creditors	£m	3	-2.620	-6.656	-21.205	-8.097					
10	Deferred income - customer advance receipts	£m	3	-1.164	-3.459	-3.546	-4.069					
11	Short term capital creditors	£m	3	-56.699	-59.734	-52.101	-60.871					
12	Accruals and other creditors	£m	3	-52.304	-52.351	-53.422	-55.543					
13	Total working capital	£m	3	-81.590	-93.032	-97.443	-96.556					

Table 26 – Working Capital

Lines 2 – 6 - Trade Debtors

Trade debtors are split into the five categories shown in lines 2-6 using the information from the General Ledger and the aged debtors analysis provided in the Echo pack.

The elements of PPP included in the table are as follows:

Line 12 - Accruals and other creditors

Alpha	Omega	Kinnegar	Total
£m	£m	£m	**£m**
[redacted]	[redacted]	[redacted]	[redacted]

Significant movements from last year

Line 4 - Trade debtors - measured non household

This has decreased from £8.6m to £7.1m (17.44%).

Line 5 - Trade debtors - unmeasured non household

This was approximately the same £2.7m in 2014-15 and 2015-16 which is consistent with the timing of the billing run for the unmeasured customers (who are billed 12 mths in advance) being completed prior to the year end in both of these years.

Line 7 - Measured income accrual

This has increased by £0.8m (8.4%) over the period.

Line 9 - Trade creditors

Trade creditors have decreased by £13.1m (61.8%) in the period. The comparator year (2014-15) was untypically high as a smaller than normal level of payment run was carried out at the end of March 2015 to balance cash resources. The payment run at March 2016 did not have the same constraints.

Line 10 - Deferred income – customer advance receipts

Deferred income – customer advance receipts have risen by £0.5m (14.7%) in the period. This is primarily due to an increase in the deferment of standard charges in advance where it has been determined that the work has not yet been completed. The increase in this area has been in relation to standard & large diameter water connections and new sewer connections.

Line 11 - Short term capital creditors

Capital accruals have increased by approximately £8.8m (16.8%). The main driver for this increase, despite the fall in relevant* capital additions of 9.1% from £156.3m in 2015 to £142.0m in 2016, is related to the higher level of capital invoices received from contractors at the end of the comparator year - 2014-15.

*relevant additions for the short-term capital creditors account exclude those relating to connections, PPP residual interest assets and adopted assets.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 27 REGULATORY ACCOUNTS
MOVEMENT ON CURRENT COST RESERVE (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	Current cost reserve at 1 April	£m	3	6,342.051	6,560.920	6,730.218	6,793.708					
2	AMP adjustment	£m	3	0.000	0.000	0.000	0.000					
A	**RPI ADJUSTMENTS**											
3	Fixed assets	£m	3	260.354	202.983	76.985	135.704					
4	Working capital adjustment	£m	3	-2.641	-2.001	-0.840	-1.516					
5	Financing adjustment	£m	3	-30.464	-23.962	-9.183	-16.324					
6	Grants and third party contributions	£m	3	-8.380	-7.722	-3.472	-4.468					
7	Current cost reserve at 31 March	£m	3	6,560.920	6,730.218	6,793.708	6,907.104					

Table 27 – Movement on current cost reserve

Working capital adjustment

The working capital adjustment includes opening stock at 1st April 2015 plus all the opening short – term debtors and creditors at 1st April 2015, with the following exclusions from the calculation:

- **Stock**
  - Stock relating to unappointed activities £0.006m
- **Debtors**
  - Interest receivable £0.003m
  - Debtors relating to unappointed activities £0.510m
  - Debtors relating to cash remitted to the pension fund not yet recognised £0.169m
- **Creditors**
  - Interest payable £0.386m
  - Cash bond interest payable £0.238m
  - Creditors relating to unappointed activities £0.719m
  - Deferred grants and contributions < 1yr £0.979m
  - PPP Finance lease creditor < 1yr [redacted]

The following indices have been used and applied to the opening working capital balance at 1 April 2015:

RPI	2016	2015
Year end RPI	261.1	257.1
Change in 2015-16	1.55582%	

Working capital adjustment = opening working capital at 1 April 2015 x change in RPI 2015-2016 = £97,443k x 1.55582% = £1,516k

Financing adjustment

The financing adjustment is calculated using opening balances at 01.04.15 as follows:

	£m
Opening net assets	7,064.918
Less Opening net fixed assets	(8,418.896)
	(1,353.978)
Add back: working capital	97.443
=Opening net finance	(1,256.535)
Less:	
Ordinary share dividends payable	0.000
Deferred tax provision	197.982
Add back:	
Pension liability	11.630
Less:	
Deferred tax asset on pension liability	(2.326)
= Revised opening net finance	(1,049.249)
X RPI	1.55582%
Financing Adjustment	**16.324**

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 28 REGULATORY ACCOUNTS
CASH FLOW STATEMENT FOR YEAR ENDING 31 MARCH (TOTAL)

				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	Net cashflow from operating activities	£m	3	181.015	190.580	195.707	170.228					
A	**RETURN ON INVESTMENTS & SERVICING OF FINANCE**											
2	Interest received	£m	3	0.134	0.114	0.080	0.092					
3	Interest paid	£m	3	-42.208	-43.723	-45.339	-46.568					
4	Interest in finance lease rentals	£m	3	-11.913	-6.933	-6.824	-6.701					
5	Non-equity dividends paid	£m	3	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					
B	**TAXATION**											
7	Taxation (paid)/received	£m	3	0.000	0.000	-0.017	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					
9	Receipts of grants and contributions	£m	3	5.757	6.586	7.333	7.980					
10	Infrastructure renewals expenditure	£m	3	-31.368	-30.118	-31.557	-20.144					
11	Disposal of fixed assets	£m	3	1.177	1.164	1.046	1.693					
12	Movements on long term loans to group companies	£m	3	0.000	0.000	0.000	0.000					
13	Net cashflow from investing activities	£m	3	-155.024	-158.339	-157.798	-126.073					
D	**ACQUISITIONS AND DISPOSALS**											
14	Acquisitions and disposals	£m	3	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					
F	**MANAGEMENT OF LIQUID RESOURCES**											
16	Net cashflow from management of liquid resources	£m	3	-5.300	4.700	0.580	-0.980					
17	Net cashflow before financing	£m	3	-59.883	-34.992	-35.173	-32.889					
G	**FINANCING**											
18	Capital in finance lease rentals	£m	3	-3.675	-1.473	-1.672	-1.888					
19	New bank loans taken out	£m	3	75.000	29.000	36.000	36.000					
20	Repayment of bank loans	£m	3	0.000	0.000	0.000	0.000					
21	Proceeds from share issues	£m	3	0.000	0.000	0.000	0.000					
22	Net cash inflow from financing	£m	3	71.325	27.527	34.328	34.112					
23	Increase/(decrease) in cash in the year	£m	3	11.442	-7.465	-0.845	1.223					

Table 28 – Cashflow statement

Significant movements from last period

Line 1 - Net cashflow from operating activities

This has decreased by £25.479m (13.0%). The reconciliation of operating profit to net cashflow from operating activities is shown in Table 29.

Line 3 – Interest paid

Interest paid has increased by 2.7% from £45.339m to £46.568m. This is consistent with an additional loan drawdown of £36m in 2015-2016. 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)

Line 4 - Interest in finance lease rentals

The Alpha project during 2015-2016 gave rise to [redacted] (2015: [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).

Line 8 - Gross cost of purchase of fixed assets

These have decreased by £19.018m (14.1%). This is consistent with capital expenditure plans for 2015-16 and the movement in capital creditors across the period.

Line 10 - Infrastructure Renewals Expenditure

IRE for 2015-2016 compared to 2014-2015 can be shown as follows:

IRE	2015-2016	2014-2015	Increase/(Decrease) in period	Increase/(Decrease) in period
	£m	£m	£m	%
Water	11.134	23.055	(11.921)	(51.7)
Sewerage	9.010	8.502	0.508	6.0
Total	20.144	31.557	(11.413)	(36.2)

This is the first year of the six year PC15 period and Water IRE has decreased significantly and Sewerage IRE has increased marginally compared to the final year of PC13 (2014-15).

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 £0.98m from the end of 2014-2015 to the end of 2015-2016 with a consequent decrease in cashflow. The balance on deposit at the end of 31st March 2016 is £1.00m.

Line 18 - Capital in finance lease rentals.

An amount of [redacted] was made in payment against the Alpha PPP finance lease.

Line 19 - New bank loans taken out

In 2015-2016 £36m of additional loan notes were drawn down from DRD. 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:

Line 1 - Net cashflow from operating activities.

This is summarised in Table 29 as follows:

1	Current cost operating profit	£m	53.738
2	Working capital adjustment	£m	(1.516)
3	Movement in working capital	£m	(9.675)
4	Depreciation	£m	110.522
5	Current cost profit on sale of fixed assets	£m	(0.091)
6	Infrastructure renewals charge	£m	25.286
7	Other non-cash profit and loss items	£m	(8.036)
8	Net cash flow from operating activities	£m	170.228

The commentary to Table 20 (Current Cost P&L Account) outlines the PPP element contained within operating costs that contributed to the current cost operating profit within Line 1 and depreciation Line 4.

The commentary for Table 26 (Working Capital) outlines the elements of PPP that are contained within working capital that feed into the movement in working capital above.

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 PPP paid for via the unitary payments. All other capital expenditure for Alpha is accounted for through the repayment of the finance lease.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 29 REGULATORY ACCOUNTS (CURRENT 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	Current cost operating profit	£m	3	19.872	19.799	59.111	53.738					
2	Working capital adjustment	£m	3	-2.641	-2.001	-0.840	-1.516					
3	Movement in working capital	£m	3	0.595	8.388	12.045	-9.675					
4	Receipts from other income	£m	3	0.000	0.000	0.000	0.000					
5	Depreciation	£m	3	150.895	135.458	104.185	110.522					
6	Current cost profit on sale of fixed assets	£m	3	-0.303	-0.208	-0.488	-0.091					
7	Infrastructure renewals charge	£m	3	30.761	33.409	32.309	25.286					
8	Other non-cash profit and loss items	£m	3	-18.164	-4.265	-10.615	-8.036					
9	Net cash flow from operating activities	£m	3	181.015	190.580	195.707	170.228					

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 2015/16 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 during 2016/17 to reflect the revisions. These are being integrated into the capital projects. A CIDA training programme will be planned during the next financial year 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 2015/16 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 refinement planned during 2014/15 has been delayed to allow for more automation for the completion of the tables. As a result the same process used in AIR 15 has been adopted for AIR 16.

Assets Adopted at Nil Cost

Sewer adoptions paid by third parties of £32.436m are included in column 4, line 7 of Table 32 within Sewerage infrastructure enhancements. Sewerage Pumping Stations paid by third parties of £0.288m 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

- Total asset additions – Water Service – Check to Table 25 line 5 col 4.
  For AIR 16 the reported numbers in these two tables are as follows:
  Table 25 – £53.990m
  Table 36 – £52.866m

The difference in the above two figures are explained as follows:

a) PPP Alpha Capital maintenance of [redacted] is not included in Table 36
b) £-102k included in Table 25 relates to Decapitalised projects in 2015/16

- Total asset additions – Sewerage Service – Check to Table 25 line 5 Col 8.
  For AIR 16 the reported numbers in these two tables are as follows:
  Table 25 – £106.911m
  Table 36 – £103.406m

The difference in the above two figures is explained as follows:

c) PPP Omega [redacted]) and PPP Kinnegar ([redacted]) residual asset additions were not included in Table 36.
d) £-51k included in Table 25 relates to Decapitalised projects in 2015/16
e)

Expenditure to reduce leakage

The table below provides a breakdown of the leakage expenditure in 2015/16. This includes the purpose allocations which have followed the principle as set out in PC10 Final Determination.

This is reported in the same manner as previous years. It should be noted that the figures reported do not include Leakage repair costs as these are completed by the Water Networks function. The opex costs reported in the table are the total opex costs for the Leakage Function including staff costs. The actual leakage repair cost as completed by Networks Water in 2015/16 was £1.3m.

Activity	2015/16 actual spend per category £m	**Purpose allocation**
Leakage detection and repair costs	2.800	OPEX
Leakage detection costs - capex	0.544	Base
Leakage infra replacement repair costs - capex	0.372	Base
Leakage detection equip	0.113	Base
Leakage software upgrades and developments	0.084	Base
New leakage technology	0.000	Base
DMA studies	0.519	Base
Trunk Main studies	0.037	SDB Growth
DMA optimisation	-0.010	SDB Growth
Water balance asset data assessments	0.023	Base
ELL reviews	0.000	Base
Pressure Management	0.249	SDB Growth
PRV replacements	0.365	Base
GSM Loggers/Meter studies/Meter replacement	0.950	Base

Other	0.013	Base
Total (OPEX)	2.800	
Total (Capex)	3.260	
Total Leakage investment	6.060	

Capital programme variance

The Capital programme for 2015/16 when compared to the PC15 final determination has under delivered in the 'Water Service' and under delivered in the 'Sewerage Service'. It is important to note however that NI Water was not funded to deliver the PC15 Final Determination and produced an adjusted budget which reflected the reduced funding allocation. This adjusted budget reduced PE funding by £15m, from £156.8m to £141.8m.

NI Water successfully delivered the PE funding for 2015/16 (with a Gross nominal amount of £143.7m).

The main reasons for variance in 2015/16 are as follows:

a) The largest variances are found in Sub programme 2 (Base maintenance water), Sub programme 5 (Water trunk mains) and Sub programme 12 (Sewerage Maintenance, Flooding and DG5). The largest underspend has occurred in Sub-programme 12 where issues encountered with four schemes resulted in approximately £8m of an underspend. Although partially offset by re-profiling in three other schemes to a value of approximately £2m, it was not possible to address the issue within the sub-programme.
b) The £3.6m overspend in sub programme 5 originated primarily in two schemes (Castor Bay to Belfast and Carland to Cookstown) and partially addressed the underspend in sub-programme 12. £3.4m was reallocated to Sub programme 2 which further addressed the overall programme variance.

Year 1 saw a slight overspend in base maintenance (£80.18m actual against £78.57m baseline when stated in 12/13 prices). While this £1.61m does not constitute a large proportion of the overall budget, it will be necessary to maintain focus in order to avoid imbalances emerging.

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.

2015/16 Q4 Capital Investment Monitoring Return (Table 40)

Company Baseline

A PC15 baseline is included in this CIM submission. The PC15 capital baseline is a detailed listing of projects and programmes of work, the costs and outputs from 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 2015/16 (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	143.692
Capital works programme expenditure	97.385
Operations Capital from CPMR	26.339
M & G Capital from CPMR	7.529
Capitalised Salaries and overheads	12.446
Rounding from ORACLE to CAPTRAX/CPMR	-0.007
Reconciled Total	143.692

During the period (April 2015 – March 2016) there has been Capital income in the form of Grants and Contributions totalling to £6.990m. 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. The table below shows actual RPI in 2015-16 and OBR forecast figures for the years 2016-17 to 2020-21 (based on Nov 15 economic and fiscal outlook). This shows a reduction in inflation levels from that assumed in the PC15 FD. NI Water continues to monitor the OBR view of RPI: although a slight reduction has been made (0.5% cumulatively over the period) in the most recently published levels, it has been decided that the figures stated below will be retained until a more significant change occurs.

	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%
Latest OBR	259.433	264.363	271.236	280.187	289.153	298.406
	1.08%	1.9%	2.6%	3.3%	3.2%	3.2%
Current actual and projected indices (Q4 2015/16)	259.433	265.458	273.422	281.898	290.637	299.937
	1.08%	2.3%	3.0%	3.1%	3.1%	3.2%

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)	23.235	21.940	-1.295	-5.90
2	Infrastructure renewals expenditure (gross)	11.133	12.114	0.980	8.09
3	Capex: Total quality enhancement programme	14.646	14.670	0.025	0.17
4	Capital expenditure - customer service	1.194	1.233	0.039	3.14
5	Capital expenditure - supply demand balance	13.791	13.668	-0.123	-0.90
6	Gross Capital expenditure - Water Service	63.999	63.625	-0.375	-0.59

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)	42.799	42.286	-0.513	-1.21
8	Infrastructure renewals expenditure (gross)	9.010	9.056	0.046	0.50
9	Capex: Total quality enhancement programme	13.851	14.246	0.395	2.77
10	Capital expenditure: customer service	4.406	4.310	-0.096	-2.23
11	Capital expenditure supply demand balance	9.626	10.177	0.552	5.42
12	Gross Capital expenditure - Sewerage Service	79.692	80.075	0.383	0.48

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 16 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.

Changes on the CIM since draft submission

The following changes have been made post Q4 submission:

- Service Allocations and Purpose allocations for some of the summary lines reflecting operational Capital spend have been revised to reflect the actual project outputs over the year.
- This has had a minor effect on the 16 box summary which has been updated in this commentary.

Sixteen Box Summary

2015/16 Current Actual Projected 16 box summary showing expenditure £m (nominal)

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	11.57	12.11	0.48	10.67	34.84
Water Non-Infrastructure	3.10	21.94	0.76	2.99	28.79
Sewerage Infrastructure	5.02	9.06	2.06	6.00	22.14
Sewerage Non-Infrastructure	9.23	42.29	2.25	4.18	57.94
Totals	28.92	85.40	5.54	23.85	143.70

2015/16 Current Actual Projected 16 box summary in percentages

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	8.1%	8.4%	0.3%	7.4%	24.2%
Water Non-Infrastructure	2.2%	15.3%	0.5%	2.1%	20.0%
Sewerage Infrastructure	3.5%	6.3%	1.4%	4.2%	15.4%
Sewerage Non-Infrastructure	6.4%	29.4%	1.6%	2.9%	40.3%
Totals	20.1%	59.4%	3.9%	16.6%	100.0%

2015/16 Baseline 16 box summary showing expenditure £m (2012/13 prices)

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	11.03	14.76	0.77	9.32	35.87
Water Non-Infrastructure	3.84	20.07	3.11	4.35	31.37
Sewerage Infrastructure	9.21	7.78	5.34	3.86	26.18
Sewerage Non-Infrastructure	11.07	35.96	3.06	4.35	54.44
Totals	35.15	78.57	12.27	21.88	147.87

2015/16 Baseline Projected 16 box summary in percentages

	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	7.5%	10.0%	0.5%	6.3%	24.3%
Water Non-Infrastructure	2.6%	13.6%	2.1%	2.9%	21.2%
Sewerage Infrastructure	6.2%	5.3%	3.6%	2.6%	17.7%
Sewerage Non-Infrastructure	7.5%	24.3%	2.1%	2.9%	36.8%
Totals	23.8%	53.1%	8.3%	14.8%	100.0%

PC15 16 box FD baseline (2012/13 prices): Expenditure across the PC15 programme £m

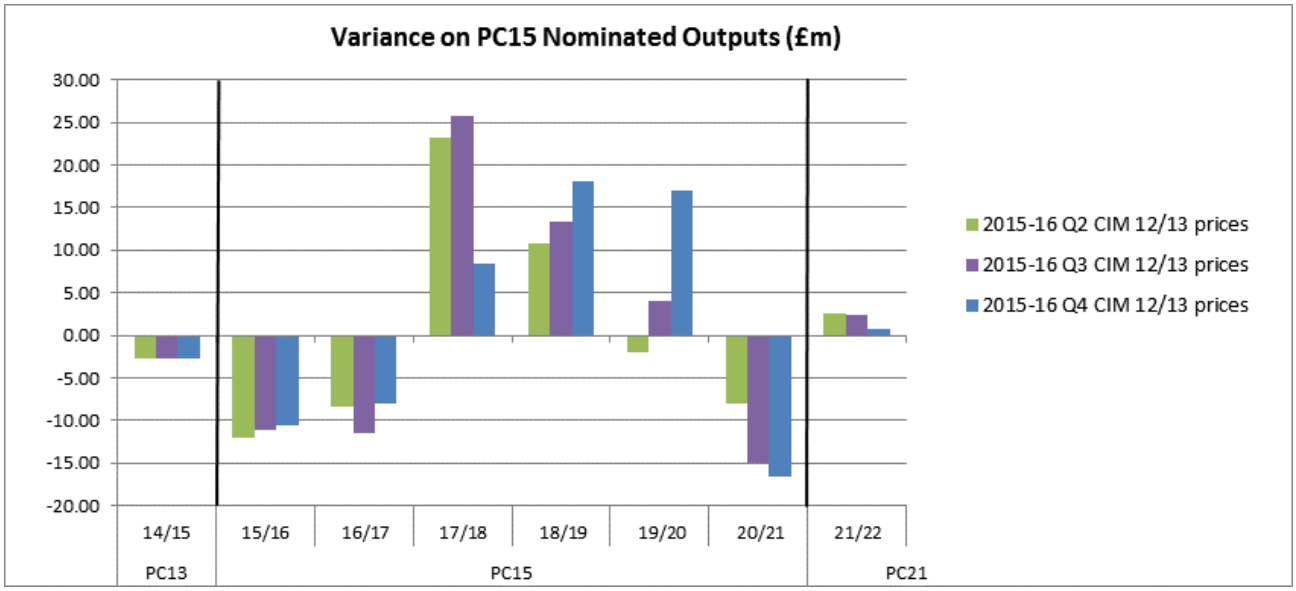
	Quality Enhancement	Base Service provision	Enhanced service levels	Supply Demand Balance	Totals
Water Infrastructure	72.88	78.15	7.20	55.43	213.66
Water Non-Infrastructure	27.57	125.28	16.83	34.42	204.10
Sewerage Infrastructure	37.33	59.48	21.22	27.91	145.94
Sewerage Non-Infrastructure	61.58	201.49	20.73	34.00	317.79
Totals	199.36	464.40	65.97	151.76	881.49

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	8.27%	8.87%	0.82%	6.29%	24.24%
Water Non-Infrastructure	3.13%	14.21%	1.91%	3.90%	23.15%
Sewerage Infrastructure	4.24%	6.75%	2.41%	3.17%	16.56%
Sewerage Non-Infrastructure	6.99%	22.86%	2.35%	3.86%	36.05%
Totals	22.62%	52.68%	7.48%	17.22%	

Variance on Nominated Outputs (2012/13 prices)

The chart in 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. As has been stated throughout the year, the variances at this stage are due primarily to the re-profiling of programme expenditure: although there is a fairly significant negative variance against baseline in 2020/21, this is offset by positive variances in 2017/18 – 2019/20 where several large projects have been brought forward. It should be noted that at this stage there is no significant carry-over into PC21: the value of nominated output schemes carried through into PC21 has actually reduced due to re-profiling on project KS111.



CIM summary Table

Code	Title	Baseline £m (2012/13 prices)	Current actual or projected 2015/16 £m (nominal)	Current actual or projected 2015/16 £m (2012/13 prices using latest OBR RPI forecast)
0	Staff Salaries and on-costs	11.28	12.45	11.74
1	Base maintenance (Water)	5.83	5.25	4.95
2	Base maintenance (sewerage)	19.98	27.87	26.28
3	Water resources	1.74	1.71	1.62
4	Water treatment works	1.59	2.19	2.07
5	Water trunk mains	4.22	7.79	7.35
6	Service reservoirs and clear water tanks	1.46	0.70	0.66
7	Service reservoir rehabilitation	3.71	3.39	3.20
8	Water mains rehabilitation	17.94	13.45	12.68
9	Leakage	2.69	2.77	2.61
10	Ops capital Water	6.20	7.66	7.22
12	Sewerage Maintenance, UIDs, Flooding	20.60	13.52	12.75
15	Wastewater treatment (carryover)	0.00	0.29	0.27
16	Wastewater treatment (new starts)	10.77	8.43	7.95
17	Small wastewater treatment works	1.89	1.12	1.06
18	Ops capital Sewerage	7.33	12.66	11.94
19	Meter installation and maintenance	3.78	3.41	3.22
20	Management and general	10.56	9.51	8.97
23	Minor watermain repairs, requisitions, road schemes and public realm	4.25	3.54	3.33
24	Minor sewer repairs, requisitions, road schemes and public realm	3.34	6.01	5.67
98	Additional Outputs Programme (Enhancement)	4.78	0.00	0.00
99	PC15 balancing line (Base)	3.91	0.00	0.00
Total	Excluding additional outputs	143.06	143.70	135.53
Total	Including additional outputs	147.87		

Nominated Outputs

Refer to Table 40a and associated commentary for full detail on nominated outputs over Year 1 of the PC15 period.

Water

Scheme	UID Name	Quarter claimed
JG035	Ballydougan to Newry Main Link Reinforcement	Q4
JI052	Glenhordial Treatability	Q3
JR342	Castor Bay to Belfast Trunk Main	Q2

Sewerage

Beneficial Use was claimed on twenty six UIDs in total during 2015/16, with nineteen of these UIDs claimed during the Q4 period:

Ref	UID	Scheme	UID Name	Quarter claimed
1	UID001	KF330	Scotch Street CSO. 2	Q4
2	UID002	KF330	Scotch Street. CSO 1	Q4
3	UID003	KF330	Courthouse 1 CSO	Q4
4	UID044	KS372	Market Street SPS Upgrade, Downpatrick - UID's	Q4
5	UID114	KL468	Caw Park CSO 023	Q4
6	UID173	KF330	Mall West CSO	Q4
7	UID177	KS872	Killaire WwPS	Q4
8	UID185	KS958	Avonlea Park CSO 6	Q4
9	UID186	KS958	Rosemary Crescent / Inglewood Pk CSO 5	Q4
10	UID187	KS958	Clandeboye Road CSO 5B	Q4
11	UID227	KT391	Bow Street CSO 26	Q4
12	UID259	KS939	Pattons Bridge (Blackrock WwPS	Q4
13	UID266	KS903	Halfway House CSO	Q4
14	UID267	KS903	Marine Park CSO	Q4
15	UID274	KL504	Upper Galliagh Road WWPS	Q4
16	UID380	KL468	Gransha Park WwPS No. 2	Q4
17	UID433	KL504	Fairview Knockalla CSO	Q4
18	UID068	KT391	Hilden PS CSO 13A	Q3
19	UID074	KT391	Laws Yard CSO 14	Q3
20	UID422	KT391	Hoggs Weir CSO 04	Q3
21	UID226	KT391	Antrim Road CSO 24	Q3
22	UID229	KT391	Grand Street Screen CSO 28	Q3
23	UID175	KF330	Alexander Road CSO	Q3
24	UID421	KT391	Edgewater WWPS	Q2
25	UID224	KT391	Clonevin Park	Q2
26	UID275	KL504	Glen Road CSO	Q1

Beneficial Use was claimed at the following Wastewater Treatment Works.

Scheme	Site	CAR ID	Quarter claimed
KN656	Castearchdale WwTW	S05877	Q4
KL493	Artigarvan WwTW	S03002	Q4
KI508	MCERTS		Q4

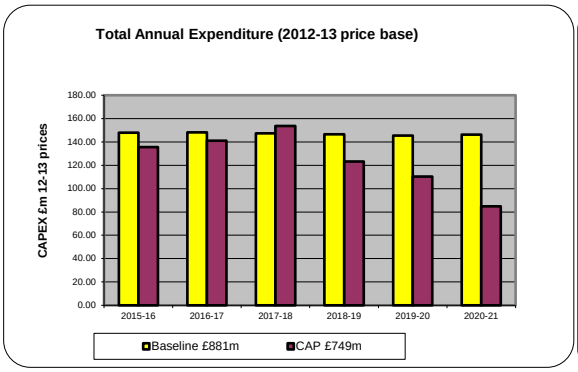
Beneficial Use was achieved at the following Waste Water Treatment Works from the Rural WwTW Programme:

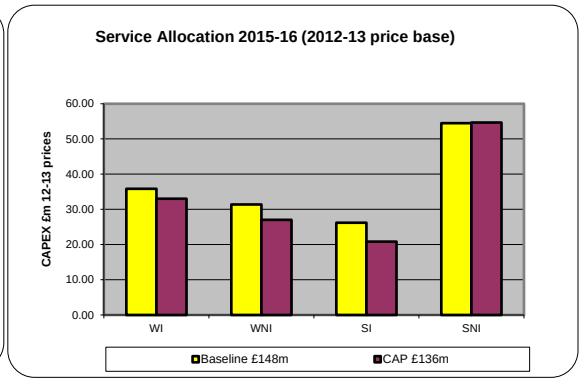
Scheme	Site	CAR ID	Quarter claimed
KI542	Straid	S01455	Q1
KI542	Curglasson	S01566	Q4
KI542	Cappagh	S02857	Q4
KI542	Dunmullan	S03102	Q4

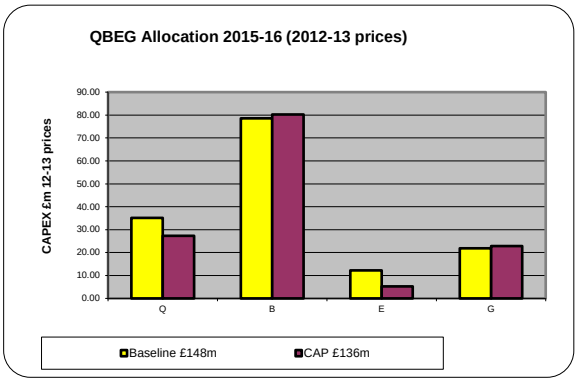
Regulatory Dashboard

The figure below is an extract of the Regulatory Dashboard for period to end of March 2015/16. Only graphs that are currently meaningful have been included. The graphs are shown in 2012/13 prices and the following is a summary of the main points to note:

- Graph 1: Total Annual Expenditure –The Graph shows an £8m reduction in funding available having taken RPI impact into account. The graph also illustrates that the programme is not fully populated for the later years of PC15 and as a result other Dashboard graphs are not currently meaningful.
- Graph 2: Service allocation. Service allocation for 2015/16 was well balanced with reductions in Water Infrastructure, Water Non-infrastructure and Sewerage Infrastructure.







Capital expenditure commentary

This submission is completed primarily using CPMR with full reconciliation completed to ORACLE.

Annex A

1 Purpose and background

The Utility Regulator (UR) has contacted NI Water (NIW) seeking an update to be included in Chapter 30 of AIR16 in relation to Energy projects. There are three queries 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 Reporting requirement 1 and 2

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.

2.1 NI Water's Response

Northern Ireland Water has mobilised a dedicated PC15 Energy Efficiency programme, some of which is a continuation of the investments undertaken during PC13. Details of the PC15 investment by purpose are contained in Appendix 1, and details of 2015/16 in Appendix 2.

Table 2.1 below provides a high level summary of expenditure profiles:

Capital funding as stated in PC15 DD Response Annex 6 (£k)	PC15 baseline, nominal (£k)	Current PC15 Actual & Forecast including Water Quality expenditure, nominal (£k)	2015/16 investment (£k)
9,204	9,024*	9,024	983

Table 2.1 Summary of Investment in Energy Efficiency in PC15 (after year 1)
'* The baseline includes £1.7m of water regulations compliance which is not energy related

For the first two years, the energy efficiency programme is grouped in five work streams:

- Renewables
- Clean Water
- Wastewater
- PPP
- Negative Opex.

Renewables

Renewable initiatives are split into two main areas:

1. Self-Generation from NI Water Assets

EP017 Renewable Energy – Wind

During PC15, NI Water proposed to develop one wind turbine on the site of the North Coast WwTW. The initial proposal contained in our PC15 Business Plan was to erect a wind turbine in the region of 850kW on a 50m hub height. On-site wind measurement confirmed the viability of the proposal, however early planning guidance has indicated that a 225kW turbine at a 30m hub height was more likely to receive planning consent than the originally envisaged larger solution. NI Water is considering planning application amendments with the Planning Service on the planning application lodged in February 2015 for a 225kW turbine. There is a possibility that planning may not be granted on this application. This scheme has been funded within capital code EP017 with a revised title "Renewable Energy". Expenditure incurred to date is to submit two Planning Applications, which was incurred during the PC13 period.

Solar PV

During PC15, NI Water has developed a plan to install Solar PV. Due to the risk of ROC incentives being withdrawn in April 2017, this plan has been accelerated. The accelerated Plan includes installation of small scale roof mounted solar PV panels at >35 sites and if funding is available some larger scale investments. The sites have been selected to ensure consumption generated by the Solar PV panels will be utilised within the sites such as large WwTW and WTW.

This programme of work has been impacted by the NIE networks connection process, which has caused delay and uncertainty for NI Water in the delivery of the Solar PV programme of work. NI Water also understands that the UR has been consulting with NIE on this matter.

Funding for this work is being undertaken within BE017 and EP017.

JI041 Hydro power from raw water

Within the PC15 business plan ten Hydro Turbines were identified at eight sites and the UR accepted to grant funding for this initiative in the final determination. It should be noted that to ensure maximum benefit potential from this capital investment, not all of the sites will consume all of the electricity and therefore income generated from surplus electricity needs to be treated as negative opex. Two of the Hydro Turbines have been brought forward for delivery within 2016/17 and are awaiting connection approval from NIE. The connection process has hindered progress of these projects.

This work is being funded under Capital Code JI041.

JI040 Recovering Energy from the water distribution System

Given the uncertainties around this initiative NI Water have focused on those sites with a relatively attractive payback period. Within our plan, it was planned to conduct a trial to assess the viability of generating electricity from Pressure Relief Valves in the water network at one site. Due to technical difficulties, the trial has been delayed.

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). Current government incentives e.g. Renewables Obligation Certificates (ROCs), make it viable for third party investment in renewable energy solutions which can supply electricity at a rate lower than the grid. 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. Such arrangements would contribute to renewable energy targets and should deliver an Opex cost saving over the contract duration. It should be noted that the policy by central government to change/remove incentives for renewable energy (e.g. ROCs) is likely to impact this potential market, and that the viability of proposed renewable generation projects would be impacted.

Clean Water Initiatives

The Clean Water initiatives identified within NI Waters energy efficiency programme for PC15 are:

JI069 & JI075 - WPS Pump Efficiency

Appraisals have been performed by a specialist pump contractor to identify where potential energy efficiencies could be delivered. Five of these WPS were included in the delivery programme for 2015/16 and are at an advanced stage. Benefits associated with this project will be realised in 16/17 onwards.

These sites are funded under JI069.

Twelve further sites have been identified are planned within Phase two and will be funded under JI075.

JI071 – Electrical Sub-meters (water)

Sub-metering is seen as an important enabler for energy efficiency A trial has been conducted at one Water site and one Wastewater site (KI545) and a Business Case is currently being developed.

JI032 – Buildings, water treatment sites - water regulation compliance & energy efficiency

The Energy element of the PC15 business plan included funding for NI Water to renovate buildings at its operational sites to improve energy efficiency. This work is underway and the sites that are carried out during the first year will be evaluated. It is likely that the level of investment and subsequent benefits will be lower than the initial business case.

Seasonal Time of Day (STOD)

Although Time of Day pumping does not produce an actual reduction in GWh consumption, it does facilitate more efficient pumping regimes which produce lower costs. Expenditure during 2015/16 on this project produced a cost saving of c. £50k.

Wastewater Initiatives

KI514 – Buildings, wastewater treatment sites - water reg. compliance & energy efficiency

The Energy element of the PC15 business plan included funding for NI Water to renovate buildings at its operational sites to improve energy efficiency. This work is underway and the sites that are carried out during the first year will be evaluated. It is likely that the level of investment and subsequent benefits will be lower than the initial business case.

KI517 & KI553 - Energy efficiency at wastewater pumping stations

Appraisals have been performed to identify where potential energy efficiencies could be delivered. The appraisals are being assessed by NI Water.

KI545 – Electrical Sub-meters (wastewater)

Sub-metering is seen as an important enabler for energy efficiency. A trial has been conducted at one Water site and one Wastewater site (KI545) and NI Water are assessing the information collated before proceeding with further delivery.

PL005 Process Optimisation of WwTW

Within the PC15 Energy Efficiency Delivery programme, under PL005, £240K of Capital has been allocated to fund a process optimisation project at a number of Waste Water Treatment Works (WwTW) across NI Water. Approximately 30 WwTW have been optimised during the first period of the programme, with encouraging in year consumption reductions (kWh).

The work optimises energy usage within the wastewater treatment processes and utilises a Programmable Logic Controller (PLC) on each WwTW where the technology is applicable. In general optimisation modifications have been focused within a number of areas namely the site's capacity, flow/loading, historic energy consumption, process variables (flow management, Dissolved Oxygen (D.O.), Mixed Liquors (MLSS), RAS, SAS) and regulatory requirements.

Due to the success of this project, it is the intention for NI Water to continue, by optimising further WwTW.

PPP

There were two PPP projects being considered under energy efficiency.
The first was investment in a Variable Speed Drive and a pump refurbishment programme with the Alpha contractor. This initiative was considered under NI Water governance and

due to the nature of the contract, it was decided that this was not a viable project at this stage.

The second project was with the Omega contractor where control improvements were being considered at Donaghadee Pumping Station, and a number of other locations. The contract aspects of this are currently being considered.

Negative Opex

NI water currently generates around £300k pa of revenue from our existing electricity generating assets:

- Raw Water Turbines at Silent Valley and Oaklands
- Sale of ROCs
- Participation in an Aggregated Generation Unit with fixed standby generation.

This revenue is currently considered "unregulated" and was not being treated as "negative Opex" (i.e. efficiency). A review of the approach adopted by some GB water utilities is currently being considered by the UR.

2.2 Summary of Progress

Annex K of the PC15 Final Determination contained the energy efficiency targets stated in the table below. NI Water and the UR must engage in discussions regarding these baseline GWh benefits during Q2/ Q3 of 2016/17 to understand how NIAUR has derived the 12 GWhr target.

Cumulative energy reduction (GWh/a)	2015/16	2016/17	2017/18	2018/19	2018/20	2020/21
From Renewables	0.0	0.0	0.8	2.2	3.7	4.5
From Energy efficiency	0.0	2.0	4.9	6.6	7.3	7.3
Total	0.0	2.0	5.7	8.8	11.0	11.8

Table 2.2 Target of Energy Efficiency (from Annex K)

Cumulative energy reduction (GWh/a)	2015-16
From Renewables	0.0
From Energy efficiency	0.4
Total	0.4 *

Table 2.3 Actual Energy Efficiency after Year 1

'* Benefit requires final verification

NI Water is currently ahead of profile in relation to the target set for 2015/16.

3 Reporting requirement 3

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."

3.1 Proposed text

These projects did not include any explicit energy reductions. The purpose of the projects was to establish 'benchmark' measurements to inform further implementation.

Pilots have been conducted at two sites - Antrim WwTW (KI545) and Brick Row WPS (JI071). A report is currently being drafted: no work will commence on a wider roll-out until the appraisal report from the feasibility study has been approved internally, and consultation with external stakeholders has occurred and endorsement has been received.

4 Conclusion

The energy efficiency programme was estimated to require c£9.0m of capital investment (nominal terms) in the draft determination. If the water regulations compliance elements of the clean and wastewater "Buildings, water treatment sites - water regulation compliance & energy efficiency" projects are excluded, the programme is reduced to £7.430m. After the first year of a six year programme NI Water has a specific programme in place to invest £4.45m (excluding water regulations spend) of this capital funding and associated benefits in line with investment, and high level plans are being developed for investment of the remaining funding.

The PC15 energy efficiency programme has been impacted by NIE networks connection process and central government policy to change/remove incentives for renewable energy generation (e.g. ROCs). These issues are constraining the development of the programme as business cases and delivery plans were developed at a period when these risks were unknown.

5 Next steps & actions

Work is ongoing to perform more detail appraisals, perform trials, evaluate the trials and produce more robust business cases for a number of energy efficiency initiatives.

NI Water continues to request that these outputs are not nominated as this will allow us to implement the initiatives and projects which are assessed to provide the most beneficial solutions. Should additional capital become available we request that consideration be given to allocating additional investment in solar and wind renewable energy.

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	0.527	Y	The viability of this initiative is dependent on obtaining ROCs, with only four sites viable for ROCs. Initial assessments indicate that this project may not be viable after 2016/17. Updated profile reflects current understanding of number of viable sites.	0	0	100	0
Renewable	JI041	Hydro power from raw water	0.439	0.741	Y	The viability of this initiative is dependent on obtaining ROCs. Only two sites can be delivered in 2016/17 - Dorisland and Altnaheglish. 356,705kWh are currently in scope for delivery in 2016/17 subject to obtaining NIE grid connection.	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	0.640	Y	The viability of this initiative is dependent on obtaining ROCs. The PC15 baseline costs for this project as stated on CPMR are based on the larger wind turbine. In a response to UR queries on the PC15 Draft Determination, it was stated that a smaller turbine would be pursued as the preferred solution and budget reduced to £500k but this was not reflected in the baseline budget.	0	0	100	0
Renewable	BE017	Energy M&G	0.000	0.197	N	Although not included in the scope of energy projects identified in Annex 6, this is a valuable project which has successfully delivered during 2015/16. Installations were completed at a number of sites in 2015/16, with some benefits realised in Q4 2015/16 and further benefit realisation expected during 2016/17.	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
Cleanwater	JI032	Buildings, water treatment sites - water regulation compliance & energy efficiency	1.822	1.156	Y	NI Water has commenced with this project: benefits realisation and evaluation in Q4 2016/17. Initial business case appears to have over-estimated the level of investment and benefits. NI Water proceeding with caution and reduced scope.	59	40	0	0
Cleanwater	JI032	Water regulation compliance	1.081	1.034	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	0.122	Y		0	100	0	0
Cleanwater	JI069	WPS Pump Efficiency Capital Investment Phase 1	1.286	0.503	Y	This project is due to complete in 2016, with benefits realisation in Q4 2016/17. Revised target of approx. 700,000kWh	0	100	0	0
Cleanwater	JI075	WPS Pump Efficiency Capital Investment Phase 2	0.000	0.367	Y	This project is programmed when Phase 1 has complete. To be assessed in order to ascertain type of benefit (kWh reduction or Time of Day).	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	JI071	Electrical Sub-meters (water)	0.488	0.541	Y	Spend profile broadly tracking PC15 baseline, but final form of delivery will depend on outcome of feasibility study.	0	0	100	0
Cleanwater		Time of day pumping	0.000	0.059	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.				
Wastewater	KI514	Buildings, wastewater treatment sites - water reg. compliance & energy efficiency	0.790	0.829	Y	NI Water has commenced with this project: benefits realisation and evaluation in Q4 2016/17. Initial business case appears to have over-estimated the level of investment and benefits. NI Water proceeding with caution and reduced scope.	65	35	0	0
Wastewater	KI514	Water regulation compliance	0.514	0.775	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
Wastewater	KI514	Energy efficiency	0.277	0.054	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	KI517	Appraisal of Energy Efficiency at Waste Water Pumping Stations	0.021	0.003	Y		0	100	0	0
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	0.461	Y	Spend profile broadly tracking PC15 baseline, but final form of delivery will depend on outcome of feasibility study.	0	0	100	0
Wastewater	PL005	Energy Efficiency - Process Optimisation	0.000	0.240	N	Although not included in the scope of energy projects identified in Annex 6, this is a valuable project which has successfully delivered during 2015/16. The programme of work will continue during 2016/17 with benefits realisation ongoing during 2016/17 and 2017/18.	0	55	45	0
		Additional PC15 projects	0.000	2.760	N	Additional scope to be defined				
Total			9.025	9.025						

Appendix 2 – 2015/16 energy related capital expenditure

Type of project	Project code	Project title	2015/16 expenditure, nominal (£m)
Renewable	JI040	Recovering energy within the water distribution system	0.003
Renewable	JI041	Hydro power from raw water	0.009
Renewable	EP017	Electricity generation from wind power or alternative green energy solution	0.003
Renewable	BE017	Energy M&G	0.197
Cleanwater	JI032	Buildings, water treatment sites - water regulation compliance & energy efficiency	0.022
Cleanwater	JI032	Water regulation compliance	0.000
Cleanwater	JI032	Energy efficiency	0.000
Cleanwater	JI069	WPS Pump Efficiency Capital Investment Phase 1	0.432
Cleanwater	JI075	WPS Pump Efficiency Capital Investment Phase 2	0.037
Cleanwater	JI071	Electrical Sub-meters (water)	0.007
Cleanwater		Time of day pumping	0.059
Wastewater	KI514	Buildings, wastewater treatment sites - water reg. compliance & energy efficiency	0.023
Wastewater	KI514	Water regulation compliance	0.000
Wastewater	KI514	Energy efficiency	0.000
Wastewater	KI517	Appraisal of Energy Efficiency at Waste Water Pumping Stations	0.003
Wastewater	KI553	Energy efficiency at wastewater pumping stations	0.000
Wastewater	KI545	Electrical Sub-meters (wastewater)	0.012
Wastewater	PL005	Energy Efficiency - Process Optimisation	0.176
Total			0.983

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 (CURRENT COST ACCOUNTING) (NIW Only)

				1	2	3	4	5	6	7
	DESCRIPTION	UNITS	DP	WATER SERVICE			SEWERAGE SERVICE			TOTAL
				INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	
A	NIW ADDITIONS -NEW ASSETS (ENHANCEMENT)									
1	Water resource facilities	£m	3	0.076	0.066	0.141				0.141
2	Water treatment works	£m	3		2.389	2.389				2.389
3	Water distribution mains	£m	3	22.934	0.635	23.569				23.569
4	Service reservoirs and water towers	£m	3		1.438	1.438				1.438
5	Pumping stations	£m	3		0.758	0.758				0.758
6	Water management and general	£m	3	0.396	0.939	1.336				1.336
7	Sewerage	£m	3				44.797	0.102	44.899	44.899
8	Sea outfalls and headworks	£m	3				0.184	0.026	0.210	0.210
9	Sewage treatment works	£m	3					7.046	7.046	7.046
10	Sludge treatment works	£m	3					0.041	0.041	0.041
11	Sludge disposal	£m	3				0.000	0.000	0.000	0.000
12	In-line pumping stations	£m	3					5.318	5.318	5.318
13	Terminal pumping stations	£m	3					1.969	1.969	1.969
14	Sewerage management and general	£m	3				0.315	0.810	1.124	1.124
15	Total infrastructure additions (Enhancement)	£m	3	23.406		23.406	45.295		45.295	68.701
16	Total non-infrastructure additions (Enhancement)	£m	3		6.225	6.225		15.311	15.311	21.536
17	Total additions (Enhancement)	£m	3	23.406	6.225	29.631	45.295	15.311	60.607	90.237
B	NIW BASE SERVICE PROVISION									
18	Water resource facilities	£m	3	1.263	0.678	1.942				1.942
19	Water treatment works	£m	3		6.777	6.777				6.777
20	Water distribution mains	£m	3	8.067	3.882	11.950				11.950
21	Service reservoirs and water towers	£m	3		4.302	4.302				4.302
22	Pumping stations	£m	3		1.426	1.426				1.426
23	Water management and general	£m	3	1.600	6.170	7.770				7.770
24	Sewerage	£m	3				8.728	0.222	8.950	8.950
25	Sea outfalls and headworks	£m	3				0.031	-0.002	0.029	0.029
26	Sewage treatment works	£m	3					30.130	30.130	30.130
27	Sludge treatment works	£m	3					0.375	0.375	0.375
28	Sludge disposal	£m	3				0.000	0.000	0.000	0.000
29	In-line pumping stations	£m	3					8.305	8.305	8.305
30	Terminal pumping stations	£m	3					0.781	0.781	0.781
31	Sewerage management and general	£m	3				0.252	2.986	3.238	3.238
32	Total infrastructure renewals (Base)	£m	3	10.930		10.930	9.010		9.010	19.941
33	Total non-infrastructure expenditure (Base)	£m	3		23.235	23.235		42.799	42.799	66.034
34	Total expenditure (Base service provision)	£m	3	10.930	23.235	34.166	9.010	42.799	51.810	85.975

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 (CURRENT COST ACCOUNTING)
DEPRECIATION CHARGE BY ASSET TYPE (NIW Only)

	DESCRIPTION	UNITS	DP	1	2	3	4	CG	5	6	7	8	9	10	11	12	13	CG	14	15	16	17	18	19	20	21	22	CG	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	2012-13	2013-14	2014-15	2015-16		2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16		2016-17	2017-18	2018-19	2019-20	2020-21
A	DEPRECIATION CHARGE FOR THE YEAR																																
1	CCD as at 31 March of the year	£m	3	80.086	47.905	33.476		B3						66.802	83.520	66.627		B3						146.888	131.425	100.103		B3					
2	CCD on additions (enhancement assets) post 1 April 2014	£m	3				0.315	B3									0.310	B3									0.625	B3					
3	CCD on additions (MNI assets) post 1 April 2014	£m	3				0.529	B3									0.551	B3									1.080	B3					
4	Total depreciation charge for the year	£m	3				0.844	B3									0.861	B3									1.705	B3					
5	Total depreciation charged	£m	3	80.086	47.905	33.476	38.517	B3						66.802	83.520	66.627	67.861	B3						146.888	131.425	100.103	106.378	B3					

	DESCRIPTION	UNITS	DP	1	2	3	4	CG	5	6	7	8	9	10	11	12	13	CG	14	15	16	17	18	19	20	21	22	CG	23	24	25	26	27
				Water Service										Sewerage Service															Total				
				Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16		Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16		Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16		Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21
B	EXPENDITURE AND PROVISION																																
6	Infrastructure renewals expenditure	£m	3	22.593	22.391	23.055	11.134	B2						8.775	7.727	8.502	9.010	B2						31.368	30.118	31.557	20.144	B2					
7	Infrastructure renewals charges	£m	3	19.902	23.935	22.488	14.410	C5						10.859	9.474	9.821	10.876	C5						30.761	33.409	32.309	25.286	C5					
8	Infrastructure renewals prepayment/ (accrual)	£m	3	12.134	10.590	11.157	7.881	C5						-10.312	-12.059	-13.378	-15.244	C5						1.822	-1.469	-2.221	-7.363	C5					

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)
DEPRECIATION CHARGE BY ASSET TYPE (PPP Only)

				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				
	DESCRIPTION	UNITS	DP	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21
A	DEPRECIATION CHARGE FOR THE YEAR																															
1	CCD as at 31 March of the year	£m	3	4.007	4.033	4.082		B3						0.000	0.000	0.000		B3						4.007	4.033	4.082		B3					
2	CCD on additions (enhancement assets) post 1 April 2014	£m	3				0.000	B3									0.000	B3									0.000	B3					
3	CCD on additions (MNI assets) post 1 April 2014	£m	3				0.061	B3									0.000	B3									0.061	B3					
4	Total depreciation charge for the year	£m	3				0.061	B3									0.000	B3									0.061	B3					
5	Total depreciation charged	£m	3	4.007	4.033	4.082	4.146	B3						0.000	0.000	0.000	0.000	B3						4.007	4.033	4.082	4.146	B3					

				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				
	DESCRIPTION	UNITS	DP	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	CG	Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	CG	Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	CG	Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21
B	EXPENDITURE AND PROVISION																															
6	Infrastructure renewals expenditure	£m	3	0.000	0.000	0.000	0.000	B2						0.000	0.000	0.000	0.000	B2						0.000	0.000	0.000	0.00	B2					
7	Infrastructure renewals charges	£m	3	0.000	0.000	0.000	0.000	C5						0.000	0.000	0.000	0.000	C5						0.000	0.000	0.000	0.00	C5					
8	Infrastructure renewals prepayment/ (accrual)	£m	3	1.519	1.519	1.519	1.519	C5						0.000	0.000	0.000	0.000	C5						1.519	1.519	1.519	1.519	C5					

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)
DEPRECIATION CHARGE BY ASSET TYPE (Total)

			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								
DESCRIPTION	UNITS	DP	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21
A DEPRECIATION CHARGE FOR THE YEAR																															
1 CCD as at 31 March of the year	£m	3	84.093	51.938	37.558		B3						66.802	83.520	66.627		B3						150.895	135.458	104.185		B3					
2 CCD on additions (enhancement assets) post 1 April 2014	£m	3				0.315	B3									0.310	B3									0.625	B3					
3 CCD on additions (MNI assets) post 1 April 2014	£m	3				0.590	B3									0.551	B3									1.141	B3					
4 Total depreciation charge for the year	£m	3				0.905	B3									0.861	B3									1.766	B3					
5 Total depreciation charged	£m	3	84.093	81.938	37.558	42.663	B3						66.802	83.520	66.627	67.861	B3						150.895	135.458	104.185	110.524	B3					

			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								
DESCRIPTION	UNITS	DP	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	CG	Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	CG	Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21	Actual 2012-13	Actual 2013-14	Actual 2014-15	Actual 2015-16	CG	Actual 2016-17	Actual 2017-18	Actual 2018-19	Actual 2019-20	Actual 2020-21
B EXPENDITURE AND PROVISION																															
6 Infrastructure renewals expenditure	£m	3	22.593	22.391	23.055	11.134	B2						8.775	7.727	8.502	9.010	B2						31.368	30.118	31.557	20.144	B2					
7 Infrastructure renewals charges	£m	3	19.902	23.935	22.488	14.410	C5						10.859	9.474	9.821	10.876	C5						30.761	33.409	32.309	25.286	C5					
8 Infrastructure renewals prepayment/ (accrual)	£m	3	13.653	12.109	12.676	9.400	C5						-10.312	-12.059	-13.378	-15.244	C5						3.341	0.050	-0.702	-5.844	C5					

Table 33 – Depreciation Charge by Asset Type & Infrastructure Renewals Charge

Commentary and Methodology

Methodology

Current Cost Depreciation (CCD) Charge

1. The depreciation charge for the year has been populated using the same methodology used to populate Table 25. Current cost depreciation was calculated using the Fixed Asset Register (Real Asset Management). The Fixed Asset Register holds two sets of books (HCA and CCA books) which calculate depreciation using different gross book value (GBV) and gross current replacement cost (GCRC) figures. The CCA books have been used for both Table 25 and Table 33.

2. The final depreciation report from the CCA book was then analysed to 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%.

3. The table has been populated using actual depreciation figures for each financial year contained in the relevant Regulatory Accounts.

4. 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.

5. Assets to be decommissioned or written off resulted in accelerated depreciation in the year. Assets with a NCRC of £8,440,642.07 were decommissioned in 2015/2016 – the corresponding accelerated depreciation is included in Table 33.

6. There are three main PPP Projects – Alpha, Omega and Kinnegar. When these projects were established each was examined to determine whether the risks and rewards were transferred to the provider or remained with NIW. Findings are as follows:

   Alpha Project - for Alpha it was determined that the risks and rewards remained with NIW and therefore the assets were owned by the company and should be capitalised and depreciated. An associated finance lease should also be established with an initial liability equivalent to the value of the assets capitalised.

   Omega and Kinnegar Projects – it was determined that in both cases the risks and rewards were transferred to the operator and thus the assets would not be capitalised and all charges would be debited to the P&L as incurred. However an element of these charges would be credited from P&L to Balance Sheet to establish a residual interest asset since ultimately the assets would come back into NIW ownership and would have a residual value at this time. These residual assets would not be depreciated during the life of the contracts.

7. Depreciation for the year in relation to the PPP Alpha Project (which is on balance sheet) was [redacted] for 2015/16 (2014/15: [redacted]). This is shown separately in the second table for PPP only.

8. The asset lives used in calculating depreciation are consistent with those that have been used to populate Table 34. The asset lives used to calculate depreciation in the Fixed Asset Register are the same in both the HCA and CCA books.

9. Table 33 has also been adjusted to include only the appointed business and exclude the unappointed business relating to vehicle maintenance carried out for third parties. The depreciation charge (£140k) relating to this has been adjusted through Water Services – CCD on MNI assets. This is the only adjustment made in populating Table 33.

10. There are some limitations to the CCD process namely it was based on the last asset management plan (AMP) survey of existing assets as at 1 September 2001The Utility Regulator has concluded that there is no material benefit in asking NIW to prepare an Modern Equivalent Asset Valuation (MEAV) in the first three years of PC15.

11. There were no MEA revaluations during the year and therefore no impact on CCD charge in the year.

12. During the year, decommissioned assets with a net current replacement cost (NCRC) of £8,440,642.07 were included within the current year depreciation charge.

	Water (15/16)	Sewerage (15/16)	Total (15/16)
CC Depreciation in year	£38,830,749.30	£62,699,412.04	£101,530,161.34
Accelerated Depreciation	£3,343,206.93	£5,097,435.14	£8,440,642.07
Impairment 15/16	£488,948.55	£63,294.60	£552,243.15
Total (2015/2016)	£42,662,904.78	£67,860,141.78	£110,523,046.56

	Water (14/15)	Sewerage (14/15)	Total (14/15)
CC Depreciation in year	£37,477,413.01	£66,482,070.14	£103,959,483.15
Accelerated Depreciation	£50,816.86	£73,126.70	£123,943.56
Impairment 14/15	£30,017.18	£71,296.64	£101,313.82
Total (2014/2015)	£37,558,247.05	£66,626,493.48	£104,184,740.53

13. The total depreciation charge for 15/16 (£110,523k) is £6,338k more than 14/15 (£104,185k). The difference is mainly due to more assets being decommissioned in 2015/16. Normal decommissioning in the course of the business amounted to £8.4m for the year, compared to £124k in 2014/15. There was also an impairment of £552k during the year which went through the depreciation line. Also, 15/16 included a full year's depreciation [redacted] of the Alpha PPP asset which was [redacted] higher than the previous year.

Infrastructure Renewals accounting

The IRC calculation for 15/16 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.

2015-2016 IRC

The IRC for 2015-16 based on PC15 can be summarised as follows:

Water - £14.410m
Sewerage - £10.876m
Total - £25.286m

The out-turn IRE for 2015-2016 can be shown as follows:

Water - £11.134m
Sewerage - £ 9.010m
Total - £20.144m

The accrual at 31 March 2016 can be shown as follows:

	W TOTAL £m	S TOTAL £m	Total TOTAL £m
IRE	11.134	9.010	20.144
IRC	(14.410)	(10.876)	(25.286)
In year (accrual)	(3.276)	(1.866)	(5.142)
c/f prepayment / (accrual)	12.676	(13.378)	(0.702)
Cumulative prepayment / (accrual)	9.400	(15.244)	(5.844)

At the end of the year to 31 March 2016 an accrual balance of £5.844m was evident. This balance arose as the in-year accrual of £5.142m for 2015-16 was added to the cumulative brought forward accrual balance of £0.702m, which existed at 31st March 2015.

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 2016 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 PPP has 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 differs from the IRC in the regulatory accounts.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 34 FINANCIAL MEASURES (CURRENT 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	CG	2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21
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	B3						-0.005	0.473	0.088	0.071	B3					
2	Short	£m	3	2.457	3.136	2.779	1.154	B2						3.923	3.506	4.763	4.272	B2					
3	Medium	£m	3	2.610	2.425	7.433	2.279	B2						10.142	9.775	9.873	4.251	B2					
4	Medium long	£m	3	0.000	0.383	0.014	0.000	B2						0.000	0.000	0.010	0.002	B2					
5	Long	£m	3	2.640	1.566	4.926	2.715	B2						14.217	13.256	10.907	6.455	B2					
6	Land	£m	3	0.000	0.000	0.007	0.000	B2						0.102	0.050	0.021	0.261	B2					
7	Land Disposals	£m	3	-0.111	-0.351	-0.066	-0.164	B2						-0.160	-0.190	-0.079	-0.251	B2					
8	Total	£m	3	7.530	7.509	15.229	6.061	B2						28.093	26.598	25.583	15.060	B2					
B	NON-INFRASTRUCTURE ASSET ADDITIONS (BASE SERVICE) BY ASSET LIFE																						
9	Very Short	£m	3	2.119	1.948	0.950	1.705	B3						1.916	1.886	2.390	0.811	B3					
10	Short	£m	3	3.285	5.839	3.416	4.524	B2						4.859	6.151	5.762	4.545	B2					
11	Medium	£m	3	6.817	3.874	7.652	10.926	B2						24.145	30.514	14.642	22.828	B2					
12	Medium long	£m	3	0.000	0.134	0.506	0.380	B3						0.000	0.250	0.137	0.092	B3					
13	Long	£m	3	3.688	5.029	5.366	5.701	B2						10.338	12.185	7.153	14.523	B2					
14	Total	£m	3	15.909	16.825	17.891	23.235	B2						41.258	50.986	30.084	42.799	B2					
C	NON-INFRASTRUCTURE ADDITIONS AVERAGE LIFE (YEARS)																						
15	Very Short	years	0																				
16	Short	years	0																				
17	Medium	years	0																				
18	Medium long	years	0																				
19	Long	years	0																				

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 34 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)
ANALYSIS OF NON-INFRASTRUCTURE FIXED ASSET ADDITIONS BY LIFE CATEGORIES - PPF

	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	CG	2016-17	2017-18	2018-19	2019-20	2020-21	2012-13	2013-14	2014-15	2015-16	CG	2016-17	2017-18	2018-19	2019-20	2020-21
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	n/a						0.000	0.000	0.000	0.000	n/a					
2	Short	£m	3	0.000	0.000	0.000	0.000	n/a						0.000	0.000	0.000	0.000	n/a					
3	Medium	£m	3	0.000	0.000	0.000	0.000	n/a						0.000	0.000	0.000	0.000	n/a					
4	Medium long	£m	3	0.000	0.000	0.000	0.000	n/a						0.000	0.000	0.000	0.000	n/a					
5	Long	£m	3	0.000	0.000	0.000	0.000	n/a						0.000	0.000	0.000	0.000	n/a					
6	Land	£m	3	0.000	0.000	0.000	0.000	n/a						0.000	0.000	0.000	0.000	n/a					
7	Land Disposals	£m	3	0.000	0.000	0.000	0.000	n/a						0.000	0.000	0.000	0.000	n/a					
8	Total	£m	3	0.000	0.000	0.000	0.000	n/a						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	[redacted]	[redacted]	[redacted]	[redacted]	B2						[redacted]	[redacted]	[redacted]	[redacted]	n/a					
10	Short	£m	3	[redacted]	[redacted]	[redacted]	[redacted]	B2						[redacted]	[redacted]	[redacted]	[redacted]	n/a					
11	Medium	£m	3	[redacted]	[redacted]	[redacted]	[redacted]	B3						[redacted]	[redacted]	[redacted]	[redacted]	n/a					
12	Medium long	£m	3	[redacted]	[redacted]	[redacted]	[redacted]	B2						[redacted]	[redacted]	[redacted]	[redacted]	n/a					
13	Long	£m	3	[redacted]	[redacted]	[redacted]	[redacted]	B3						[redacted]	[redacted]	[redacted]	[redacted]	n/a					
14	Total	£m	3	[redacted]	[redacted]	[redacted]	[redacted]	B3						[redacted]	[redacted]	[redacted]	[redacted]	n/a					
C	NON-INFRASTRUCTURE ADDITIONS AVERAGE LIFE (YEARS)																						
15	Very Short	years	0																				
16	Short	years	0																				
17	Medium	years	0																				
18	Medium long	years	0																				
19	Long	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 Engineering Procurement, Operations, Asset Management, PPP and Finance and Regulation directorates. A specific Master Class was developed and presented to Engineering Procurement, Operations and Asset Management staff in December 2009 and January 2010 to help staff understanding of CIDA definitions and allocations as well as awareness of the use of CIDA data for various business and regulatory needs including common framework and benchmarking. This training has been delivered to external consultants where requested each year since 2010/11. Feedback from these sessions has been very positive. 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 2015/16 against each project, excluding land acquisition, with a full CIDA output.
    - CIDA lands – This reports the accrual in 2015/16 against land acquisition and the associated CIDA output.
b) CWP AIR reporting Model – The model developed in Excel for AIR09 and subsequent years has been adopted for AIR16 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.

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 AIR16 for completion of Table 40. Unfortunately the

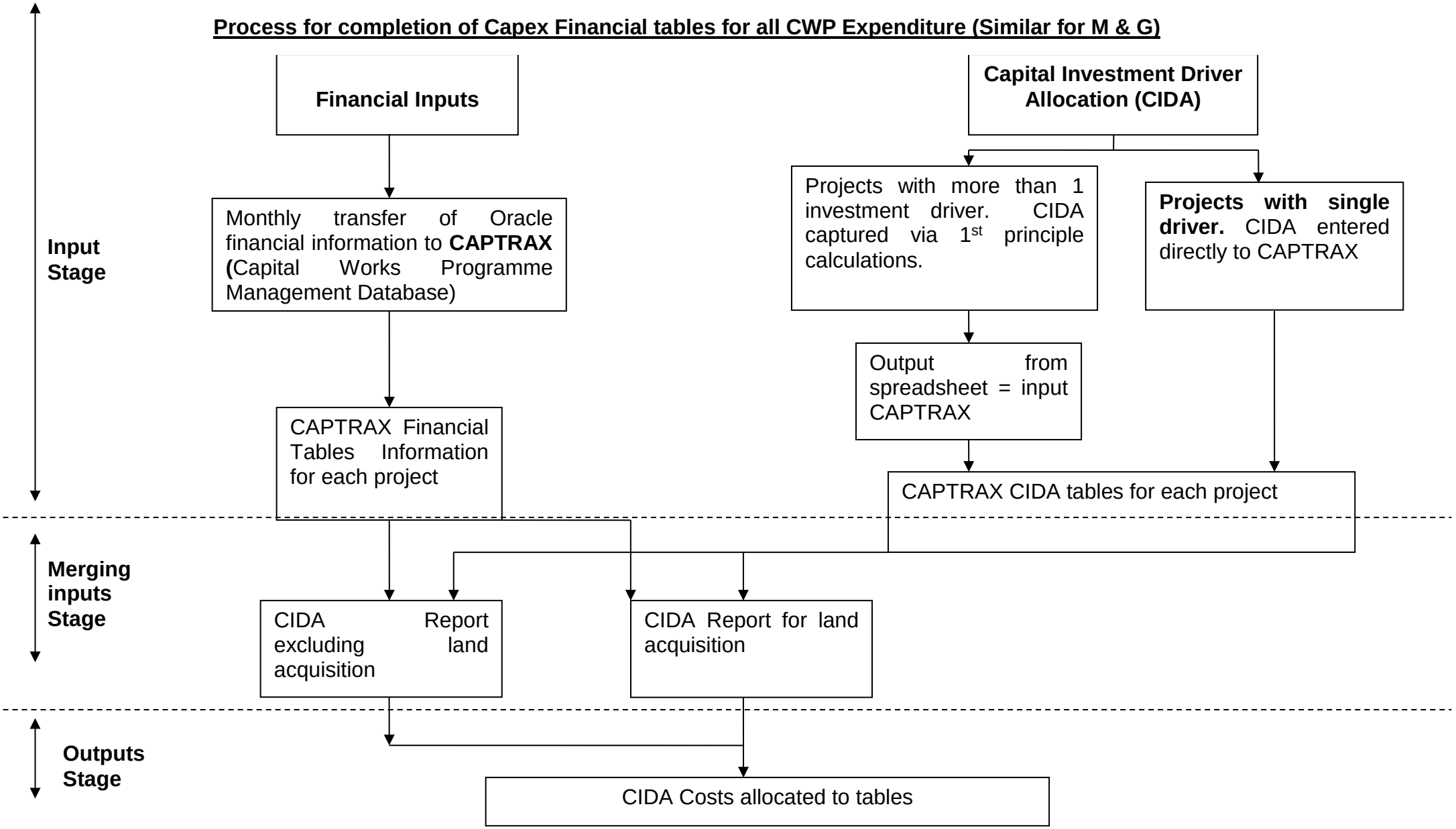
system needs further refinement to enable reporting information for Tables 32, 34, 36 and 36a accurately as there are a significant number of contracts within each project with combinations of a number of service areas, asset types and financial categories. For reporting in AIR16, each of the contacts 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

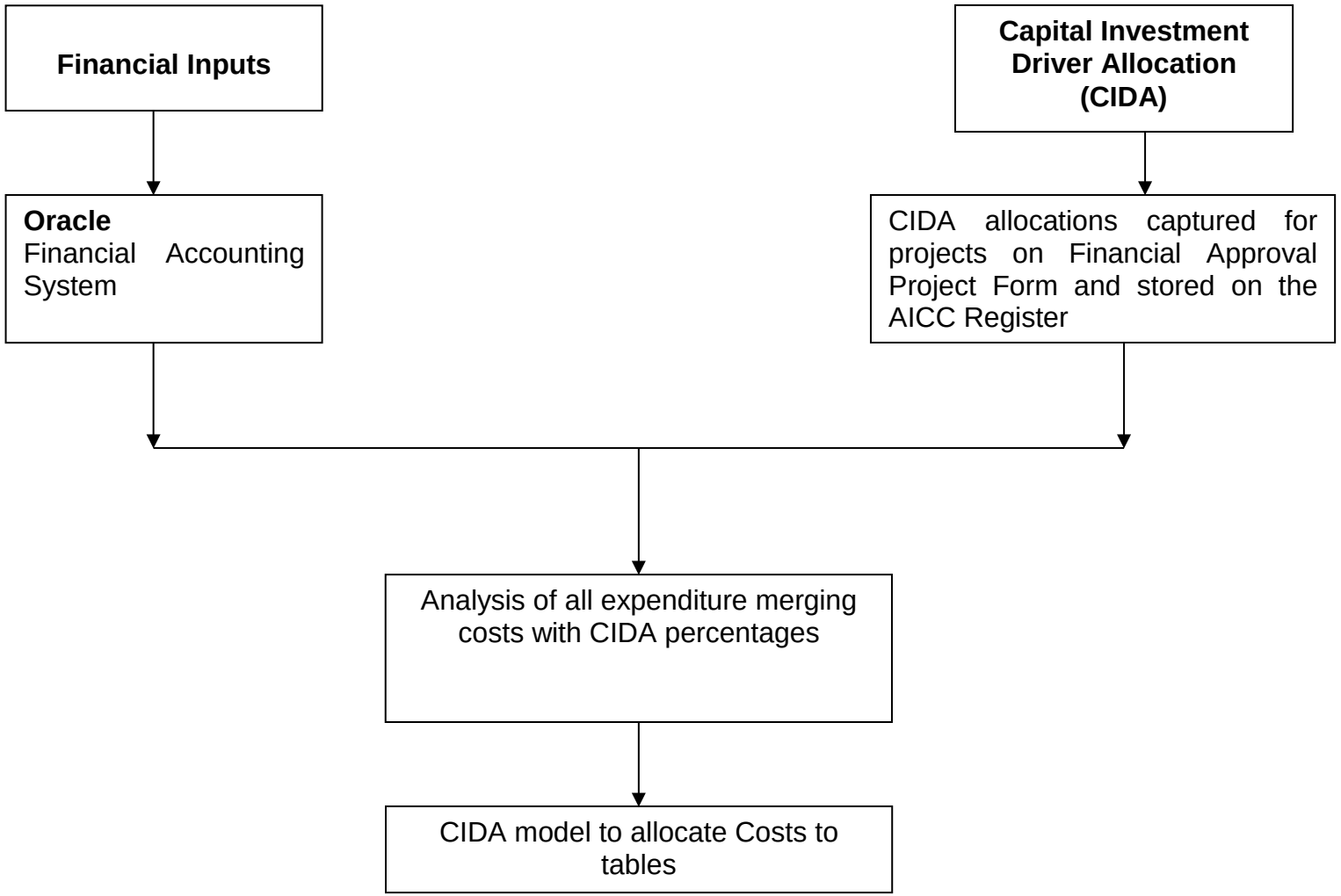
Data used in the population of the table is based on data extracted from the company's core systems and no assumptions are made in the allocation of project expenditure to the lines in the tables for all the expenditure with CIDA directly attributed. For the small rounding figure of £16k of CWP expenditure (due to CATPRAX rounding finance to the nearest £k), this is 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. 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 for AIR16 has been applied to the life for Meters which have been changed to 17 years to align with PC15 Business plan assumptions. Expenditure for meters has been moved from Short life to Medium life for AIR 16 report. No changes have been made to previous year's data in respect of Meter expenditure reporting.

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 is 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.

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 AIR16 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 NIW have no information on either the QBEG or the Asset Life categories for this project.

NIW Table

The asset lives adopted for Regulatory reporting are consistent with those in the Fixed Asset Register (FAR). The links for reporting purposes is 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 2015/16. 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

NI Water has updated the figures in the former years for this line. The reason for the correction was due to incorrect understanding of the definition. In prior years the figures reported were the actual disposal receipts rather than the HCA book value. 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.

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	0.000	165.800	155.629	140.731					
B	**Capital budget statement in nominal prices**											
2	Public Expenditure capital budget used	£m	3	0.000	165.540	154.946	140.291					
3	Alpha PPP maintenance	£m	3	[redacted]	[redacted]	[redacted]	[redacted]					
4	Residual interest in off-balance sheet PPP	£m	3	[redacted]	[redacted]	[redacted]	[redacted]					
5	IFRS infrastructure renewal charge adjustment	£m	3	0.000	0.988	1.154	1.194					
6	*Further adjustments……*	£m	3	0.000	0.000	0.000	0.000					
6a	Unwinding of capital provision	£m	3	0.000	0.000	0.000	0.000					
6b	Rounding	£m	3	0.000	0.013	-0.006	-0.001					
6c	Decapitalised assets	£m	3	0.000	0.000	0.238	0.005					
7	Capital grants and contributions	£m	3	0.000	6.586	7.331	7.985					
8	Capital grants and contributions transferred to deferred credits	£m	3	0.000	-0.693	-1.025	-0.999					
9	NI Water gross capital budget	£m	3	[redacted]	[redacted]	[redacted]	[redacted]					

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 PC15 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 Regional Development, DRD, for the relevant financial year. Block B provides 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.

Block A – Available PE capital budget in nominal prices (line 1)

Entries to line 1 represent the total budget 'Capital DEL Acquisitions' agreed with the DRD for each financial year and includes movements to funding resulting from in-year monitoring rounds. This is all expenditure which DRD 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 DRD have adopted IFRS as an accounting framework, the available PE will also be stated on an IFRS basis.

In 2015/16, the PE capital DEL budget available at the start of the financial year was £15.0m short of that assumed within the PC15 Final Determination (PC15 FD). This is set out in the table below and shows that the £15.0m capital DEL is equivalent to a £15.8m drop in gross capital expenditure, once other capital allocations are taken into account.

	Final Determination	Budget	Variance
	2015-16	2015-16	2015-16
	£M	£M	£M
PE Capital DEL Acquisitions	155.0	140.0	15.0
Alpha PPP maintenance	[redacted]	[redacted]	[redacted]
Residual interest in off balance sheet PPP	[redacted]	[redacted]	[redacted]
IFRS infrastructure renewal charge adjustment	1.0	1.2	- 0.2
Capital grants and contributions	6.3	5.3	1.0
Capital grants and contributions transferred to deferred credits	- 0.8	- 0.7	- 0.0
NI Water gross capital budget	156.8	141.0	15.8

In terms of movements in funding within the current year, 'Capital DEL Acquisitions' was increased by £0.2m in the 2015/16 December Monitoring Round for sustainable drainage and increased by a further £0.531m in the 2015/16 January Monitoring Round as additional capital disposal income was assumed.

The PE capital DEL funding at the end of the 2015/16 year is therefore as follows:

	2015/16
	£m
PE Capital DEL budget at start of year	140.000
December MR	0.200
January MR	0.531
PE Capital DEL budget at end of year	**140.731**

Other changes during the year

DRD wrote to NI Water on 3 March 2015 confirming the final 2015-16 budget position for NI Water of £140m DEL Capital. Given this resulted in a significant shortfall of £15m from the PC15 FD, DRD requested that NI Water work with the Utility Regulator to assess changes to the outputs required of NI Water in 2015/16.

NI Water presented a proposed capital programme for 2015-16 to the Utility Regulator on 6th May 2015, and after a series of meetings with stakeholders and a discussion at the June Output Review Group (ORG), a series of changes to the programme were proposed (see table below). These changes were agreed with the Utility Regulator and were ratified at the November ORG.

Project ID	Project Name	PC15 Prog	Initial Allocation	Revised Allocation	Movement
			£m	£m	£m
JI062	Lead Pipe Replacement Programme	23	0.453	1.008	+0.555
JI086	PC15 Public Realm (Water) Parent	23	0.173	1.150	+0.977
JB693	Carland to Cookstown Strategic Trunk Main	05	0.023	0.700	+0.677
XX004	Watermains Rehabilitation PC15 Parent	08	15.819	14.000	(1.819)
KI469	PC15 Base Maintenance (Sewerage) Parent	02	24.389	22.848	(1.541)
JI103	PC15 Base Maintenance (Water) Parent	01	3.624	4.199	+0.575
XX008	PC15 Public Realm (Sewerage) Parent	24	0.026	0.594	+0.568
	Total Movement				(0.008)

Although overall changes to the PE capital budget within the reporting year were minimal, adjusting outputs on a year by year basis does not facilitate efficient capital planning and the momentum required to deliver a six year capital programme. This was especially true in 2015-16 given the delay in agreeing outputs for the year.

Section B - Capital budget statement in nominal prices (lines 2-9)

Line 2 – PE capital budget used

Represents total 'Capital DEL Acquisitions' calculated as line 9 minus the sum of lines 3 – 8 inclusive.

The overspend from the original capital budget available is calculated as £0.291m (£140.291m less £140.000m). Taking into account the additional funding received in the December and January monitoring rounds (£0.200m & £0.531m respectively), there was

an underspend on available 'Capital DEL Acquisitions' of £0.440m (circa 0.3%). This was an intentional underspend intended to offset a shortfall in asset disposals of £0.437m (target of £1.331m, actual disposals of £0.894m). The variance on total Capital DEL (including disposals) is therefore only £0.003m.

Note the PE capital used has been agreed to our 2015/16 'provisional outturn' return submitted to DRD on the 26th April 2016. The 2015/16 'final outturn' will be provided to DRD 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

This represents the capital maintenance carried out at Alpha sites during the year by Dalriada water [redacted]

Following an accounting treatment change implemented in 2013/14, the capital maintenance element of the unitary charge is now allocated straight line across the life of the contract. This correctly reflects that the unitary charge does not fluctuate with changes in the capital maintenance spend in any year. This change now means that AIR16 Table 42 line 14 now represents an accrued amount of capital maintenance and no longer represents actual capital maintenance. The difference between the two figures is held in NL account 1521 – PPP deferred capital maintenance.

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.

For Regulatory accounting purposes, Omega & Kinnegar assets are held 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. Entries to this line reconcile directly to AIR15 Table 42 line 15.

	2015/16
Kinnegar Residual Interest	[redacted]
Omega Residual Interest	[redacted]
Total	[redacted]

Line 5 – IFRS infrastructure renewals charge adjustment

This line represents a transfer of expenditure which is treated differently under IFRS and our current Regulatory Accounting Guidelines, RAG's.

DRD have adopted IFRS and require certain types of repair, which we currently classify as capital expenditure under the RAG's, to be reported as operational expenditure under IFRS and therefore under PE reporting.

The table summarises expenditure currently decapitalised under IFRS.

IFRS Adjustment on De-capitalised Repairs	2015-16
	£
LN098100 - Leakage Detection SE (incl Cap Sals)	183,496
LN099100 - Leakage Detection NW (incl Cap Sals)	120,473
LN101100 - Repair of Defects identified as a result of leakage detection activities (incl Cap Sals)	371,535
LN110101 - High Volume DMA's SE (Consultants' fees) (incl Cap Sals)	149,918
LN110102 - High Volume DMA's NW (Consultants' fees)	128,314
LN0xxxxx - Active Leakage Control SE	144,147
LN0xxxxx - Active Leakage Control NW	96,098
TOTAL	**1,193,979**

Line 6 – Further adjustments

Minor rounding differences (-£0.001m)

Capital grants received (different treatment in PE) - in 2015/16, we received capital grants of £4,944:

For statutory accounting purposes, these grants, although received in 2015/16, are deferred and released over a 60 year life. They are therefore included in AIR16 Table 37 lines 17 and 18 on this basis.

Although these grants are deferred for statutory accounting purposes, the PE treatment adopted is different. We are allowed to offset the full grant for PE purposes and therefore maximise available capital spend. We have therefore included an adjustment which reflects the full offset of these grants in 2015/16.

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 AIR16 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 2015/16. 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 AIR16 Table 37 line 18.

Line 9 – NI Water gross capital expenditure

Represents gross capital expenditure as per AIR16 Table 36.

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 2021-22	CG
A	**Water service**																				
1	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	15.909		16.825	B3	23.235	B2	23.235	B2										
2	Infrastructure renewals expenditure (gross)	£m	3	22.593		22.391	B3	11.133	B2	11.133	B2										
3	Capital expenditure - quality enhancement programme	£m	3	9.972		14.396	B3	14.646	B2	14.646	B2										
4	Capital expenditure - customer service	£m	3	3.126		3.262	B3	1.194	B2	1.194	B2										
5	Capital expenditure - supply demand balance	£m	3	17.782		15.049	B3	13.791	B2	13.791	B2										
5a	Capex - new development	£m	3	8.323		4.777	B3	5.258	B2	5.258	B2										
5b	Capex - growth	£m	3	0.244		0.309	B3	0.051	B3	0.051	B3										
5c	Capex - security of supply	£m	3	9.214		9.842	B3	16.099	B2	8.436	B2										
5d	Capex - free meters	£m	3	0.000		0.121	B3	0.046	B3	0.046	B3										
6	Gross capital expenditure - water service	£m	3	69.382		71.923	B3	63.999	B2	63.999	B2										
B	**Sewerage Service**																				
7	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	41.258		50.986	B3	42.799	B2	42.799	B2										
8	Infrastructure renewals expenditure (gross)	£m	3	8.775		7.727	B3	9.010	B2	9.010	B2										
9	Capital expenditure - quality enhancement programme	£m	3	21.626		21.238	B3	13.851	B2	13.851	B2										
10	Capital expenditure - customer service	£m	3	2.899		3.955	B3	4.406	B2	4.406	B2										
11	Capital expenditure - supply demand balance	£m	3	18.318		11.736	B3	9.626	B2	9.626	B2										
11a	Capex - new development	£m	3	17.871		11.579	B3	9.626	B2	9.626	B2										
11b	Capex - sewage treatment	£m	3	0.447		0.158	B3	0.000	B3	0.000	B3										
12	Gross capital expenditure - sewerage service	£m	3	92.876		95.643	B3	79.692	B2	79.692	B2										
C	**Gross capital expenditure total**																				
13	Gross capital expenditure total	£m	3	162.258		167.566	B3	143.691	B2	143.691	B2										
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										
15	Water service assets adopted in return for an payment	£m	3	0.000		0.000	B3	0.000	B3	0.000	B3										
16	Sewerage service asset adopted at nil cost	£m	3	48.233		59.566	B3	32.724	B2	32.724	B2										
17	Sewerage service assets adopted in return for a payment.	£m	3	0.000		0.000	B3	0.000	B3	0.000	B3										
18	Total adopted assets and nil cost assets	£m	3	48.233		59.566	B3	32.724	B3	32.724	B3										
E	**Infrastructure renewals expenditure (net)**																				
19	Water service infrastructure renewals expenditure (net) (NIW only)	£m	3	22.514		22.277	B3	10.930	B2	10.930	B2										
20	Sewerage service infrastructure renewals expenditure (net) (NIW only)	£m	3	8.609		7.632	B3	9.010	B2	9.010	B2										
21	Total infrastructure renewals expenditure (net) (NIW only)	£m	3	31.123		29.909	B3	19.941	B2	19.941	B2										
F	**Total asset additions**																				
22	Water service total asset additions	£m	3	46.788		49.532	B3	52.866	B2	52.866	B2										
23	Sewerage service total asset additions	£m	3	132.334		147.482	B3	103.406	B2	103.406	B2										
24	Total asset additions	£m	3	179.122		197.014	B3	156.272	B2	156.272	B2										

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						23.235	#	22.996						22.996	#	-0.240						-0.240	#	-1.032						-1.032
2	Infrastructure renewals expenditure (gross)	£m	3	11.133						11.133	#	14.273						14.273	#	3.139						3.139	#	28.196						28.196
3	Capital expenditure - quality enhancement programme	£m	3	14.646						14.646	#	14.067						14.067	#	-0.579						-0.579	#	-3.953						-3.953
4	Capital expenditure - customer service	£m	3	1.194						1.194	#	4.111						4.111	#	2.917						2.917	#	244.235						244.235
5	Capital expenditure - supply demand balance	£m	3	13.791						13.791	#	14.371						14.371	#	0.580						0.580	#	4.206						4.206
6	Gross capital expenditure - water service	£m	3	63.999						63.999	#	69.817						69.817	#	5.817						5.817	#	5.817						5.817
B	**Sewerage Service**																																	
7	Non-infrastructure maintenance (gross of grants and contributions)	£m	3	42.799						42.799	#	36.814						36.814	#	-5.985						-5.985	#	-13.984						-13.984
8	Infrastructure renewals expenditure (gross)	£m	3	9.010						9.010	#	10.772						10.772	#	1.761						1.761	#	19.548						19.548
9	Capital expenditure - quality enhancement programme	£m	3	13.851						13.851	#	20.758						20.758	#	6.907						6.907	#	49.868						49.868
10	Capital expenditure - customer service	£m	3	4.406						4.406	#	8.966						8.966	#	4.560						4.560	#	103.494						103.494
11	Capital expenditure - supply demand balance	£m	3	9.626						9.626	#	8.165						8.165	#	-1.461						-1.461	#	-15.177						-15.177
12	Gross capital expenditure - sewerage service	£m	3	79.692						79.692	#	85.475						85.475	#	5.783						5.783	#	5.783						5.783
C	**Gross capital expenditure total**																																	
13	Gross capital expenditure total	£m	3	143.691						143.691	#	155.291						155.291	#	11.600						11.600	#	8.073						8.073
D	**CAPITAL CONTRIBUTIONS NET OF DEFERRED CREDITS**																																	
14	Capital contributions for new connections	£m	3	7.782						7.782	#	4.251						4.251	#	-3.531						-3.531	#	-45.370						-45.370
15	Other capital contributions	£m	3	0.203						0.203	#	1.249						1.249	#	1.046						1.046	#	515.297						515.297
16	Total capital contributions net of deferred credits	£m	3	7.985						7.985	#	5.500						5.500	#	-2.485						-2.485	#	469.927						469.927
E	**TOTAL CAPITAL EXPENDITURE (NET)**																																	
17	Total capital expenditure (net)	£m	3	135.706						135.706	#	149.791						149.791	#	14.085						14.085	#	10.379						10.379

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					
2	Infrastructure renewals grants and contributions.	£m	3	0.079	0.114	0.033	0.203					
3	Total maintenance grants and contributions	£m	3	0.079	0.114	0.033	0.203					
B	**Water Service - Enhancement grants and contributions**											
4	Infrastructure charge receipts - new connections	£m	3	1.127	1.272	1.426	1.800					
5	Enhancement requisitions, grants and contributions	£m	3	2.031	2.054	2.387	2.553					
6	*Other categories of capital grants and contributions to be added by NI Water*	£m	3	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					
C	**Water Service - Deferred credits**											
8	Capital grants and contributions transferred to deferred credits	£m	3	0.500	0.382	0.666	0.545					
D	**Sewerage Service - Maintenance grants and contributions**											
9	MNI - grants and contributions.	£m	3	0.000	0.000	0.000	0.000					
10	Infrastructure renewals grants and contributions.	£m	3	0.166	0.095	0.064	0.000					
11	Total maintenance grants and contributions	£m	3	0.166	0.095	0.064	0.000					
E	**Sewerage Service - Enhancement grants and contributions**											
12	Infrastructure charge receipts - new connections	£m	3	0.911	1.036	1.195	1.515					
13	Enhancement requisitions, grants and contributions	£m	3	1.443	2.015	2.226	1.914					
14	*Other categories of capital grants and contributions to be added by NI Water*	£m	3	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					
F	**Sewerage Service - Deferred credits**											
16	Capital grants and contributions transferred to deferred credits	£m	3	0.404	0.311	0.359	0.454					
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					
18	Total capital grants and contributions transferred to deferred credits	£m	3	0.904	0.693	1.025	0.999					

Table 37 – Capital Investment - Capital Grants and Contributions

Line 1 – Water service MNI – grants and contributions

Nil for 2015-16.

Line 2 – Water service maintenance grants and contributions

This line shows £0.203m and represents contributions from developers towards the cost of watermains diversions.

Line 4 – Water service infrastructure charge receipts - new connections

This line shows £1.800m 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	£ 2.016m
Water requisitions	£ 0.532m
Grants	£ 0.005m
Total Line 5	**£ 2.553m**

The grants can be summarised as follows:

Mourne Wall Towers (Mourne Heritage/Craigavon Council)
£0.010m.
Less overpayment repaid in 2015-16
Silent Valley Park Enhancement (Grantor DARD)
(£0.005)m

Line 6 – Water service other categories of capital grants and contributions

Nil for 2015-16.

Line 8 – Water service deferred credits

This line shows £0.545m and represents:

(i) 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 £1.800m x 30% = £0.545m

The 30% used in this calculation is based on an estimate of the future capital expenditure that relates to growth.

and (ii) the grants of £0.005m noted at Line 5 that are for non-infrastructure projects so are deferred and amortised over the life of the associated project (for these projects 60 years).

Line 9 – Sewerage service MNI – grants and contributions

Nil for 2015-16.

Line 10 – Sewerage service - maintenance grants and contributions

Nil for 2015-16.

Line 12 – Sewerage service - Infrastructure charge receipts - new connections

This line shows £1.515m 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	£0.783m
Sewerage requisitions	£0.512m
Sewers for adoption –application fees	£0.619m
Total Line 13	**£1.914m**

Line 14 – Sewerage service - other categories of capital grants and contributions

Nil for 2014-15.

Line 16 – Sewerage service deferred credits

This line shows £0.454m 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 £1.515m x 30% = £0.454m

The 30% used in this calculation is based on an estimate of the future capital expenditure that relates to growth.

Comparison of 2015-16 to PC15*

The following table shows a comparison of the actual contributions for 2015-16 compared to PC15.

	2015-16 Actual £m	2015-16 PC15 £m	2015-16 Variance £m	2015-16 Variance %
Water				
Infrastructure – base	0.2	0.0	0.2	N/A
Infrastructure charges - gross	1.8	1.4	0.4	28.6%
Connections	2.0	2.1	(0.1)	(4.8)%
Requisitions	0.5	0.1	0.4	400.0%
Grants	0.0	0.0	0.0	N/A
Total	**4.5**	**3.6**	**0.9**	**25.0%**
Included in the gross Infrastructure charges above the non-infrastructure element - 30%	0.6	0.4	0.2	50.0%
Sewerage				
Infrastructure – base	0.0	0.0	0.0	N/A
Infrastructure charges – gross	1.5	1.1	0.4	36.4%
Connections	0.8	0.9	(0.1)	(11.1)%
Requisitions	0.5	0.1	0.4	400.0%
Sewers for adoption	0.6	0.6	0.0	0.0%
Total	**3.4**	**2.7**	**0.7**	**25.9%**
Included in the gross Infrastructure charges above the non-infrastructure element - 30%	0.4	0.3	0.1	33.3%
Total contributions	**7.9**	**6.3**	**1.6**	**25.4%**
Which includes: *non-infrastructure contributions*	**1.0**	**0.7**	**0.3**	**42.9%**

**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 8development 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					
2	Additional OPEX arising from Sewerage Service projects	£m	3		1.483	0.403	0.003					
3	Total additional OPEX	£m	3		1.698	0.407	0.030					

Table 38 - Capital investment - additional opex from capex

A list of sites with CAR ID's is obtained and the Opex costs for 2015/16 are calculated for these sites through various reports.

The Opex from Capex costs have been calculated by taking the difference between the total 2014/15 costs and the 2015/16 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 £0.027M.

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 which is £0.003M.

Line 3 - Total additional OPEX

The total figure is £0.030M.

ANNUAL INFORMATION RETURN - TABLE 40 CAPITAL INVESTMENT
CAPITAL INVESTMENT MONITORING - CIM
ANNUAL INFORMATION RETURN 2015-16

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	ORM Submission Reference	Project ID Reference	Project Name	PC Project Period	Parent Project ID	Subsidiary 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 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 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	
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	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57					70	71	
CALC			Total capital expenditure reported																		7.439	11.466	22.893	108.340	100.965	147.868																	143.700	42.965	77.915	83.586	140.106	153.380	143.700							

dupID	Cell_Suite	Pe_Project_ID	Pe_Project_Name	PC_PC_Period	Pe_PARENT_Project_ID	Pe_SUBSTITUTE_Project_ID	Pe_Pe_Asset_Cat	Pe_PC10_Prog	Pe_Reg_Signoff	BLM_A1	BLM_Project_Approval	BLM_SoS	BLM_BU	BLM_RSO	BLM_CoC	BLM_EoMP	BSA_tpwtc	BSA_tpwnwtc	BSA_tpswtc	BSA_tpswnwtc	BL_Capex_2010-11_£m	BL_Capex_2011-12_£m	BL_Capex_2012-13_£m	BL_Capex_2013-14_£m	BL_Capex_2014-15_£m	BL_Capex_2015-16_£m	BLM_Pc_Q%	BLM_Pc_B%	BLM_Pc_E%	BLM_Pc_G%	CAM_A1	CAM_Project Approval	CAM_SoS	CAM_BU	CAM_RSO	CAM_CoC	CAM_EoMP	CAM_tpwtc	CAM_tpwnwtc	CAM_tpswtc	CAM_tpswnwtc	CAP_Capex_YTD_£m	CAP_Capex_2010-11_£m	CAP_Capex_2011-12_£m	CAP_Capex_2012-13_£m	CAP_Capex_2013-14_£m	CAP_Capex_2014-15_£m	CAP_Capex_2015-16_£m	CAPPA_Q%	CAPPA_B%	CAPPA_E%	CAPPA_G%	CAP_IRE_WPA	CAP_IRE_S%	Mod_Output
1	2015_16 Q4	KS939	Central Promenade, Newcastle CSO Upgrade (Plattons Bridge)	03	KS848		07	12	NEA								0	0	100	0	0.000	0.000	0.000	0.000	0.017	100	0	0	0	29/01/2016	29/02/2016	07/03/2016	24/03/2016								0	0	100	0	0.247	0.000	0.000	0.000	0.015	0.247	100	0	0	0	0	0	
2	2015_16 Q4	JA264	Crosskennan SR, Antrim, Water Pumping Station.	00			05	06	DWI	26/02/2010	12/04/2010	31/05/2010	28/04/2011		28/04/2011	27/04/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	29/02/2010	12/04/2010	31/05/2010	28/04/2011		10/10/2011		0	100	0	0	-0.002	0.847	0.127	0.000	-0.001	0.000	-0.002	0	53	0	47	0	0	
3	2015_16 Q4	JA271	Killylane WTW	02			06	01	DWI			01/04/2013	31/12/2013		31/03/2014	31/03/2015	0	100	0	0	0.061	0.003	0.000	0.922	0.134	0.000	0	100	0	0	08/07/2013	13/08/2013	29/01/2014	05/12/2014		25/03/2015	14/09/2015	0	100	0	0	0.001	0.061	0.003	0.000	0.228	1.005	0.001	0	100	0	0	0	PC13
4	2015_16 Q4	JA289	Lylehill WPS Templepatrick Site Security Improvements	00			05	01	DRD																																	0.058	0.000	0.000	0.000	0.011	0.062	0.058	0	100	0	0	0	0	
5	2015_16 Q4	JA290	Killylane Dunore East Phase 1	03			03	08	DRD																																	05/08/2013	06/08/2013	18/02/2013			08/12/2014		89	11	0	0	-0.003	0.000	0.000	0.000	0.267	1.953	0.715	0.003	10	46	0	44	45	0	
6	2015_16 Q4	JA300	A31 Magherafelt By-Pass, Watermain Diversions	00			03	23	DRD																																	27/05/2015	29/05/2015						100	0	0	0	0.061	0.000	0.000	0.000	0.000	0.015	0.061	0	94	0	6	94	0	
7	2015_16 Q4	JA306	Carrickfergus Road, Larne, Water Quality Schemes.	00			03	08																																		02/03/2015	04/03/2015	16/03/2015	23/02/2016				100	0	0	0	0.465	0.000	0.000	0.000	0.000	0.368	0.465	69	25	6	0	25	0	
8	2015_16 Q4	JA308	A6 Castledawson to Randalstown	00			03	23																																									60	0	40	0	0.049	0.000	0.000	0.000	0.000	0.049	100	0	0	0	60	40	
9	2015_16 Q4	JB671	Glenlough Pumping Station & Pumping Main	01			03	01	DWI								60	40	0	0	0.000	0.000	0.000	0.248	0.000	0.000	0	20	0	80	16/02/2015	18/02/2015						0	100	0	0	0.006	0.000	0.000	0.000	0.021	0.000	0.006	0	0	0	100	0	
10	2015_16 Q4	JB692	Rathlin Island SR rationalisation	00			03	01	DRD																																	05/08/2013	12/08/2013	01/09/2014	23/06/2015		30/03/2015	08/12/2015	100	0	0	0	0.016	0.000	0.000	0.000	0.005	0.016	0	0	100	0	0	0	
11	2015_16 Q4	JB693	Carland to Cookstown Strategic Trunk Main	04			03	05	DRD			31/03/2021					100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	16/03/2015	18/03/2015	01/10/2015					100	0	0	0	1.491	0.000	0.000	0.000	0.015	0.047	1.491	0	0	0	100	0	PC15
12	2015_16 Q4	JB694	Tully Rehab Work Packages.	03			03	08	DRD																																	13/05/2014	21/05/2014	09/09/2013	29/06/2015		30/03/2015		100	0	0	0	0.081	0.000	0.000	0.000	0.080	1.237	0.081	4	66	0	30	66	0	
13	2015_16 Q4	JB695	Buckna WPS Upgrade - Ballymena Flow Optimisation	03			05	01	DRD																																								100	0	0	0	0.015	0.000	0.000	0.000	0.006	-0.002	0.015	0	100	0	0	0	0	
14	2015_16 Q4	JB704	Desertcreat Road/ Lindsayville Road, Cookstown, Replacemen	00			03	08	DWI																																								100	0	0	0	-0.004	0.000	0.000	0.000	0.003	0.022	-0.004	100	0	0	0	0	0	
15	2015_16 Q4	JB706	A26 Dualling: Glarryford to A44 (Drones Road) Junction - Wate	00			03	23	DRD																																								100	0	0	0	0.115	0.000	0.000	0.000	0.016	-0.002	0.115	0	94	0	6	94	0	
16	2015_16 Q4	JB709	Lough Fea CWB Capacity Increase	04			06		DWI			30/09/2019					33	67	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	42	0	58	20/01/2016	02/02/2016						0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.038	0.000	0	0	0	100	0	PC15
17	2015_16 Q4	JB713	Replacement Watermains 2014/15 - Reactive, Bundle 1	03			03	08	DWI																																								100	0	0	0	0.021	0.000	0.000	0.000	0.000	0.385	0.021	88	12	0	0	12	0	
18	2015_16 Q4	JC385	Monaclogh SR Capacity Extension	06			04	06	DWI	25/10/2010							0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	25/10/2010	19/11/2010						0	100	0	0	0.000	0.007	0.004	0.018	-0.017	0.000	0.000	0	10	0	90	0	0	
19	2015_16 Q4	JC390	Rathlin Island Borehole Feasibility Study	00			01	03	DRD																																								100	0	0	0	0.000	0.000	0.000	0.000	0.007	0.024	0.000	20	15	0	65	0	0	
20	2015_16 Q4	JF007	Seagahan Zone Watermain Improvements	00			03	08		26/04/2006		14/01/2008	29/09/2008		29/09/2008	29/09/2009	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	26/04/2006							100	0	0	0	-0.027	0.000	0.138	0.027	0.000	0.000	-0.027	11	89	0	0	89	0	
21	2015_16 Q4	JG035	Ballyclougan to Newry Main Link Reinforcement	02			03	05	DWI	01/10/2009	26/10/2009	07/12/2009	28/08/2015		28/02/2016	28/02/2016	82	18	0	0	5.022	5.651	3.382	1.105	1.559	3.238	0	4	0	96	01/10/2009	26/10/2009		01/03/2016				82	18	0	0	2.916	5.022	5.787	4.342	0.245	2.959	2.916	0	4	1	95	0	0	PC15
22	2015_16 Q4	JG036	Castor Bay to Dungannon Strategic Trunk Mains	01			03	05	DWI	11/12/2008	23/12/2008	14/09/2009	24/05/2011		24/05/2011	23/05/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	11/12/2008	23/12/2008	14/09/2009	24/05/2011		23/07/2012		90	10	0	0	0.183	6.349	3.025	-0.352	0.017	0.146	0.183	0	33	0	67	27	0	PC10
23	2015_16 Q4	JG079	Legahory Craigavon, Replacement Watermains	00			03	08	DWI																																								100	0	0	0	0.000	0.000	0.000	0.000	0.005	0.015	0.000	100	0	0	0	0	0	
24	2015_16 Q4	JG080	Cranny Lane, Portadown Watermain Ext	00			03	23	DRD																																								100	0	0	0	0.000	0.000	0.000	0.000	-0.009	0.009	0.002	0	0	0	100	0	0	
25	2015_16 Q4	JG082	Derrytola Bridge Road, Craigavon, Replacement Watermain	00			03	23	DRD																																								100	0	0	0	-0.003	0.000	0.000	0.000	0.001	0.002	-0.003	0	100	0	0	100	0	
26	2015_16 Q4	JG084	Seagoe Refurbishment	06			15	20																																								100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.626	0.000	0	100	0	0	0	0	
27	2015_16 Q4	JG085	Millennium Way, Lurgan (New Road Construction)	05			03	23																																								100	0	0	0	0.010	0.000	0.000	0.000	0.000	0.010	0.000	0	75	0	25	0	0	
28	2015_16 Q4	JI003	Water Mains Rehabilitation, New and Replacement incl FTS	00			03	08	DWI								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	07/01/2013	14/01/2013						89	11	0	0	0.000	0.000	0.000	0.000	0.424	-0.084	0.000	26	44	3	27	38	0	
29	2015_16 Q4	JF592	Granville Dungannon Invest NI Watermain Extension	00	JI003		03	23	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	22/04/2011	06/05/2011	02/04/2012	08/01/2014	01/06/2015			86	14	0	0	0.000	0.000	0.000	0.000	0.000	0.884	0.000	0	100	0	0	0	0	
30	2015_16 Q4	JR444	Newtownabbey Zone Watermain Improvements Phase 3	00	JI003		03	08	UR																																								100	0	0	0	0.011	0.000	0.000	0.000	0.000	0.250	0.895	0.011	93	0	0	7	0	0	
31	2015_16 Q4	JI005	Base Maintenance (Water)	00			02	01	UR								14	86	0	0	0.000	0.000	0.000	2.628	3.745	0.000	13	87	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0	0	
32	2015_16 Q4	JF581	Clay Lake - Remedial Work	00	JI005		02	01	UR	19/02/2010	24/02/2010	06/04/2011	28/09/2012		28/09/2012	28/09/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	19/02/2010	24/02/2010	21/03/2011	01/10/2013		29/08/2013		0	100	0	0	0.132	0.002	2.289	0.033	0.142	0.132	0.132	0	100	0	0	0	0	
33	2015_16 Q4	JI020	Assessment of requirements at WTWs to operate effectively in	00	JI005		02	01	DRD								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	23/11/2015	23/11/2015						0	100	0	0	0.036	0.000	0.000	0.000	0.006	0.027	0.014	0.036	0	100	0	0	0	PC15
34	2015_16 Q4	JR367	Service Reservoir Enhanced Security	01	JI005		04	01	UR			28/01/2008	13/10/2010		13/10/2010	13/10/2011	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	20/11/2007	17/12/2007	07/12/2009	12/10/2010		02/12/2013		0	100	0	0	0.044	0.214	0.177	0.000	0.002	0.059	0.044	100	0	0	0	0	0	
35	2015_16 Q4	JR460	Gravity IL Mo'eigh's well to Oak Park SR.	02	JI005		03	05	DRD			08/07/2011	30/11/2014		30/12/2014	30/12/2014	100	0	0	0	0.000	0.000	0.000	1.492	1.288	0.000	0	0	0	100	13/12/2013	13/12/2013	01/01/2014	28/11/2014		02/12/2014	23/06/2015	100	0	0	0	-0.033	0.000	0.265	1.863	0.770	0.065	0.240	0.045	35	6	21	35	0	PC13
36	2015_16 Q4	JI006	Panel Engineers Recommendation	00			03	01	DWI								100	0	0	0	0.000	0.000	0.000	1.522	0.208	0.000	0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0	0	
37	2015_16 Q4	JB662	Panel Engineer Recommendations - North Phase 1	00	JI006		01	03	DWI	15/02/2011	25/02/2011	14/12/2011	28/05/2012		28/05/2012	28/05/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	15/02/2011	25/02/2011	23/07/2013	23/10/2015		22/09/2015		100	0	0	0	0.344	0.025	0.748	0.256	0.589	0.901	0.344	0	100	0	0	0	0	
38	2015_16 Q4	JR420	Panel Engineer Recommendations - East Phase 1	00	JI006		01	03	DWI	15/02/2011	28/02/2011	24/10/2011	22/06/2012		22/06/2012	22/06/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	15/02/2011	28/02/2011	10/06/2013	19/05/2015		22/04/2015		100	0	0	0	0.067	0.124	1.034	0.142	0.769	0.856	0.067	0	100	0	0	100	0	
39	2015_16 Q4	JI007	WTW Effluent Quality	00			02	04	DWI								0	100	0	0	0.000	0.000	0.000	0.000	0.043	100	0	0	0	0	28/10/2015	17/11/2015	04/01/2016					0	100	0	0	0.047	0.000	0.000	0.003	0.007	0.003	0.047	100	0	0	0	0	0	
40	2015_16 Q4	JI035	SEMD Surveys PC10 Water	01			02	01	UR								0	100	0	0	0.000	0.000	0.000	0.000	0.071	0	0	100	0	0	30/09/2010	12/10/2014						0	100	0	0	0.535	0.000	0.000	0.000	0.067	0.071	0.535	100	0	0	0	0	0	
41	2015_16 Q4	JI015	Enhanced Site Security	01			06	04	UR			30/08/2012	01/04/2013		01/04/2013	01/04/2014	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	23/02/2012	28/02/2012	30/08/2012	11/09/2013		12/09/2013		0	100	0	0	-0.001	0.000	0.037	1.681	1.517	0.152	-0.001	100	0	0	0	0	0	
42	2015_16 Q4	JI017	Capital Investment - WPS Pump Efficiency	01			05	01	UR			31/03/2011	28/03/2014		28/03/2014	28/03/2015	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	29/11/2010	12/01/2011						0	100	0	0	0.000	0.020	0.022	0.018	0.014	0.000	0.000	0	100	0	0	0	0	
43	2015_16 Q4	JI069	WPS Pump Efficiency Capital Investment Phase 1	00	JI017		05	01	DRD								100	0	0	0	0.000	0.000	0.000	0.393	0.000	0.000	100	0	0	0	22/07/2014	31/07/2014	10/02/2015					0	100	0	0	0.432	0.000	0.000	0.000	0.030	0.053	0.432	0	100	0	0	0	0	
44	2015_16 Q4	JI024	MIMP West (Major Incident Mitigation Project West Region) Fro	00			03	08	DRD				30/03/2014				93	7	0	0	0.000	0.443	2.080	1.567	0.000	0.000	0	81	0	19	16/10/2012	24/10/2012	05/09/2011	14/02/2014		21/07/2014		94	6	0	0	0.000	0.000	0.443	1.386	1.770	0.049	0.001	0	66	1	33	66	0	PC13
45	2015_16 Q4	JI026	MIMP North (Major Incident Mitigation Project North Region) Fr	00			03	08	DRD				30/03/2015				99	1	0	0	0.000	0.141	0.004	1.091	0.449	0.000	15	80	1	4	12/12/2012	20/12/2012	02/06/2011	18/08/2014		18/09/2014		100	0	0	0	0.040	0.000	0.141	0.428	1.037	0.135	0.040	30	65	0	5	65	0	PC13
46	2015_16 Q4	JI027	MIMP Central (Major Incident Mitigation Project Central Region	00			03	08	DRD				30/03/2014				91	9	0	0	0.000	0.000	0.167	1.062	1.119	0.000	0	91	9	0	15/10/2012	25/10/2012	05/05/2011	28/03/2014		29/06/2014		100	0	0	0	0.000	0.000	0.000	0.167	0.890	0.356	0.491	0	99	1	1	99	0	PC13
47	2015_16 Q4	JI028	MIMP East (Major Incident Mitigation Project East Region) Free	00			03	08	DRD				30/03/2015				98	2	0	0	0.000	0.187	0.008	1.874	0.958	0.000	0	98	2	0	12/12/2012	20/12/2012	04/08/2011	09/02/2015		28/08/2014		100	0	0	0	0.066	0.000	0.187	0.331	1.967	0.343	0.066	0	95	0	5	95	0	PC13
48	2015_16 Q4	JI029	Service Reservoir Assessments - Site Access	00	JI054		03	01	UR								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	17/02/2014	21/02/2014						0	100	0	0	0.688	0.000	0.000	0.000	0.050	0.082	0.688	0	50	0	50	0	0	
49	2015_16 Q4	JI031	Offices & Depots -Water Regulation Compliance & Energy Effic	01			06	20	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	01/10/2015	09/10/2015						0	100	0	0	0.026	0.000	0.000	0.000	0.000	0.015	0.026	0	100	0	0	0	0	
50	2015_16 Q4	JI032	Water Treatment Sites - Water Regulation Compliance & Energ	01			02	01	DRD								0	100	0	0	0.000	0.000	0.000	0.000	0.851	62	38	0	0	0	24/06/2014	17/07/2014						0	100	0	0	0.022	0.000	0.000	0.004	0.028	0.000	0.022	89	11	0	0	0	0	
51	2015_16 Q4	JI035	Impounding Reservoir Future Use Assessment	00			01	03	DRD								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	100	0	
52	2015_16 Q4	JI037	Flood Resilience at NIW Water Supply Sites - Appraisal Study	02			02	01	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	15/05/2014	21/05/2014						0	100	0	0	0.006	0.000	0.000	0.000	0.006	0.000	0.006	0	100	0	0	0	0	
53	2015_16 Q4	JI038	Service Reservoir Security Phase 1	02			04	07	DRD			09/05/2013	20/12/2016		20/12/2016	20/12/2017	0	100	0	0	0.000	0.000	0.048	1.844	1.238	0.652	100	0	0	0	04/03/2014	13/03/2014						0	100	0	0	0.492	0.000	0.000	0.003	0.082	0.446	0.492	100	0	0	0	0	0	
54	2015_16 Q4	JI039	Water Supply West - Turbidity Monitor Upgrade	00			02	01	DRD																																	15/05/2014	30/05/2014	02/03/2015	19/06/2015				0	100	0	0	0.093	0.000	0.000	0.000	0.004	0.350	0.093	0	100	0	0	100	0	
55	2015_16 Q4	JI040	Recovering Energy Within the Water Distribution System	00			02	01	DRD								0	100	0	0	0.000	0.000	0.000	0.000	0.416	0	0	100	0	0								0	100	0	0	0.003	0.000	0.000	0.000	0.025	0.015	0.003	0	0	100	0	0	0	
56	2015_16 Q4	JI041	Hydro Power from Raw Water - Feasibility Study	00			02	01	DRD								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	04/03/2015	06/03/2015						0	100	0	0

	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	CRM Submission Reference	Project No Reference	Project Name	PC Project Period	Parent Project ID	Subsidiary 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 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 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	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	70	71	72	73	74	75	76
162	2015_16 Q4	JH494	Gravity 1 / Antrim Rd Trunk Main valve replacements	06	JI083		03	23																							11/08/2015	14/09/2015	05/10/2015			31/03/2016		100	0	0	0	0.175	0.000	0.000	0.000	0.000	0.000	0.175	0	100	0	0	100	0	
163	2015_16 Q4	JR487	Greater Belfast Trunkmain Valve Replacement	06	JI083		03	23																														100	0	0	0	0.103	0.000	0.000	0.000	0.000	0.000	0.103	0	100	0	0	100	0	
164	2015_16 Q4	JI084	Water Treatment Works Treatability Study	06			02	01										0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.151	69	31	0	0								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	70	30	0	0	0	0	
165	2015_16 Q4	JI086	PC15 Public Realm & Roads (Water)	00			03	23										100	0	0	0	0.000	0.000	0.000	0.000	0.000	1.036	0	100	0	0								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	100	0	
166	2015_16 Q4	JI087	PC15 Watermains Rehabilitation WP1 - Foffany/North Lisburn	00			03	08																							04/06/2015	16/06/2015	02/02/2015					100	0	0	0	1.775	0.000	0.000	0.000	0.000	0.087	1.775	54	46	0	0	46	0	
167	2015_16 Q4	JI088	PC15 Watermains Rehabilitation WP 2: Forked Bridge Dunmu	00			03	08																							03/11/2015	05/11/2015	01/09/2015			31/03/2016		100	0	0	0	0.696	0.000	0.000	0.000	0.000	0.000	0.696	97	3	0	0	3	0	
168	2015_16 Q4	JI089	PC15 Watermains Rehabilitation WP 3: Killylane	00			03	08																							07/05/2015	12/05/2015	02/02/2015			15/12/2016		92	8	0	0	1.929	0.000	0.000	0.000	0.000	0.045	1.929	83	4	0	13	3	0	
169	2015_16 Q4	JI090	PC15 Watermains Rehabilitation WP 4: Ballymena Ph1	00			03	08																							19/06/2015	22/06/2015	04/02/2015					100	0	0	0	1.423	0.000	0.000	0.000	0.000	0.040	1.423	96	4	0	0	4	0	
170	2015_16 Q4	JI092	PC15 Watermains Rehabilitation WP 6: Dungonnell	00			03	08																							07/05/2015	12/05/2015	02/02/2015					100	0	0	0	1.685	0.000	0.000	0.000	0.000	0.080	1.685	86	14	0	0	14	0	
171	2015_16 Q4	JI093	PC15 Watermains Rehabilitation WP 7: Carrickfergus	00			03	08																							03/11/2015	05/11/2015	01/09/2015		31/03/2016			100	0	0	0	0.588	0.000	0.000	0.000	0.000	0.000	0.588	66	34	0	0	34	0	
172	2015_16 Q4	JI094	PC15 Watermains Rehabilitation WP 8: Belfast South Ph1	00			03	08																							03/11/2015	05/11/2015	01/09/2015		31/03/2016			86	14	0	0	0.623	0.000	0.000	0.000	0.000	0.000	0.623	87	13	0	0	13	0	
173	2015_16 Q4	JI096	PC15 Watermains Rehabilitation WP 10: Belfast North	00			03	08																							03/11/2015	05/11/2015	01/09/2015		31/03/2016			100	0	0	0	0.702	0.000	0.000	0.000	0.000	0.000	0.702	90	10	0	0	10	0	
174	2015_16 Q4	JI098	PC15 Watermains Rehabilitation WP 12: Watermains Re-lining	00			03	08																														100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	50	34	2	14	34	0	
175	2015_16 Q4	JI099	WIM Networks Workpackages Development and Verification	04			06	20																							30/04/2015	04/06/2015						100	0	0	0	0.133	0.000	0.000	0.000	0.000	0.000	0.133	30	60	7	3	60	0	
176	2015_16 Q4	JI100	PC15 Capital Maintenance Planning	04			06	20																							01/05/2015	22/06/2015						100	0	0	0	0.259	0.000	0.000	0.000	0.000	0.000	0.259	0	95	5	0	95	0	
177	2015_16 Q4	JI101	PC15 Service Reservoir Condition Assessments.	04			04	20																							25/06/2015	26/06/2015						0	100	0	0	0.028	0.000	0.000	0.000	0.000	0.028	0	100	0	0	0	0	
178	2015_16 Q4	JI102	PC15 PPRA Review of EP Water Mains Rehab Work Package	04			03	20																							01/05/2015	03/07/2015						100	0	0	0	0.065	0.000	0.000	0.000	0.000	0.065	0.065	30	60	7	3	60	0	
179	2015_16 Q4	JI104	PC15 Year 1 Base Maintenance - Chlorine Dosing Sites	00			04	01																														0	100	0	0	0.044	0.000	0.000	0.000	0.000	0.002	0.044	0	100	0	0	0	0	
180	2015_16 Q4	JI105	WTW Condition Assessments	00			02	04																														0	100	0	0	0.015	0.000	0.000	0.000	0.000	0.150	0.015	0	100	0	0	0	0	
181	2015_16 Q4	JI106	SR ByPass Schemes Phase 2	00			03	07																														0	100	0	0	0.035	0.000	0.000	0.000	0.000	0.000	0.035	0	100	0	0	0	0	
182	2015_16 Q4	JI108	PC15 Year 1- Asset Peformance Miscellaneous Solutions Deve	06			06	20																							10/08/2015	14/09/2015						100	0	0	0	0.071	0.000	0.000	0.000	0.000	0.000	0.071	0	100	0	0	100	0	
183	2015_16 Q4	JI111	PC15 Base Maintenance (Water) Parent	06			01	01										0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	
184	2015_16 Q4	JI112	PC15 Watermains Rehabilitation Parent	06			03	08										96	4	0	0	0.000	0.000	0.000	0.000	0.000	17.937	49	35	2	14								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	
185	2015_16 Q4	JI113	PC15 Additional enhancement output Parent	04					98								32.4890689	18.8972862	20.7293722	27.8842727	0.000	0.000	0.000	0.000	0.000	4.808	48	0	16	36								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	
186	2015_16 Q4	JI114	PC15 FTS (Water) Parent EP	06			03	23										100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.647	0	0	0	100								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	
187	2015_16 Q4	JI115	PC15 Appraisal of NIW infrastructure at Railways, DRD Road	06			03	23										100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.589	0	100	0	0								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	
188	2015_16 Q4	JI117	WTW Resilience Improvement	00			02	04																														0	100	0	0	0.055	0.000	0.000	0.000	0.000	0.000	0.055	5	95	0	0	0	0	
189	2015_16 Q4	JI118	Service Reservoir Condition Assessment(PC15 Year 2)	00			04	07																														0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0	0	
190	2015_16 Q4	JI119	Capital Maintenance Planning: Trunk Main Condition Grading	00			03	05																														0	100	0	0	0.045	0.006	0.064	0.032	0.014	-0.003	0.045	0	95	5	0	95	0	
191	2015_16 Q4	JI120	WIM Networks Work Packages & Verification(PC15 Year 2)	00			06	20																														0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	100	0	
192	2015_16 Q4	JI121	Hydraulic Model Rebuilds & Project Management(PC15 Year 2	00			06	20																														0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0	0	
193	2015_16 Q4	JL713	Killyhevlin to Lough Bradan Link Watermain	02			03	05	DWI									0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	0	0	0	0	0	0	99	1	0	0	0.045	0.006	0.064	0.032	0.014	-0.003	0.045	0	100	0	0	0	0	
194	2015_16 Q4	JL715	Caugh Hill, Carmoney to Strabane Strategic Link Watermain	02			03	05	DWI			31/01/2019						89	11	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	100								89	11	0	0	0.100	0.021	-0.008	0.016	0.076	0.036	0.100	0	100	0	0	100	0	PC15
195	2015_16 Q4	JL768	Caugh Hill WTW FAS Storage	00			02	01	DRD																							29/10/2013	31/10/2013	28/11/2014	01/02/2016		26/12/2014	04/04/2016	0	100	0	0	0.368	0.000	0.000	0.000	0.003	0.012	0.152	0.368	0	0	0	0	100	0	
196	2015_16 Q4	JL769	Glenedra Water Intake Refurbishment & Access Road Repair	00			01	03	DRD																							11/04/2014	28/04/2014	28/11/2014	31/03/2016		25/05/2015		0	100	0	0	0.322	0.000	0.000	0.000	0.004	0.027	0.021	0.322	0	100	0	0	0	0	
197	2015_16 Q4	JL770	Caugh Hill WTW - Upgrade of Wash Water Treatment Facilitie	02			02	04	DRD									0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0	12/02/2016	19/02/2016						0	100	0	0	0.006	0.000	0.000	0.000	0.005	0.022	0.010	0.006	0	0	0	0	0	
198	2015_16 Q4	JL772	WTW - Treatability Appraisal of Caugh Hill WTW	00			02	04	DRD			31/01/2019						0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	88	12	0	0								0	100	0	0	0.004	0.000	0.000	0.000	0.005	0.059	0.007	0.004	89	11	0	0	0	0	PC15
199	2015_16 Q4	JL773	Carmoney WTW DAF process Optimisation	00			02	04	DWI									0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	0	0.067	0.000	0.000	0.000	0.003	0.024	0.049	0.067	0	100	0	0	0	0	
200	2015_16 Q4	JL774	Faughan PS - Bandscreen upgrade	00			05	01																							14/04/2014	28/04/2014	03/11/2014	06/01/2016		29/01/2016		0	100	0	0	0.094	0.000	0.000	0.000	0.000	0.009	0.346	0.094	0	100	0	0	0	0	
201	2015_16 Q4	JL781	A29 Killytoney Realignment, Watermain Diversions	00			03	23																							05/12/2014	11/12/2014						100	0	0	0	-0.013	0.000	0.000	0.000	0.000	0.034	-0.013	0	100	0	0	100	0	
202	2015_16 Q4	JN390	Lough Bradan WTWs Upgrade	01			02	04	DWI	31/03/2009	27/04/2009	31/08/2009	03/03/2011		03/03/2011	02/03/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	31/03/2009	27/04/2009	31/08/2009	02/03/2011		30/07/2012		0	100	0	0	0.010	1.536	0.210	0.020	0.147	0.000	0.010	51	49	0	0	0	0	PC10
203	2015_16 Q4	JN483	Glenhordial WTW expansion of existing sludge plant	04			02	04										0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.338	0	100	0	0								0	100	0	0	0.009	0.000	0.000	0.000	0.002	0.013	0.005	0.009	7	93	0	0	0	0	
204	2015_16 Q4	JN508	Lough Bradan WTW Upgrade Part 2	02			02	04	DWI																														0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	35	40	0	25	0	0	
205	2015_16 Q4	JN509	Derg WTW - Upgrade of Filters and Chemical Dosing	00			02	04	DRD									0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	38	51	0	11	0	0	
206	2015_16 Q4	JN510	Strule River Omagh Trunk Water Main Repair	00			03	23																														100	0	0	0	0.007	0.000	0.000	0.000	0.000	0.000	0.007	0	100	0	0	100	0	
207	2015_16 Q4	JN511	South / South East Zonal Study South East Phase 1 Work Pack	03			03	08	DRD																							14/02/2014	21/02/2014	03/03/2014	20/02/2015		23/03/2015		88	12	0	0	-0.023	0.000	0.000	0.000	0.510	2.025	-0.023	32	56	0	12	56	0	
208	2015_16 Q4	JN512	Omagh Phase 2 Watermain Rehab	03			03	08	LR																							04/03/2014	10/03/2014	02/09/2013	30/10/2015		30/03/2015		100	0	0	0	0.618	0.000	0.000	0.000	0.420	1.895	0.618	19	74	0	7	74	0	
209	2015_16 Q4	JN514	Castletown/Koram WPS Upgrade	03			05	01	DRD																														100	0	0	0	0.005	0.000	0.000	0.000	0.000	0.015	0.005	0	20	0	80	0	0	
210	2015_16 Q4	JN528	Crawfords Hill Mains Replacement	00			03	08																														100	0	0	0	0.015	0.000	0.000	0.000	0.000	0.000	0.015	0	100	0	0	100	0	
211	2015_16 Q4	JN529	Colebrook Park Road Mains Replacement	00			03	08																							16/03/2016	18/03/2016	15/02/2016					100	0	0	0	0.030	0.000	0.000	0.000	0.000	0.000	0.030	0	100	0	0	100	0	
212	2015_16 Q4	JN530	Toura Road Mains Replacement	00			03	08																							16/03/2016	18/03/2016						100	0	0	0	0.030	0.000	0.000	0.000	0.000	0.000	0.030	0	100	0	0	100	0	
213	2015_16 Q4	JP631	Killyhevlin Clear Water Tank	02			04	06	DWI			30/09/2017						0	100	0	0	0.000	0.000	0.009	0.018	0.000	0.851	0	35	0	65								0	100	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	34	0	66	0	PC15
214	2015_16 Q4	JP650	Killyhevlin WTW Improvements to sludge settlement system	04			02	01																							18/10/2013	28/10/2013						0	100	0	0	-0.014	0.000	0.000	0.000	0.006	0.029	0.060	-0.014	95	0	5	0	0	0	
215	2015_16 Q4	JP653	Enniskillen New Hospital Watermain Ext	00			03	23																							16/01/2008	25/02/2008	14/04/2008	11/06/2014		02/08/2010		100	0	0	0	-0.003	0.000	0.000	0.000	0.003	0.000	0.000	-0.003	0	0	100	0	0	0	
216	2015_16 Q4	JP669	Killyhevlin WTW - GAC	00			02	04	DWI		01/06/2013	30/09/2014		01/02/2015	01/02/2016	0	0	100	0	0	0.000	0.000	0.037	1.890	1.792	0.439	100	0	0	0	0	08/07/2013	19/07/2013	11/03/2014	31/03/2015		27/07/2015		0	100	0	0	0.331	0.062	0.719	0.331	0.717	0.777	0.331	100	0	0	0	0	0	PC13
217	2015_16 Q4	JP680	South / South East Zonal Study South Phase 1 Work Packages	03			03	08	DRD																							13/05/2014	21/05/2014	16/06/2014	31/08/2015		30/09/2015		100	0	0	0	0.132	0.000	0.000	0.000	0.273	1.782	0.132	48	46	0	6	46	0	
218	2015_16 Q4	JP685	Killyhevlin WTW Hypo Storage Tank Replacement	03			02	01																							04/08/2015	05/08/2015	18/01/2016					0	100	0	0	0.343	0.000	0.000	0.000	0.000	0.012	0.343	0	100	0	0	100	0	
219	2015_16 Q4	JP688	PC15 Year 2 WTW Base Maintenance – West Region	00			02	01																							05/03/2016	09/03/2016						0	100	0	0	0.005	0.000	0.000	0.000	0.000	0.000	0.005	0	100	0	0	100	0	
220	2015_16 Q4	JP342	Strategic Link - Castor Bay to Belfast	01			03	05	DWI		01/06/2013	30/12/2014		28/02/2015	28/02/2016	85	15	0	0	0.147	0.277	0.443	7.982	9.432	0.978	0	41	0	59	08/10/2012	15/10/2012	02/07/2012	30/09/2015		30/09/2015		85	15	0	0	2.929	0.147	0.284	0.259	5.104	12.295	2.929	0	40	60	34	0	PC15
221	2015_16 Q4	JP348	Dunore to Hydepark Pumping Main Replacement	01			03	05				17/10/2005	13/01/2012	13/01/2012	12/01/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0	17/10/2005	12/01/2012				29/10/2007		0	100	0	0	0.010	0.000	0.241	0.011	-1.274	0.042	0.010	0	100	0	0	0	0	
222	2015_16 Q4	JP449	Oldpark-Watermain Improvements	00			03	08	UR									0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	07/10/2013	16/10/2013	08/08/2011	01/07/2015		30/03/2015	01/07/2015	100	0	0	0	0.001	0.000	0.136	-0.013	0.401	1.412	0.001	66	34	0	0	34	0	
223	2015_16 Q4	JP461	Ballystockard Quarry main repair	00			03	05	DRD	31/01/2012	07/02/2012	25/07/2011	08/02/2012		08/02/2012	29/02/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	31/01/2012	07/02/2012	25/07/2011	07/02/2012		01/08/2011	28/02/2012	100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	100	0	
224	2015_16 Q4	JP463	Dorisland WTW - GAC Feasibility Study	01			02	04	DRD			31/03/2015						0	100	0	0	0.000	0.000	0.000	0.292	3.429	0.525	100	0	0	0	20/06/2013	27/06/2013	31/01/2014	27/03/2015		31/07/2015		0	100	0	0	0.244	0.000	0.000	0.000	0.000	0.000	0.244	100	0	0	0	0	0	PC13
225	2015_16 Q4	JP464	Carrickfergus Phase 3 Watermains Improvements	00			03	08	DRD																							14/05/2013	22/05/2013	31/05/2013	14/01/2015		29/08/2014		99	1	0	0	0.076	0.000	0.000	0.000	0.000	1.789	0.455	76	10	10	3	10	0	
226	2015_16 Q4	JP465	Frenchpark Raw Water Conduit Appraisal Study	00			01	03	DWI									100	0	0	0	0.000	0.000	0.000	0.000	0.000	0.069	0	100	0	0	28/05/2015	29/05/2015						100	0	0	0	0.096	0.000	0.000	0.005	0.011	0.000	0.096	0	100	0	0	100	0	
227	2015_16 Q4	JR469	Whiteabbey Upper Service Reservoir Outlet Pipe Replacement	00			04	01	DWI																							31/03/2014	14/04/2014	09/06/2014	07/07/2014		30/06/2014	20/11/2014	0	100	0	0	0.001	0.000	0.000	0.000	0.000	0.023	0.001	0	100	0	0	100	0	
228	2015_16 Q4	JR480	Warwicks Row Carrickfergus Watermain Extension	00			03	23	DRD																							12/10/2015	15/10/2015		28/03/2016		04/04/2016		0	0	100	0	0.215	0.000	0.000	0.000	0.003	-0.003	0.215	0	100	0	0	0	0	
229	2015_16 Q4	JR485	Former Visteon Factory - watermain extension	00			03	23																							14/11/2014	20/11/2014	12/12/2014		17/02/2015	100	0	0	0	-0.001	0.000	0.000	0.000	0.000	0.000	-0.001	0	100	0	0	100	0	
230	2015_16 Q4	JR488	Dunar

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 No Reference	Project Name	PC Project Period	Parent Project ID	Subsidiary Project ID	Primary Asset Category	PC25 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 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 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
355	2015_16 Q4	KG197	Warringstown WWTWs Phase 2 Base Maintenance	00			09	02	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 16/11/2012	22/11/2012	30/11/2012	31/10/2014		29/11/2013	03/11/2014	0	0	0	0	100	-0.001	0.000	0.000	0.120	0.479	0.026	-0.001	7	77	16	0	0	0	
356	2015_16 Q4	KG198	Hunters Mill, Annesborough Road, Lurgan, Storm Sewer Exten	00			07	24	DRD																																0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	100	0	0	
357	2015_16 Q4	KG200	Waringstown WWTW's Feasibility Study	04			09	16	NIEA																																0	0	0	100	-0.018	0.000	0.000	0.000	0.023	0.000	-0.018	44	26	0	30	0	0	
358	2015_16 Q4	KG202	Aghagallon WWTW - MBBR Trial	03			09	16	NIEA								0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.229	14	86	0	0	0 10/03/2014	13/03/2014	27/10/2014	31/03/2015		29/06/2015		0	0	0	0	100	0.200	0.000	0.000	0.000	0.010	1.057	0.200	15	85	0	0	0	0	
359	2015_16 Q4	KG203	Portadown DAP (Storage at Seagoe WWPS)	06			07	12	NIEA																																0	0	0	100	0.009	0.000	0.000	0.000	0.002	0.033	0.009	70	30	0	0	0	30	
360	2015_16 Q4	KG205	Seagoe Depot Generator Store	00			15	20	DRD																																0	50	0	50	0.143	0.000	0.000	0.000	0.001	0.004	0.143	0	100	0	0	0	0	
361	2015_16 Q4	KG207	Obins Street Portadown Storm Sewer Extension	00			07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	100	0	0	
362	2015_16 Q4	KG209	Lisnisky Lane, Portadown Foul Sewer Extension	00			07	24																																0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	100	0	0	
363	2015_16 Q4	KG210	Garvaghy Road, Portadown, Trunk Sewer and Syphons Base M	00			07	24																																0	100	0.000	0.000	0.000	0.000	0.000	0.004	0.001	0	100	0	0	0	0	100	
364	2015_16 Q4	KG213	Sperrin Drive, Sperrin Park Flood Alleviation	06			07	12	UR																																0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	40	60	0	0	0	40	
365	2015_16 Q4	KG214	Tandragee Road, Lurgan - Foul Sewer	00			07	24																																0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	100	0	0	
366	2015_16 Q4	KG215	Mahon Ave / Ripley Terrace Storm Sewer, Portadown	06			07	24																																0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	100	0	0	100	0	0	
367	2015_16 Q4	KG464	Sewerage Rehab. New and Replacement incl. FTS	00			07	12	NIEA								0	0	71	29	0.000	0.000	0.000	0.009	44	34	7	15	19/12/2012	08/01/2013										0	71	29	0.084	0.000	0.000	0.000	0.105	0.185	0.125	0.084	45	33	7	15	0	23	
368	2015_16 Q4	KA254	Nutts Corner Road, Crumlin, Storm Sewer Extension	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.055	0.000	0.000	60	40	0	0	0	40	
369	2015_16 Q4	KB506	Hillmount Crescent Tobermore Storm Sewer	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.011	0.000	0.000	0	0	0	0	100	0	0	
370	2015_16 Q4	KC455	Ashley Drive Ballymoney Storm Sewer	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.042	0.001	0.006	0	0	0	0	100	0	0	
371	2015_16 Q4	KC457	Ballymacrea Road Portrush Foul Sewer Extension	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.000	0.086	-0.005	0	0	0	0	100	0	0	
372	2015_16 Q4	KF371	Roskeen Road, Moygashel, Dungannon, Foul Pumping Main ar	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0	0	0	0	100	0	0	
373	2015_16 Q4	KF374	Woodlawn Park, Dungannon Storm & Foul sewer	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.002	0.000	-0.032	0.066	0.002	0	0	0	0	100	0	0	
374	2015_16 Q4	KG199	Breagh Rd, Portadown - Storm Sewer	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0	0	0	0	100	0	0	
375	2015_16 Q4	KL514	Clooney Park West, LDerry Storm Sewer Ext	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.001	0.000	-0.002	0.160	0.001	0	0	0	0	100	0	0	
376	2015_16 Q4	KN651	Bridge Street WWPS, Strabane - Feasibility Study	00		KI464	13	02	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0	0	0	0	0 01/02/2016	02/02/2016										0	100	0.014	0.000	0.000	0.000	0.000	0.015	0.005	0.014	37	24	30	9	0	0	
377	2015_16 Q4	KN652	Lismourne Place Strabane Foul Sewer Extension for Invest NI	00		KI464	07	24	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0	0	0	0	0 21/10/2013	28/10/2013	27/01/2014			24/02/2014		0	100	0	0	0	0.003	0.000	0.000	0.000	0.001	0.035	0.034	0.003	0	0	0	0	100	0	0	
378	2015_16 Q4	KP685	Main street Belcoo Storm sewer ext	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.003	0.000	0.023	0.001	0	0	0	100	0	0	
379	2015_16 Q4	KR551	Andersonstown Road Belfast Storm Sewer Extension.	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.011	0.000	-0.007	0	1	0	99	0	1	
380	2015_16 Q4	KR553	The Cairn/Goldenview/Downview - Greenisland Foul & storm s	00		KI464	07	24	DRD																																0	100	0.000	0.000	0.000	0.000	0.038	0.000	0.000	0	0	0	0	100	0	0	
381	2015_16 Q4	KS375	Downpatrick	00		KI464	12	12	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.003	0.000	0.000	0.004	-0.001	0.003	0	100	0	0	0	0	
382	2015_16 Q4	KA69	Base Maintenance (Sewerage)	00		KI469	09	02	UR								0	0	89	0	0.000	0.000	0.000	0.000	0.000	8.315	4.171	0.000	85	0	15												0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	100	0	0	
383	2015_16 Q4	KA216	Carnlough WWPS Septicity Dosing	00		KI469	12	02	UR	02/03/2010	19/03/2010	29/07/2011	15/03/2012		15/03/2012	15/03/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 02/03/2010	19/03/2010	01/04/2011	15/03/2012		30/03/2012		0	0	0	0	100	0.003	-0.003	-0.001	0.305	0.023	-0.001	0.043	0	0	0	0	100	0	0	
384	2015_16 Q4	KA231	Tully Road, Glenarm, Screen House Refurbishment.	00		KI469	09	02	UR	17/01/2011	31/01/2011	29/07/2011	04/09/2012		04/09/2012	04/09/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 17/01/2011	31/01/2011	02/04/2012	30/03/2012		30/03/2012		0	0	0	0	100	0.020	0.000	0.000	0.280	0.013	-0.001	0.044	0.020	0	0	0	100	0	0	
385	2015_16 Q4	KA242	Ballyclare WWTW Upgrade	00		KI469	09	02	DRD	10/06/2011	21/06/2011	09/01/2012	28/09/2012		28/09/2012	28/09/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 10/06/2011	21/06/2011	01/04/2012	25/03/2013		29/08/2014		0	0	0	0	100	0.073	0.000	0.000	0.874	0.258	0.200	0.073	0	100	0	0	0	0	
386	2015_16 Q4	KA245	Neilsbrook WWPS Upgrade	00		KI469	12	02	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 26/10/2012	07/11/2012	03/06/2013	27/02/2015		25/08/2014	01/07/2015	0	0	0	0	100	0.004	0.000	0.006	0.002	0.055	0.135	0.004	0	100	0	0	0	0	
387	2015_16 Q4	KA247	Crumlin Town WWPS Upgrade - Feasibility Study	00		KI469	12	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.008	0.000	0.001	0.003	0.000	0.000	0.008	40	36	12	12	0	0	
388	2015_16 Q4	KB460	M&E Capital Maintenance Tullygarley WWTW	01		KI469	09	02		19/11/2010	23/11/2010	14/09/2011	14/09/2012		14/09/2012	14/09/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 19/11/2010	23/11/2010										0	100	0.005	0.275	2.977	1.060	0.004	0.001	0.005	0	100	0	0	0	0	0	
389	2015_16 Q4	KB461	M&E Capital Maintenance - Larne WWTW	01		KI469	09	02	UR	19/11/2010	23/11/2010	15/02/2011	09/05/2012		09/05/2012	09/05/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 19/11/2010	23/11/2010	01/04/2011	15/09/2014		28/10/2014		0	0	0	0	100	-0.003	0.164	1.105	0.031	0.044	0.053	-0.003	0	100	0	0	0	0	
390	2015_16 Q4	KB478	Deveragh Burn WWPS - Feasibility Study	00		KI469	07	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	-0.003	0.000	0.000	0.007	0.003	0.000	0.029	40	36	12	12	0	0	
391	2015_16 Q4	KB483	Moorfield WWTW Feasibility Study.	06		KI469	14	16	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.003	0.007	0.005	0.000	0.000	44	26	0	30	0	0	
392	2015_16 Q4	KB485	Knockloughrim WWTW Feasibility Study	02		KI469	09	21	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.010	0.012	0.000	0.000	44	26	0	30	0	0	
393	2015_16 Q4	KC429	Rasharkin WWTW Upgrade	00		KI469	09	02	DRD	07/06/2011	10/06/2011	28/11/2011	31/07/2012		31/07/2012	31/07/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 07/06/2011	10/06/2011	11/11/2011	18/12/2012		29/09/2013		0	0	0	0	100	0.001	0.000	0.000	0.223	0.507	0.038	-0.004	-0.001	0	100	0	0	0	0	
394	2015_16 Q4	KC434	Dervock WWTW Feasibility Study	06		KI469	14	16	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.005	0.008	0.015	0.001	0.000	44	26	0	30	0	0	
395	2015_16 Q4	KC435	Liscolman WWTW Upgrade	00		KI469	09	02	DRD	05/09/2011	07/09/2011	12/09/2011	30/03/2012		30/03/2012	30/03/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 05/09/2011	07/09/2011	30/11/2012	18/03/2014		25/07/2014		0	0	0	0	100	-0.001	0.000	0.010	0.051	0.365	0.011	-0.001	9	91	0	0	0	0	
396	2015_16 Q4	KC436	Armoy WWTW Feasibility Study	06		KI469	14	16	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.003	0.000	0.001	0.000	0.000	44	26	0	30	0	0	
397	2015_16 Q4	KC438	Moss-side WWTW Feasibility Study	02		KI469	09	21	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	44	26	0	30	0	0	
398	2015_16 Q4	KC440	Strand Road WWPS and Network Appraisal Study	00		KI469	12	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	40	36	12	12	0	0	
399	2015_16 Q4	KC441	Eastburn Crescent, Ballymoney, Foul Sewer	00		KI469	07	24	DRD		08/12/2011	27/01/2012			27/01/2012	26/01/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 21/11/2011	29/11/2011	08/12/2011	28/11/2012		26/01/2012		0	0	0	0	100	-0.001	0.000	0.096	-0.014	0.020	0.002	-0.001	0	0	0	0	100	0	0	
400	2015_16 Q4	KF329	Ardress WWPS Proposed Replacement.	03		KI469	12	16	NIEA		21/03/2011	16/09/2011			16/09/2011	15/09/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 15/12/2010	12/01/2011	07/03/2011	27/08/2014		23/09/2013		0	0	0	0	100	0.000	0.000	0.000	0.368	0.205	0.101	0.019	-0.036	17	37	0	46	0	13	PC10
401	2015_16 Q4	KF331	Grange Park, Dungannon WWPS Upgrade	00		KI469	12	02	UR	31/05/2011	10/06/2011	01/04/2011	31/03/2015		31/03/2015	30/03/2016	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 31/05/2011	10/06/2011	01/04/2011	13/06/2013		07/07/2014	13/06/2013	0	0	0	0	100	0.117	0.016	0.023	0.001	4	65	0	31	0	11	
402	2015_16 Q4	KF354	Dernagh WWPS Upgrade	00		KI469	07	02	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 12/11/2012	14/11/2012	31/01/2014	15/08/2014		25/07/2014	14/01/2015	0	0	0	0	100	0.034	0.503	0.181	0.005	6	85	3	6	0	0	
403	2015_16 Q4	KF355	Markethill WWTW feasibility	06		KI469	14	16	NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.016	-0.004	0.009	0.000	44	26	0	30	0	0	
404	2015_16 Q4	KF359	Brompton Park WWPS and Derryhale WWPS Feasibility Study	02		KI469	12	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 22/07/2015	22/07/2015										0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.061	0.000	0.000	21	61	0	18	0	0	
405	2015_16 Q4	KF362	Annvale SPS Upgrade - Feasibility Study	00		KI469	07	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 21/03/2016	24/03/2016										0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.011	0.035	0.010	0.005	10	51	0	39	0	0	
406	2015_16 Q4	KG140	Warringfield SPS Upgrade	01		KI469	12	12	UR								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	0	0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4	37	0	59	0	0	
407	2015_16 Q4	KG180	Knockshane WWPS, Lurgan Upgrade.	01		KI469	12	12	UR	14/02/2012							0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 14/02/2012	23/02/2012	25/03/2013	07/02/2014		18/11/2013	03/11/2014	0	0	0	0	100	0.000	0.000	0.000	0.063	0.191	0.001	0.000	4	51	0	45	0	27	
408	2015_16 Q4	KI494	Base Maintenance WWTW North NWWP	00		KI469	09	02	DRD	20/05/2011	25/05/2011	05/09/2011	31/10/2012		31/10/2012	31/10/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 20/05/2011	25/05/2011	05/09/2011	18/12/2012		17/12/2012	23/01/2014	0	0	0	0	100	-0.003	0.000	0.652	0.823	0.008	0.010	-0.002	0	100	0	0	0	0	
409	2015_16 Q4	KI501	Pumping Station Maintenance - R McCrea	00		KI469	12	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 19/11/2012	21/11/2012	30/11/2012	29/11/2013		07/03/2014	13/03/2014	0	0	0	0	100	0.003	0.000	0.000	0.140	0.646	0.001	0.003	80	80	10	0	0	0	
410	2015_16 Q4	KI502	Pumping Station Maintenence - A Reilly	12		KI469	12	02	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 19/11/2012	22/11/2012	30/11/2012	30/03/2015		31/10/2014		0	0	0	0	100	0.027	0.000	0.000	0.208	1.723	0.155	0.027	9	86	5	0	0	0	
411	2015_16 Q4	KI503	Pumping Station Maintenance - B McNeill	00		KI469	12	02	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 21/11/2012	28/11/2012	30/11/2012	30/03/2015		25/07/2014		0	0	0	0	100	0.006	0.000	0.000	0.279	1.028	0.175	0.006	11	79	10	0	0	0	
412	2015_16 Q4	KI504	Sewer Structural Rehabilitation Package 4	00		KI469	07	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	100	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	100	0	0	
413	2015_16 Q4	KI505	SewerStructural Rehabilitation Package 3	00		KI469	07	12	DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0												0	100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.030	0	100	0	0	100	
414	2015_16 Q4	KL424	Magheramason WwTWs	06		KI469	14	16			30/06/2013	31/10/2014			31/01/2015	31/01/2016	0	0	100	0	0.000	0.004	0.012	0.433	1.048	0.154	0	0	31	0	69	26/07/2013	05/08/2013		01/12/2014				0	0	0	0	100	0.204	0.000	0.004	0.014	0.082	1.282	0.204	0	30	0	70	0	0	0 PC13
415	2015_16 Q4	KL468	Strathfoyle, Londonderry Siphon Inlet Screen	06		KI469	07	12	UR	23/02/2012	26/03/2012	26/03/2012	31/08/2012		31/08/2012	31/08/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	0 23/02/2012	26/03/2012	26/03/2012	27/03/2013		08/07/2

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	DM Submission Reference	Project No Reference	Project Name	PC Project Period	Parent Project ID	Substitute Project ID	Primary Asset Category	PC20 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 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 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	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	70	71	72	
548	2015_16 Q4	KC465	Lisnablagh Road, Harpur's Hill, Coleraine Foul Sewer	00	KI538		07	24		DRD																						23/09/2014	03/10/2014	10/03/2015	20/04/2015	17/04/2015		0	0	100	0	0.001	0.000	0.000	0.000	0.000	0.046	0.001	0	0	0	100	0	0	
549	2015_16 Q4	KC468	Hazelbank Rd, Coleraine Foul Sewer Extension	00	KI538		07	24																								12/11/2015	12/11/2015					0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
550	2015_16 Q4	KC469	Society Street Coleraine Storm Sewer Extension	00	KI538		07	24																								04/08/2015	04/08/2015				31/03/2016	0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
551	2015_16 Q4	KF324	Crossdenerd Row, Keady Storm Sewer Extension	00	KI538		07	24		NIEA	24/08/2011	26/08/2011	02/01/2012	27/01/2012		27/01/2012	26/01/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	24/08/2011	26/08/2011					0	0	100	0	0.024	0.009	0.000	0.000	0.001	0.024	0.000	0	0	0	100	0	0	
552	2015_16 Q4	KF332	Stewarts Hill, Armagh, Foul & Storm Sewer Extension	00	KI538		07	24		NIEA																						0						0	0	100	0	0.000	0.005	-0.002	0.004	0.000	0.001	0.000	0	0	0	100	0	0	
553	2015_16 Q4	KF345	Killuney Road, Armagh, Foul and Storm Sewer Extensions	00	KI538		07	24		NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	15/09/2014	21/10/2014					0	0	100	0	0.012	0.000	0.003	0.007	0.000	0.030	0.012	0	25	0	75	0	25	
554	2015_16 Q4	KF382	Rock Rd, Armagh Storm Sewer Extension	00	KI538		07	24		DRD																						29/08/2014	17/09/2014	27/02/2014	18/12/2015			0	0	100	0	0.190	0.000	0.000	0.000	0.000	0.190	0.000	0	0	0	100	0	0	
555	2015_16 Q4	KF384	Old Caulfield Rd Storm Sewer Extension, Castlecaulfield, Dung	00	KI538		07	24		DRD																						14/01/2015	14/01/2015	02/02/2015	13/05/2015	15/09/2014	18/05/2015	0	0	100	0	0.032	0.000	0.000	0.000	0.000	0.032	0.000	0	0	0	100	0	0	
556	2015_16 Q4	KF385	Coalisland Road Zunganore Storm Sewer Extension	00	KI538		07	24																								21/11/2014	21/11/2014	30/03/2016		13/10/2014		0	0	100	0	0.021	0.000	0.000	0.000	0.000	0.021	0.000	0	0	0	100	0	0	
557	2015_16 Q4	KF386	Old Omagh Road Phase 1, Ballygawley Storm Sewer	00	KI538		07	24		DRD																						28/10/2014	05/11/2014					0	0	100	0	-0.001	0.000	0.000	0.000	0.000	0.020	-0.001	0	0	0	100	0	0	
558	2015_16 Q4	KG118	Crumlin Road Storm Sewer Extension	00	KI538		07	24		NIEA	10/09/2008	15/09/2008	01/12/2008	16/11/2010		16/11/2010	16/11/2011	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	10/09/2008	15/09/2008	01/12/2008	15/11/2010	16/02/2009		0	0	100	0	-0.005	0.005	-0.001	0.005	0.000	0.000	-0.005	0	0	0	100	0	0	
559	2015_16 Q4	KG189	Cornakinnegar Road, Lurgan Foul & Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	09/01/2013	16/01/2013	23/09/2015	30/03/2016	16/12/2015		0	0	100	0	0.243	0.000	0.002	0.010	0.015	0.001	0.243	0	0	0	100	0	0	
560	2015_16 Q4	KG201	Derrytrasna Road, Lurgan, Foul Pumping Main Extension	00	KI538		07	24		DRD																						08/09/2014	17/09/2014					0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
561	2015_16 Q4	KG204	Princess Way, Portadown, Storm Sewer Extension	00	KI538		07	24		DRD																						17/08/2015	17/08/2015					0	0	100	0	0.037	0.000	0.000	0.000	-0.010	0.000	0.037	63	37	0	0	0	37	
562	2015_16 Q4	KG206	Drumnagor Rd, Kernan Hill Rd, Craigavon Foul & Storm Sewer	00	KI538		07	24																								11/06/2015	15/06/2015					0	0	100	0	0.089	0.000	0.000	0.000	0.000	0.089	0.000	0	0	0	100	0	0	
563	2015_16 Q4	KL376	Glengalliagh Pumping Station and Pumping Main	00	KI538		07	24		NIEA	16/04/2007	15/04/2006		15/04/2006	15/04/2007	0	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	78	22	0.000	0.043	0.015	0.004	-0.006	0.000	0.000	0	0	0	100	0	0	
564	2015_16 Q4	KL472	Chapel Road, Dungiven, Foul Sewer Extension	00	KI538		07	24		NIEA	26/09/2011	03/10/2011	23/01/2012	22/03/2012		22/02/2012	21/02/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	26/09/2011	03/10/2011	23/01/2012	03/02/2012	06/02/2012		0	0	100	0	0.000	0.001	0.009	-0.002	0.000	0.000	0.000	0	0	0	100	0	0	
565	2015_16 Q4	KL474	Gracefield Road Magherafelt Storm Sewer Extension	00	KI538		07	24		DRD	28/06/2011	04/07/2011	04/04/2011	09/09/2011		09/09/2011	08/09/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	28/06/2011	04/07/2011					0	0	100	0	0.014	0.001	0.001	0.000	-0.001	0.001	0.014	0	0	0	100	0	0	
566	2015_16 Q4	KL477	Steelstown Road, Londonderry, Foul and Storm Sewer Extensio	00	KI538		07	24		NIEA	19/04/2012	01/05/2012	11/06/2012	05/09/2012		05/09/2012	05/09/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	19/04/2012	01/05/2012	11/06/2012	31/08/2012	27/08/2012		0	0	100	0	0.001	0.001	0.002	0.048	0.000	0.000	0.001	0	0	0	100	0	0	
567	2015_16 Q4	KL519	Culdaff Gardens, Derry Storm Sewer Extension	00	KI538		07	24																								05/06/2014	20/06/2014	18/03/2014	12/12/2014	29/11/2014	05/01/2016	0	0	100	0	0.018	0.000	0.000	0.000	0.000	0.033	0.018	0	0	0	100	0	0	
568	2015_16 Q4	KL520	37 Limavady Road, Derry Storm Sewer Ext	00	KI538		07	24		DRD																						18/02/2016	18/02/2016			31/03/2016		0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
569	2015_16 Q4	KL529	St Peter"s High School Re-Development F&S Sewer	00	KI538		07	24																								04/08/2015	04/08/2015					0	0	100	0	0.070	0.000	0.000	0.000	0.000	0.000	0.070	0	0	0	100	0	0	
570	2015_16 Q4	KN527	Meadowvale, Dublin Rd, N'townstewart, Foul Sewer Extension	00	KI538		07	24		DRD																						03/07/2015	03/07/2015					0	0	100	0	0.036	0.001	0.003	0.008	0.001	0.003	0.036	0	0	0	100	0	0	
571	2015_16 Q4	KN560	Lisnaragh Road Donemana Foul sewer Extension	00	KI538		07	24		DRD																						15/04/2014	12/05/2014	09/06/2014	20/02/2015		21/07/2014	18/11/2015	0	0	100	0	-0.006	0.000	0.000	0.000	-0.002	0.068	-0.006	0	0	0	100	0	0	
572	2015_16 Q4	KP601	Enniskillen Road Ballinamallard Storm Sewer Extension	00	KI538		07	24		NIEA	18/04/2011	04/05/2011	01/02/2011	26/11/2010		26/11/2010	26/11/2011	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	18/04/2011	04/05/2011					0	0	100	0	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
573	2015_16 Q4	KP678	Coa Road, Enniskillen Storm Sewer Ext.	00	KI538		07	24																								03/09/2014	17/09/2014					0	0	100	0	0.000	0.000	0.004	0.005	0.000	0.000	0.000	0	0	0	100	0	0	
574	2015_16 Q4	KR361	Carrowreagh Road Dundonald Storm Sewer	00	KI538		07	24		NIEA	12/03/2009	24/03/2009	21/05/2012	24/09/2012		24/09/2012	24/09/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	12/03/2009	24/03/2009	04/01/2011	24/09/2012			0	0	100	0	0.000	0.003	0.014	0.610	0.071	0.007	0.002	0	0	0	100	0	0	
575	2015_16 Q4	KR397	Brooke Hall, Cairnhill Belfast Foul Sewer Extension	00	KI538		07	24		NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	16/12/2013	19/12/2013	06/06/2014	12/12/2014	28/11/2014	04/02/2015	0	0	100	0	0.002	0.000	0.001	0.000	0.000	0.080	0.002	0	0	0	100	0	0	
576	2015_16 Q4	KR422	Mersey Street, Belfast Storm Sewer	00	KI538		07	24		NIEA	05/08/2011	25/08/2011	05/05/2008	05/04/2012		05/04/2012	05/04/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	23/05/2014	03/06/2014	28/07/2014	11/12/2015		30/01/2015	0	0	100	0	0.003	0.003	0.272	0.937	0	28	38	34	0	0	28	0	0	
577	2015_16 Q4	KR429	York Street, Belfast Interchange	00	KI538		07	24		NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	-0.004	0.000	0.009	0.000	0.012	0.068	-0.004	0	0	0	100	0	0	
578	2015_16 Q4	KR463	Circular Road Belfast, Storm Sewer Extension	00	KI538		07	24		NIEA		19/07/2010	06/08/2010		06/08/2010	06/08/2011	0	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	04/05/2010	13/05/2010			23/04/2012		0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
579	2015_16 Q4	KR493	Ballyrobert Road Ballyclare Storm Sewer Extension	00	KI538		07	24		NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	08/09/2014	17/09/2014	01/06/2015	11/12/2015	27/11/2015	25/01/2016	0	0	100	0	0.064	0.000	0.002	0.000	0.000	0.064	0	0	0	0	100	0	0	
580	2015_16 Q4	KR509	Carrickfergus Public Realm Sewers	00	KI538		07	24		DRD	02/04/2012	06/04/2012	09/09/2011	31/05/2012		31/05/2012	31/05/2013	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	02/04/2012	06/04/2012					0	0	100	0	0.015	0.000	0.099	0.109	-0.001	0.002	0.015	0	100	0	0	0	100	
581	2015_16 Q4	KR511	Ravenhill Road Belfast - Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	-0.001	0.000	0.005	0.012	0.001	0.000	0.001	0	0	0	100	0	0	
582	2015_16 Q4	KR533	Springfield Crescent, Belfast, Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	08/05/2013	22/05/2013	10/02/2014	29/04/2014		18/04/2014	20/08/2015	0	0	100	0	0.003	0.000	0.000	0.003	0.010	0.017	0.003	0	0	0	100	0	0	
583	2015_16 Q4	KR541	Lower Stanfield Street, Belfast, Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	28/07/2015	06/08/2015					0	0	100	0	0.000	0.000	0.000	0.000	0.007	0.003	-0.003	0	0	0	100	0	0	
584	2015_16 Q4	KR555	Lapwing, Newtownards - Article 11 Enforcement Site	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	05/08/2014	17/09/2014					0	0	100	0	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0	0	0	100	0	0	
585	2015_16 Q4	KR571	Drumbeg Road Storm Sewer Extension	03	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	19/06/2015	19/06/2015	05/10/2015	18/11/2015		30/10/2015	15/12/2015	0	0	100	0	0.021	0.000	0.000	0.000	0.000	0.000	0.021	0	0	0	100	0	0	
586	2015_16 Q4	KR573	Mill Road, Newtownabbey, Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	21/11/2014	21/11/2014	13/04/2015	12/06/2015			18/11/2015	0	0	100	0	0.078	0.000	0.000	0.000	0.000	0.000	0.078	0	0	0	100	0	0	
587	2015_16 Q4	KR578	Ferry Quarter, Shore Road, Strangford foul and storm sewer	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	01/09/2014	17/09/2014	01/12/2014	12/06/2015		31/03/2015	22/12/2015	0	0	100	0	0.004	0.000	0.000	0.000	0.000	0.020	0.004	0	0	0	100	0	0	
588	2015_16 Q4	KR582	Torrens Park Belfast Storm Sewer	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	11/08/2014	05/09/2014					0	0	100	0	-0.005	0.000	0.000	0.000	-0.005	0.099	-0.005	0	0	0	100	0	0	
589	2015_16 Q4	KR583	Victoria Road, Belfast - Foul Sewer Extension and Storm Separ	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	06/10/2014	09/10/2014	09/10/2014	11/03/2016		18/09/2014		0	0	100	0	0.110	0.000	0.000	0.000	0.007	0.046	0.110	0	0	0	100	0	0	
590	2015_16 Q4	KR584	Glenville Rd, Newtownabbey - Storm Sewer	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	09/09/2014	17/09/2014					0	0	100	0	0.002	0.000	0.000	0.000	0.000	0.033	0.002	0	0	0	100	0	0	
591	2015_16 Q4	KR590	Ballygowan Road Belfast Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
592	2015_16 Q4	KR591	137-141 Ormeau Road Belfast Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
593	2015_16 Q4	KR592	QUB Medical Centre University Terrace Storm Sewer Extensio	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	05/02/2015	16/02/2015				31/05/2016		0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
594	2015_16 Q4	KR593	Glenmachan Street Belfast Storm Sewer for McDonalds	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	19/09/2014	17/09/2014	01/12/2014	12/12/2014		01/09/2014	29/04/2015	0	0	100	0	0.004	0.000	0.000	0.000	0.000	0.030	0.004	0	0	0	100	0	0	
595	2015_16 Q4	KR597	Ballynure Road, Ballyclare Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	04/08/2015	04/08/2015				31/12/2015		0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
596	2015_16 Q4	KR607	Galway Park & Galway Drive, Dundonald Storm Sewer	00	KI538		07	12										0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	23/09/2015	23/09/2015	07/03/2016			22/04/2016		0	0	100	0	0.043	0.000	0.000	0.000	0.000	0.043	0.000	0	0	0	100	0	0	
597	2015_16 Q4	KR609	Former Visteon Site Belfast Foul & Storm Sewer Extension	00	KI538		07	24		DRD								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
598	2015_16 Q4	KR612	Olympia Leisure Centre Windsor Park Storm Sewer Requisitio	00	KI538		07	24										0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
599	2015_16 Q4	KR613	Site at 9-11 Ballycraigy Rd, Foul and Storm Sewer	00	KI538		07	24										0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
600	2015_16 Q4	KR615	530 Shore Road, Belfast	00	KI538		07	24										0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	24/07/2015	24/07/2015					0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
601	2015_16 Q4	KR616	172 North Road, Carrickfergus Storm Sewer Ext.	00	KI538		07	24										0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	04/08/2015	04/08/2015					0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
602	2015_16 Q4	KS387	Manse Road, Seaforde Storm Sewer Extension	00	KI538		07	24		NIEA	09/04/2009	27/04/2009	01/02/2011	25/02/2011		25/02/2011	25/02/2012	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	09/04/2009	27/04/2009	01/02/2011			22/02/2011		0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
603	2015_16 Q4	KS822	Ballywalter Road, Millisle Storm Sewer Extension	00	KI538		07	24		NIEA								0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0							0	0	100	0	0.000	0.000	-0.001	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
604	2015_16 Q4	KS824	Sprinfield Road, Portavogie Storm Sewer Extension	00	KI538		07	24		NIEA	20/07/2009	03/08/2009	21/07/2009	09/10/2009		09/10/2009	09/10/2010	0	0	0	0	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	0	20/07/2009	03/08/2009					0	0	100	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	0	100	0	0	
605	2015_16 Q4	KS851	Main Street, Cloughey, Pumping main, Foul and Storm Sewer	01	KI538		07	24		NIEA	11/09/2012	21/09/2012	06/09/2010	28/12/2012		28/12/2012	28/12/2013

| 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) |
|---|---|---

| 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) |
|---|---|---

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 15.

- 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 tables data is more reliable than table 40 for accuracy.

Total Asset Additions reconciliations

- Total asset additions – Water Service – Check to Table 25 line 5 col 4.
  For AIR 16 the reported numbers in these two tables are as follows:
  Table 25 – £53.990m
  Table 36 - £52.866m

The difference in the above 2 figures are explained as follows:

a) PPP Alpha Capital maintenance of [redacted] is not included in Table 36
b) £-102k included in Table 25 relates to Decapitalised projects in 15/16

- Total asset additions – Sewerage Service – Check to Table 25 line 5 col 8.
  For AIR 16 the reported numbers in these two tables are as follows:
  Table 25 – £106.911m
  Table 36 - £103.406m

The difference in the above 2 figures are explained as follows:

c) PPP Omega [redacted] and PPP Kinnegar [redacted] residual asset additions not included in Table 36.
d) £-51k included in Table 25 relates to Decapitalised projects in 15/16

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																					
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)	Projected BU Date (if appropriate)	PC13 Output Ref Code	Output Units	PC10			PC13 in PC15FD		PC15 FD Baseline							PC13 Actual		PC15 Current Actual/ Forecast						UID Status	Comment
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		7	nr						1									1							
JI052	Dorisland Treatability	4		31/12/2020	n/a		7												1											
JI052	Killyhelvin Treatability	4		31/12/2020	n/a		7												1											
JL772	Caugh Hill Treatability	4		31/01/2019	n/a		7										1													
	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		6	nr						1									1							
JR342	Castor Bay to Belfast TM	5		27/03/2015	08/05/2015		6	nr					1										1							
JB693	Carland to Cookstown Trunkmain	5		31/03/2021	n/a	31/03/2017	6												1					1						
JL715	Carmoney to Strabane Strategic Link Watermain	5		31/01/2019	n/a		6										1									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		8												1									1		
JP631	Killyhelvin Clear Water Tank	6		30/09/2017	n/a	29/03/2019	8									1											1			
JB709	Lough Fea CWB	6		30/09/2019	n/a		8											1												
	Monaclogh SR (additional output in 16/17 draft adjusted outputs submission)	6		n/a	n/a		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			07/05/2012		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																						
KS939	UID259 Pattons Bridge (Blackrock WwPS	12			31/03/2016	24/03/2016	12	nr					1											1						PC13	Stated as PC13 in FD, delivered 15/16
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																						
KS372	UID044 Market Street SPS Upgrade, Downpatrick - UID's	12			18/12/2015	18/02/2016	12	nr					1											1						PC13	Stated as PC13 in FD, delivered 15/16
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									
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																						
KS937	UID032 Annesborough Park WwPS	12			31/10/2016	30/09/2016	12	nr						1											1				PC15 FD	
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	22/02/2016	12	nr					1									1								
KT391	UID067 B Hilden PS CSO 13B	12			30/03/2015	22/02/2016	12	nr					1									1								
KT391	UID068 Hilden PS CSO 13A	12		31/03/2015	30/10/2015	22/02/2016	12	nr					1											1						PC13	Stated as PC13 in FD, delivered 15/16
KT391	UID069 Antrim St CSO 25	12		22/02/2016	31/08/2016	30/10/2016	12	nr						1												1				PC15 FD	Unforeseen delays and redesign due to uncharted services on Antrim Rd sewer prevented completion within 15/1
KT391	UID072 New Holland WWT (not required)	12			01/01/2015		12	nr						1										x						PC15 FD	Removed
KT391	UID073 Duncans Rd CSO 15 (not required)	12			01/01/2015		12	nr						1										x						PC15 FD	Removed
KT391	UID074 Laws Yard CSO 14	12		22/02/2016	30/10/2015	22/02/2016	12	nr						1										1						PC15 FD	
KT391	UID221 Waterside 1 CSO 01	12			12/03/2015	22/02/2016	12	nr					1									1								
KT391	UID222 Linenhall Street CSO 03	12			30/03/2015		12	nr						1								1								PC15 FD	PC15 scope delivered in PC13

| A | | | | | | | B | | | | | | |

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)	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	Comment
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		
KL504	UID273 Knockalla New WWPS	12		31/03/2015	29/02/2016	31/08/2016	12	nr					1										1					PC13	Stated as PC13 in FD, issues with delivery in 15/16
KL504	UID274 Upper Galliagh Road WWPS	12		31/03/2015	31/03/2016	31/03/2016	12	nr					1									1						PC13	Stated as PC13 in FD, delivered 15/16
KL504	UID275 Glen Road CSO	12		31/03/2015	24/04/2015		12	nr					1									1						PC13	Stated as PC13 in FD, delivered 15/16
KL504	UID433 Fairview Knockalla CSO	12		n/a		21/03/2016	12	nr														1						PC15 New	Was discovered during delivery of related UID – was spilling and was endorsed by NIEA
KS872	Bangor DAP Work Package 1	12					12	nr																					
KS872	UID011 Carnalea Golf Club CSO 1	12		30/09/2018	30/07/2018	31/03/2019	12	nr									1								1			PC15 FD	
KS872	UID012 KillaneyWWPS 3	12		30/09/2018	30/07/2018	31/03/2019	12	nr									1								1			PC15 FD	
KS872	UID177 Killaire WWPS 1	12		30/09/2018	30/07/2018	31/03/2016	12	nr									1					1						PC15 FD	
KS874	Bangor DAP Works Package 3	12					12	nr																					
KS874	UID016 Maxwell CSO 4	12		30/09/2016	03/06/2019	29/03/2019	12	nr							1										1			PC15 FD	
KS874	UID017 Stricklands Glen WWPS	12		30/09/2016	03/06/2019	29/03/2019	12	nr							1										1			PC15 FD	
KS874	UID178 Brompton Road SPS (PS06)	12		30/09/2016	03/06/2019	29/03/2019	12	nr							1										1			PC15 FD	
KG177	Portadown DAP Stage 2	12					12	nr																					
KG177	UID090 Annagh Catchment CSO 20	12		31/12/2018	04/12/2017	30/09/2020	12	nr									1										1	PC15 FD	
KG177	UID091 Annagh SPS CSO 20	12		31/12/2018	04/12/2017	03/04/2020	12	nr									1										1	PC15 FD	
KG177	UID092 Chambers Park CSO 01	12		31/12/2018	04/12/2017		12	nr									1								x			PC15 FD	Demolished
KG177	UID093 Ballynacor CSO21	12		31/12/2018	04/12/2017	03/04/2020	12	nr									1								1			PC15 FD	
KR489	Glenmachan Strategic Project Phase 1a	12					12	nr																					
KR489	UID411 Balmoral Avenue CSO63	12		31/03/2016	19/06/2017		12	nr						1											x			PC15 FD	Scope of scheme has changed
KR489	UID412 Balmoral Court CSO54	12		31/03/2016	19/06/2017		12	nr						1											x			PC15 FD	Scope of scheme has changed
KR489	UID413 Lisburn Road Golf Club CSO58	12		31/03/2017	19/06/2017		12	nr							1										x			PC15 FD	Scope of scheme has changed
KR489	UID414 Park Royal CSO57	12		31/03/2017	19/06/2017		12	nr							1										x			PC15 FD	Scope of scheme has changed
KR489	UID415 Priory Park CSO55	12		30/09/2017	19/06/2017	30/09/2017	12	nr								1											1	PC15 FD	
KR504	Portaferry Road, N,Ards WWPS Upgrade	12					12	nr																					
KR504	UID351 Portaferry Road WWPS	12		31/03/2019	31/03/2017	31/08/2017	12	nr									1							1				PC15 FD	
KB486	Galgorm WWPS Upgrade	12					12	nr																					
KB486	UID399 Galgorm Raphael WWPS	12		30/09/2016	31/03/2017	20/03/2018	12	nr							1									1				PC15 FD	
KS903	Annalong DAP	12					12	nr																					
KS903	UID266 Halfway House CSO	12		n/a	31/03/2016	21/03/2016	12	nr														1						PC15 New	Had potential to pollute Annalong Harbour – delivery endorsed by NIEA
KS903	UID267 Marine Park CSO	12		n/a	31/03/2016	21/03/2016	12	nr														1						PC15 New	Had potential to pollute Annalong Harbour – delivery endorsed by NIEA
KL527	Manorwood WWPS Replacement	12					12	nr																					
KL527	UID432 Manorwood WWPS	12				31/10/2016	12	nr															1					PC15 New	NIEA requested delivery
KL524	Bleachgreen WWPS, Londonderry, Upgrade/Replacement	12					12	nr																					
KL524	UID420 Bleachgreen WWPS	12				30/04/2017	12	nr																1				PC15 New	NIEA requested delivery
KA260	Muckamore WWPS Upgrade	12					12	nr																					
KA260	UID389 Muckamore WwPS	12				15/03/2017	12	nr															1					PC15 New	Will assist with completion of Antrim DAP
	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	Maghera 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																				
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/Aird (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																				
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 MoD 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		30/09/2015	31/03/2017		13	nr							1								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		31/03/2016	31/03/2016	30/06/2016	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		01/01/2020	30/06/2019	31/03/2018	13	nr										1								1			
KN596	Ballymagory WWTW	16			30/03/2015		13	nr					1								1								
KL493	Artigarvin WwTW	16		31/03/2015	21/12/2015		13	nr					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		13	nr					1	1									1						
KC296	Ballycastle WwTW	16		01/01/2017	30/12/2017	31/03/2018	13	nr							1										1				
KN656	Castle Archdale WwTW	16		31/03/2015	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								

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)	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	Comment
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		
KC302	Ballintoy WwTW	16		31/03/2018	31/01/2017	31/01/2018	13									1												
KS235	Ballygowan/Moneyreagh WwTW	16					13																					
KS235	Ballygowan WwTW	16		31/03/2018	28/02/2017		13									1								1				
KS235	Moneyreagh WwTW	16		31/03/2018	28/02/2017		13									1								1				
KS111	Ards South - Cloughey	16		31/03/2017	n/a	31/03/2019	13								1										1			
KL489	Ballykelly WwTW	16		31/03/2017	n/a	30/10/2018	13								1										1			
	Dundrum WwTW	16		31/12/2017	n/a		13									1								1				
KS113	Ards North - Carrowdore, Ballywalter, Ballyhaskin	16					13																					
KS113	Carrowdore WwTW	16		31/03/2021	n/a		13												1								1	
KS113	Ballywalter WwTW	16		31/03/2021	n/a		13												1								1	
KS113	Ballyhaskin WwTW	16		31/03/2021	n/a		13												1								1	
KF350	Dungannon WwTW	16		01/01/2021	01/01/2021		13												1								1	
KC463	Ballybogy WwTW	16		31/01/2021	31/01/2021		13												1								1	
KA239	Mullans WwTW (Antrim)	16		31/03/2021	n/a	30/09/2017	13												1					1				
	Greyabbey WwTW	16		31/03/2021	31/03/2021		13												1								1	
	Maghaberry WwTW (additional output in 16/17 draft adjusted outputs submission)	16				31/03/2018	13																	1				
	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	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	4	5					

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	1	0	0
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	0	0
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	0	1	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	22	14	3	3
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	8	2	0	6
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	7	18	4	5	0	0	0	0

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 yet to complete.

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		
JL772	Caugh Hill Treatability		
Sub programme 5 – Trunkmains			
JG035	Ballydougan to Newry TM – Phase 2B	2015/16	
JB693	Carland to Cookstown Trunkmain		
JL715	Carmoney to Strabane Strategic Link Watermain		
JR342	Castor Bay to Belfast TM	2015/16	See note a
Sub programme 6 – Service Reservoirs and Towers			
JS274	Drumaroad WTW Clear Water Tank		
JP631	Killyhelvin Clear Water Tank		
JB709	Lough Fea CWB		

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 has been included in the count of PC15 outputs: this will be addressed through a forthcoming Change Control.

b) Carmoney to Strabane Strategic Link Watermain – the scope and start date of this scheme will be informed by the conclusions of the Water Resource and Supply Resilience plan.

Summary (Sub programme 12 – UIDs)

UID performance 2015/16

The table below presents UID performance during 2015/16.

UID delivery	2015/16
Year 1 PC15 FD UIDs delivered in 2015/16	7
Non-Year 1 PC15 FD UIDs delivered in 2015/16	1
PC13 UIDs delivered in 2015/16	14[1]
New UIDs identified and delivered in 2015/16	4[2]
Total	**26**

Complete PC15 UID programme

UID category (defined in terms of PC15 baseline as stated in PC15 FD)	Number of UIDs in category
Stated as PC15 output in PC15 FD, delivered in 15/16 or to be delivered in later PC15 years	47
Stated as PC15 output in PC15 FD, removed from scope	7
Stated as PC15 output in PC15 FD, delivered in PC13	2
Subtotal PC15 baseline (as stated in PC15 FD)	*56*
Stated as PC13 output in PC15 FD, delivered in 15/16 or to be delivered in later PC15 years	25
Additional output identified during PC15, delivered in 15/16 or to be delivered in later PC15 years	7
Subtotal non-PC15 baseline (as stated in PC15 FD)	*32*
Total (PC15 baseline plus non-PC15 baseline)	**88**

Sub programme 12 - UIDs						
Sort ref	**NIW Project Code**	**Nominated outputs reference**	**Title**	**Delivery year (as stated in PC15 FD)**	**Actual Year claimed**	**PC15 FD Nom. Output?**
1	KA260	UID389	Muckamore WwPS			NO
2	KS939	UID259	Pattons Bridge (Blackrock WwPS	2014/15	2015/16	NO
3	KS372	UID044	Market Street SPS Upgrade, Downpatrick - UID's	2014/15	2015/16	NO
4	KS937	UID032	Annesborough Park WwPS	2015/16		YES
5	KT391	UID068	Hilden PS CSO 13A	2014/15	2015/16	NO
6	KT391	UID069	Antrim St CSO 25	2015/16		YES
7	KT391	UID072	New Holland WWT	2015/16	x	YES
8	KT391	UID073	Duncans Rd CSO 15	2015/16	x	YES
9	KT391	UID074	Laws Yard CSO 14	2015/16	2015/16	YES
10	KT391	UID222	Linenhall Street CSO 03	2015/16	2014/15	YES
11	KT391	UID223	Antrim Street CSO 05	2015/16		YES
12	KT391	UID224	Clonevin Park CSO 10	2015/16	2015/16	YES
13	KT391	UID226	Antrim Road CSO 24 + flooding	2015/16	2015/16	YES
14	KT391	UID227	Bow Street CSO 26	2015/16	2015/16	YES
15	KT391	UID229	Grand Street Screen CSO 28	2014/15	2015/16	NO
16	KT391	UID421	Edgewater WWPS	2014/15	2015/16	NO

[1] This will be added to PC15 outputs through a forthcoming Change Control.
[2] This will be added to PC15 outputs through a forthcoming Change Control.

Sub programme 12 - UIDs						
Sort ref	**NIW Project Code**	**Nominated outputs reference**	**Title**	**Delivery year (as stated in PC15 FD)**	**Actual Year claimed**	**PC15 FD Nom. Output?**
17	KT391	UID422	Hoggs Weir CSO 04		2015/16	NO
18	KS873	UID013	Westburn Cresc. CSO 3A	2014/15		NO
19	KS873	UID014	Crawfordsburn Rd CSO 03B	2014/15		NO
20	KS873	UID015	Crawfordsburn Rd CSO 03C	2014/15		NO
21	KR480	UID218	Palace Barracks CSO 110	2015/16		YES
22	KR640	UID220	Strathearn Court CSO 53	2015/16		YES
23	KS930	UID076	Millisle SPS CSO 02	2015/16		YES
24	KR417	UID191	Cromac Street CSO 95	2016/17		YES
25	KR417	UID192	Outside Holiday Inn CSO97	2016/17		YES
26	KR417	UID193	Dublin Road Cinema CSO 96	2016/17		YES
27	KR417	UID194	Bankmore Street / Dublin Road CSO 81	2016/17		YES
28	KR417	UID265	Sandy Row CSO 94	2016/17		YES
29	KG183	UID081	Meadow Lane CSO 06	2017/18		YES
30	KG183	UID082	Meadow Lane CSO 07	2016/17		YES
31	KG183	UID083	Portmore Street CSO 08	2017/18		YES
32	KG183	UID085	Clonavon Avenue CSO 11	2017/18		YES
33	KG183	UID233	Meadow Lane WWPS CSO 32	2016/17		YES
34	KG183	UID086	Meadow Lane CSO 12	2017/18		YES
35	KF330	UID001	Scotch Street CSO. 2	2015/16	2015/16	YES
36	KF330	UID002	Scotch Street. CSO 1	2015/16	2015/16	YES
37	KF330	UID003	Courthouse 1 CSO	2014/15	2015/16	NO
38	KF330	UID005	The Mall East CSO	2015/16		YES
39	KF330	UID006	English St CSO. Scheme 2	2014/15		NO
40	KF330	UID010	Newry Road SPS	2015/16		YES
41	KF330	UID173	Mall West CSO	2015/16	2015/16	YES
42	KF330	UID175	Alexender Road CSO	2014/15	2015/16	NO
43	KF396	UID008	Milford SPS	2014/15		NO
44	KF397	UID009	Killylea SPS	2014/15		NO
45	KS877	UID023	Castle Park CSO 07	2015/16		YES
46	KS877	UID179	13 Rugby Avenue CS0 8A	2014/15		NO
47	KS877	UID180	11 Brunswick Road CSO 8B	2015/16		YES
48	KS877	UID181	104 Abbey Street CSO 8F	2015/16		YES
49	KS877	UID182	114 Abbey Street CSO 8E	2015/16		YES
50	KS877	UID183	Railway View Street CSO 8G (not required)	2014/15		NO
51	KS877	UID184	Abbey Park CSO 9	2015/16		YES
52	KS877	UID263	57 Belfast Road CSO 8C	2014/15		NO
53	KS877	UID264	17 Belfast CSO 8D	2014/15		NO
54	KS958	UID185	Avonlea Park CSO 6	2014/15	2015/16	NO
55	KS958	UID186	Rosemary Crescent / Inglewood Pk CSO 5	2014/15	2015/16	NO
56	KS958	UID187	Clandeboye Road CSO 5B	2014/15	2015/16	NO
57	KS902	UID237	Parochial House CSO 02	2016/17		YES

Sub programme 12 - UIDs						
Sort ref	**NIW Project Code**	**Nominated outputs reference**	**Title**	**Delivery year (as stated in PC15 FD)**	**Actual Year claimed**	**PC15 FD Nom. Output?**
58	KS902	UID238	Main Street CSO 04	2016/17		YES
59	KS902	UID239	Flynn's WWPS CSO 05	2016/17		YES
60	KL468	UID114	Caw Park CSO 023	2014/15	2015/16	NO
61	KL468	UID380	Gransha Park WwPS No. 2	2014/15	2015/16	NO
62	KC415	UID043	Screen Road CSO	2015/16	2014/15	YES
63	KC415	UID040	Ballysally CSO	2015/16		YES
64	KL504	UID273	Knockalla New WWPS	2014/15		NO
65	KL504	UID274	Upper Galliagh Road WWPS	2014/15	2015/16	NO
66	KL504	UID275	Glen Road CSO	2014/15	2015/16	NO
67	KL504	UID433	Fairview Knockalla CSO		2015/16	NO
68	KS872	UID011	Carnalea Golf Club CSO 1	2018/19		YES
69	KS872	UID012	KillaneyWWPS 3	2018/19		YES
70	KS872	UID177	Killaire WWPS 1	2018/19	2015/16	YES
71	KS874	UID016	Maxwell CSO 4	2016/17		YES
72	KS874	UID017	Stricklands Glen WWPS	2016/17		YES
73	KS874	UID178	Brompton Road SPS (PS06)	2016/17		YES
74	KG177	UID090	Annagh Catchment CSO 20	2018/19		YES
75	KG177	UID091	Annagh SPS CSO 20	2018/19		YES
76	KG177	UID092	Chambers Park CSO 01	2018/19	x	YES
77	KG177	UID093	Ballynacor CSO21	2018/19		YES
78	KR489	UID411	Balmoral Avenue CSO63	2015/16	x	YES
79	KR489	UID412	Balmoral Court CSO54	2015/16	x	YES
80	KR489	UID413	Lisburn Road Golf Club CSO58	2016/17	x	YES
81	KR489	UID414	Park Royal CSO57	2016/17	x	YES
82	KR489	UID415	Priory Park CSO55	2017/18		YES
83	KR504	UID351	Portaferry Road WWPS	2018/19		YES
84	KB486	UID399	Galgorm Raphael WWPS	2016/17		YES
85	KS903	UID266	Halfway House CSO		2015/16	NO
86	KS903	UID267	Marine Park CSO		2015/16	NO
87	KL527	UID432	Manorwood WWPS			NO
88	KL524	UID420	Bleachgreen WWPS		2015/16	NO

Notes (Sub programme 12 – UIDs)

1. UIDs with 'x' in 'Actual Year Claimed' will not be delivered in PC15. The table below provides an explanation.

UID	Explanation
UID072	Investigations resulted in removal
UID073	Investigations resulted in removal
UID092	Demolished
UID411	Scope of scheme has changed – UID will not be delivered in PC15
UID412	Scope of scheme has changed – UID will not be delivered in PC15
UID413	Scope of scheme has changed – UID will not be delivered in PC15
UID414	Scope of scheme has changed – UID will not be delivered in PC15

2. A number of UIDs were added to scope in 2015/16. The table below provides an explanation.

UID	Explanation
UID422	Had been omitted from main DAP
UID433	Was discovered during delivery of related UID – was spilling and was endorsed by NIEA
UID266	Had potential to pollute Annalong Harbour – delivery endorsed by NIEA
UID267	Had potential to pollute Annalong Harbour – delivery endorsed by NIEA
UID432	NIEA requested delivery
UID420	NIEA requested delivery
UID389	Will facilitate completion of Antrim DAP

Sub-programme 15 and 16 WwTW			
NI Water project Code	**Project title**	**Year claimed**	**Outstanding outputs/ comments**
KP586	Clabby WwTW		
KS389	Blackrock WwTW		See note a
KS907	Annacloy WwTW	2014/15	See note b
KF346	Robinsonstown WwTW		
KL493	Artigarvin WwTW	2015/16	See note c
KI508	UWWTR MCERT compliance	2015/16	
KC296	Ballycastle WwTW		
KN656	Castle Archdale WwTW	2015/16	See note d
KC302	Ballintoy WwTW		
KS235	Ballygowan WwTW		
KS235	Moneyreagh WwTW		
KS111	Ards South - Cloughey		
KL489	Ballykelly WwTW		
	Dundrum WwTW		
KS113	Carrowdore WwTW		
KS113	Ballywalter WwTW		
KS113	Ballyhaskin WwTW		
KF350	Dungannon WwTW		
KC463	Ballybogy WwTW		
KA239	Mullans WwTW (Antrim)		
	Greyabbey WwTW		

Notes

a) Blackrock was profiled to deliver in 2015/16 but following land issues is now anticipated to deliver in 2016/17.
b) 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.
c) Artigarvin was originally a PC13 output but a review of the delivery approach delayed completion until 2015/16.
d) 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.

Sub programme 17 – Small Wastewater Treatment Works

CAR Site Reference	Project title	Year claimed
S05877	Straid	2015/16
S03002	Curglasson	2015/16
S01455	Cappagh	2015/16
S01566	Dunmullan	2015/16

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										
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										
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										
4	Number of incidents of occupational ill health	nr	0	137	A2	142	A2	131	A2	134	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										
B	**RIDDOR REPORTS**																				
6	Total RIDDOR incidents	nr	0	10	A1	6	25	5	A1	7	A1										
7	RIDDOR - rate per 1000 employees	nr	2	7.67	A1	4.80	A1	4.03	A1	5.69	A1										
8	3-day accident rate per 1000 employees	nr	2	7.67	A1	4.80	A1	5	A1	5.68	A1										
9	Major/fatal accident rate per 1000 employees	nr	2	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											
11	Total days lost due to sickness, accident and occupational ill health	nr	0	No data		No data		NA		NA											
12	Total days lost - rate per 1000 employees	nr	2	No data		No data		0.00		0.00											
13	Number of incidents of occupational ill health	nr	0	No data		No data		NA		NA											
14	Incidents of occupational ill health - rate per 1000 employees	nr	2	No data		No data		0.00		0.00											
D	**CONTRACTORS' RIDDOR REPORTS**																				
15	Total RIDDOR incidents	nr	0	6	B2	6	B2	5	BX	7	BX										
16	RIDDOR - rate per 1000 contractors' employees	nr	2	No data		No data		0.00		0.00											
17	3-day accident rate per 1000 contractors' employees	nr	0	No data		No data		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										

Table 41 – Health and Safety Information (NIW only)

Lines 1 - 5 - Lost time

In 2015/16 financial year NI Water lost a total of 10395 working days due to sickness which was equivalent to 8.2 working days lost per employee. The KPI attendance in 15/16 was 96.5% and NI Water delivered an actual rate of 96.2%, 0.3% below the target.

HR Advisors in conjunction with Line Managers continued to meet with staff that breached sick absence trigger points to highlight the importance of good attendance and corrective action was taken where appropriate.

Human Resources also continue to work in partnership with Line Managers, the NI Water Employee Support Officer, Independent Occupational Health, Carecall (our counselling provider) and employees to assist those on long term sick to return to work and to facilitate reasonable adjustments where required.

Further reporting is being 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 basis). Senior Management can see where the actual absence rate is sitting against NI Water's KPI for Attendance.

Our attendance rate has decreased marginally from 96.5% in 14/15 to 96.2% in 15/16. A particular trend that has been noted during 2015/2016 was the continued increase in staff absence with Cold/Flu/Respiratory illnesses in particular during the winter months (991 working days were lost to these illnesses during 2015/2016). As a result of this, and following a pilot scheme which was rolled out during 2015/2016 to 3 NI Water work locations, flu vaccinations will be offered to all staff during October 2016. The application of the flu vaccinations will be facilitated by Occupational Health.

[redacted]

Frontline Operators have been attending yearly medical assessments where they are assessed for Hand Arm Vibration, Audio and working in confined spaces. NI Water also provides medical assessment for driving and HGV which is currently carried out by Independent Occupational Health.

Psychiatric/psychological remains the highest reason for days lost due to sickness in 2015/16 at 20.9%. There has however been an overall decrease from 2014/15 when the percentage of total working days lost due to Psychiatric/psychological illness was 22.4%.

There are a number of Health and Wellbeing initiatives that have been developed during 2015/2016, which are as follows:

NI Water set up a Health and Wellbeing Hub called 'Wellbeing Works' on 1st May 2015. The 'Wellbeing Works' website provides a range of insightful and supportive information on general Health and Wellbeing topics, as well as news about ongoing internal Health and Wellbeing events and initiatives.

A Wellbeing Committee, made up of NI Water employees, and NI Water's external Health and Wellbeing providers, was set up in 2015 and meets every quarter to discuss ongoing Health and Wellbeing initiatives. During the last meeting in April 2016 the Committee set the agenda for Health and Wellbeing during 2016/2017.

Between January and March 2016 voluntary Health Assessments were offered to all NI Water staff. Approximately 400 staff attended for assessment – which included a Cholesterol check; Blood pressure Check and confirmation of individual BMI.

During March 2016 Action Cancer Awareness sessions took place across various NI Water work locations. Approximately 100 staff attended.

During April 2016 staff were offered the opportunity to apply to become a Wellbeing Champion. 9 employees have confirmed they wish to take on this role. The role of the Wellbeing Champion will be to identify health and wellbeing priorities and organise events of interest to them.

In dedicating time and resource to Health and Wellbeing it is hoped that NI Water will improve the health and wellbeing offering for staff to enhance their physical and mental capacity while in the workplace and personally.

NI Water's reason for absence reporting differs to the occupational reasons as listed by the Utility Regulator. 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.

Due to our failure to meet our KPI, there is a renewed emphasis at both EC and Board to improve our attendance figure but also further develop and implement a number of initiatives to improve the health and well-being for all our staff.

Line 6 – Total RIDDOR incidents

The NIW procedure for reporting accidents and incidents is set out in Procedure PRO 008 within the NIW H&S Manual, revised August 2014. All accidents and incidents must be reported to line management as soon as practical. The independent electronic Risk Reporting System, capable of "tracking accidents" has been in place since 1 April 2009.

It is the relevant Line Manager's responsibility to ensure all accident details are recorded on DATIX.

DATIX entries are examined by the H&S Team and statistical trends are presented monthly by the Head of H&S at Board for discussion.

There were 7 RIDDOR reportable incidents within NIW in 2015/16 and all of these relate to more than 3-day accident-related absences.

NB: While NI Water reports all over 3 day incidents under the RIDDOR Regs.

Line 7 – RIDDOR Rate per 1000 employees

The DATIX process, as described for Line 6 above, provides the total number of RIDDOR incidents while the denominator, the total number of employees has been calculated within the HR Directorate as 1231. This gives the RIDDOR rate per 1000 employees as 5.68 for 2015/16.

Line 8 – 3 day accident Rate per 1000 employees

As all the RIDDOR incidents refer to accident-related absence (ref. line 6 commentary), the information in Line 8 mirrors that of Line 7.

Line 9 – Major Fatal accident Rate per 1000 employees

The information gathering process is again as described for Line 6 above. No fatal injuries occurred in 2015/16.

Lines 10 – 14 - Contractors' lost time

Contractors continue to be engaged in a wide range of work across NIW. 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 Sewage services and this includes contractors engaged in the construction of new works (ref. line 15 commentary). NIW has, throughout 2015/16 , been engaged in a continuing process of change, regarding the numbers of contractors assisting in the delivery 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, NIW has no ready method of calculating the number of contractors' staff engaged in core activity and this is unlikely to change in the short term.

Line 15 – Contractors' RIDDOR reports

The NI public regards all work related with Water and Sewage services, including design and build work, to be closely associated with NIW. NIW, in turn, recognises its duty of care to all of its contractors as "Client", when they are carrying out any works, and therefore see its duty as one of "leadership". NIW therefore keeps a record of all contractor and subcontractor "incidents", which will include any incidents relating to transient workers. NIW encourages the reporting of "near-misses" by contractors to facilitate a shared learning experience.

All Contractor and subcontractor incidents are recorded on DATIX and for 2015/16 the total number of RIDDOR incidents reported to NIW by all of its contractors was 7. Contractor performance is monitored by the NIW Executive Committee and Board at their monthly meetings.

Lines 16 - 17 – Contractor RIDDOR and 3 day accident rates

Information is not collected for this line as NIW, in this period of transition, has no ready method of calculating the numbers of contractors' employees working on NIW contracts.

Line 18 – Contractor major fatal accident rate per 1000 employees

There were no major or fatal accidents connected with NIW's contractors or sub-contractors, including transient workers. This allows this rate to be calculated as zero.

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 Service	Sewerage Sevice
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		
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		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]											[redacted]			[redacted]7	
8	Unitary Charge Variable	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9	Unitary Charge Deductions	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]										[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	Atypical expenditure	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Efficiency Gains, included in 7 & 8	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
12	Total PPP Payments (7to 10)	£m	3		na	Sum 7 to 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Capital repayment	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]											[redacted]			[redacted]	
14	Maintenance	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]											[redacted]			[redacted]	
15	Residual interest	£m	3		na									[redacted]											[redacted]	[redacted]		[redacted]
16	Atypical payments capitalised	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Total capitalised (13 to 16)	£m	3		na	Sum 13 to 16	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Total PPP Expensed (12-17)	£m	3		na	Lines 12-17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	Interest	£m	3		na		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]											[redacted]			[redacted]	
20	Total PPP Opex (18-19)	£m	3		na	Line 18-19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
C	**WATER DISTRIBUTION DATA**																											
21	Distribution input	Mld	2	B2	Table 10 Line 26		30.03	107.03	80.73	14.92														232.70			232.70	
21a	Water Treatment Works Capacity	Mld	0	A1			50	147	180	19														396.00			396.00	
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		IR x 2 + River	River	River	River	N/A													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	N/A													4 x W4			4 x W4	
27	Average pumping head	m.hd	1	B3	Table 12 Block A		125.1	145.2	173.0	146.5	N/A													153.3			153.3	
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									78	3	18	119	67	42						78	248		326
31	Load received by STW's	kg BOD/day	0	B3	Table 17d									4708	161	1061	7156	3992	2506						4708	14876		19584
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									125.00	125.00	125.00	125.00	125.00	125.00									
35	Ammonia consent	mg/l	0	A1	Table 17b line 6									N/A	02/10	02/10	7.5/32	N/A	N/A									
36	Phosphates consent	mg/l	0	A1	Table 17b line 7									N/A	N/A	<1 Ann Avg	<1 Ann Avg	N/A	N/A									
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										N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.854	28.101	32.955		N/A	32.955		32.995
40	Sludge produced by the PPP facility	ttds	3	B2										0.501	0.071	0.535	1.564	1.818	1.064	N/A	N/A	N/A	0.000		0.501	5.052		5.553
41	Sludge exported to Duncrue Incinerator	ttds	3	B2										0.501	0.071	0.535	1.564	1.818	1.064	N/A	N/A	N/A	0.000		0.501	5.052		5.553
42	Sludge exported to other PPP facilities	ttds	3	A1										N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000		N/A	0.000		0.000
43	Sludge exported to NI Water	ttds	3	A1										N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000		N/A	0.000		0.000
44	Sludge disposed of from site to - Farmland Untreated	ttds	3	A1	Table 17G Col 1									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000		N/A	0.000		0.000
45	Sludge disposed of from site to - Farmland Convestiona	ttds	3	A1	Table 17G Col 2									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000		N/A	0.000		0.000
46	Sludge disposed of from site to - Farmland Advanced	ttds	3	B3	Table 17G Col 3									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.019		N/A	2.019		2.019
47	Sludge disposed of from site to - Incineration	ttds	3	B2	Table 17G Col 4									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	36.199		N/A	36.199		36.199
48	Sludge disposed of from site to - Landfill	ttds	3	B3	Table 17G Col 6									0.049	0.002	0.009	0.021	0.024	0.022	0.000	0.003	0.003	0.000		0.049	0.083		0.132
49	Sludge disposed of from site to - Composted	ttds	3	A1	Table 17G Col 7									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000		N/A	0.000		0.000
50	Sludge disposed of from site to - Land Reclamation	ttds	3	B3	Table 17G Col 8									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.290		N/A	0.290		0.290
51	Sludge disposed of from site to - Other (Willow Coppice	ttds	3	A1	Table 17G Col 9									N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000		N/A	0.000		0.000
52	Sludge disposed of from site - Total	ttds	3	B2										0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.049	38.591		38.640

Table 42 – PPP Reporting

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]/day 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, with some [redacted] to finalise [Landscaping] in June/July 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

1. 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.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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

7. 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.

8. 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.

9. 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.

10. 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] +VAT @ 20% ([redacted] = [redacted]. This value was paid to the Contractor on 30th January 2015.

11. Alpha Deed of Variation No.3:

Amended and restated the contract in respect of all previous changes and corrections made to date.

12. 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] per year reduction in Company costs).

13. 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).

14. 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

Contractual Performance Failures during AIR16 Period:

1. Alpha Performance Deductions: 2015/16

- 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 has provided a supporting CD with all 12 monthly Payment Calculation Schedules for the AIR year). Total deductions:* [redacted] *[AIR15 period total deductions* [redacted]*].*
- Water Quality Failures can be referenced on Payment Calculation Tab 9 under the column headed 'QRF' for each Facility *(The Company has provided 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 has provided a supporting CD will all 12 LIM's Exceedance Reports for the Alpha Facilities. Total deductions:* [redacted] *[AIR15 period total deductions* [redacted]*.*

2. Kinnegar Performance Deductions 2015/16:

The Company had determined one failure as listed below. The incidence of one Odour Event in the absence of any other Penalty Points being awarded does not result in a payment deduction under the Kinnegar Contract.

- Odour Event occurred on 07/04/2015 – Penalty Points awarded; criteria for payment deduction under Kinnegar Contract not breached. No deduction required.

3. Omega Performance Deductions 2015/16:

The Company has determined and the Contractor has accepted the following failures on the Wastewater services during the period:

- Overtopping Inlet Screens at Bullay's Hill PS: [redacted].

- The Company has determined and the Contractor has not accepted the following failures on Sludge Services during the period:
  - Flow Management Failure at Seagoe PS: [redacted].
  - Flow Management Failure at Millisle PS: [redacted].
  - Ammonia Failure at Armagh WwTW: [redacted].
  - Daily Average CO exceedance at Duncrue Street Sludge Facility: [redacted]
  - SET Plant Failures Hg exceedance at Duncrue Street Sludge Facility: [redacted]

The Contractor disputes the application of these 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 undisputed deductions listed above totalling [redacted] have been included in this line, as credit notes have been received accordingly. 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;** there are no disputed deductions to require an accrual.

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.

Lines 7-20 Payment to PPP Concessionaire

Note: As the atypical expenditure, efficiencies, performance deductions (Omega) and residual interest (Omega) were not divisible by site the cross tots on lines 9,10, 11, 12, 15, 17, 18 and 20 will not agree to the figures in the total column – the figures included in the total columns are correct for each concession.

Line 7 - Unitary charge capacity

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 2014/15.

Line 8 - Unitary charge variable

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 3.1% from 2014/15 driven by a combination of inflation and flow variations in the year.

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 2015/16 were [redacted], an increase of [redacted] on the 2014/15 amount of [redacted].

Omega

During 2015/16 [redacted] of performance deductions were recognised by the contractor and credit notes were issued. The details behind each of these are as follows:

Wastewater Services Performance Deductions:

The Company has determined Odour Performance Deductions at Bullay's Hill (Aug 15) totalling [redacted].

Sludge Services Performance Deductions:

The Company applied deductions of [redacted] for sludge disposal failures in Jul and Oct 14 at the Duncrue St Sludge Facility.

Kinnegar

No credits for performance deductions at Kinnegar have been received in the 2015/16 year.

Line 10 - Atypical expenditure

Alpha ([redacted])

	£m
Quality Monitoring Change credit	[redacted]
EIB Step-down	[redacted]
Refund in respect of reorganisation costs	[redacted]
Total	[redacted]

- 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 [redacted] in 2015/16.
- In 2015/16 a reduction of [redacted] 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 2015/16 were [redacted]

Kinnegar £nil

- There was no atypical expenditure relating to Kinnegar in 2015/16.

Omega [redacted]

	£m
North Down and Ards Disinfection Change	[redacted]
Supplemental 4 Agreement	[redacted]
Change in Calibration Frequency	[redacted]
Claim re TE management obligations	[redacted]
2015/16 out of spec sludges	[redacted]
Agreed DWF change at Ballynacor	[redacted]
NIW Payment for Access Gate at NDA	[redacted]
Total	[redacted]

- The North Down Disinfection Change implemented in Sept 2011 resulted in a [redacted] efficiency saving in 2015/16. 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 2015/16.
- 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 2015/16.
- [redacted] was accrued in 2015/16 in relation to a claim made by the contractor regarding NI Water's trade effluent management obligations.
- [redacted] was accrued in relation to the cost of out of specification sludges in the 2015/16 year.
- [redacted] credit was received in respect of an agreed DWF change at Ballynacor
- NIW agreed liability to pay for a revised access road entrance at North Down and Ards WWTW and accrued [redacted] in relation to this in the 2014/15 year. There was an over-accrual of [redacted] and this amount was released in 2015/16.

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 2015/16 against the baseline contract at award:

Alpha

The reorganisation costs credit [redacted]), quality monitoring change ([redacted] all detailed above are efficiency gains arising in the 2015/16 year.

Omega

The North Down Disinfection Change implemented in Sept 2011 resulted in a [redacted] efficiency saving in 2015/16.

Supplemental Agreement 4 executed in 2011/12 reflecting a change in wastewater flow management performance requirements resulted in a [redacted] deduction in 2015/16.

The change in weighbridge calibration frequency implemented in 2013/14 resulted in [redacted] of saving this year.

Kinnegar

No Contract Changes for cost reduction have been implemented during the Reporting Period.

Line 13 - Capital repayments

This line reflects the element of Alpha payments paying off 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:

Capital Repayment and Interest	Capacity Charge by Site	Capital Maint	Capacity Charge less Cap Maint	Pro Rata Interest	Pro Rata Capital
Dunore Point	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Castor Bay	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Moyola	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ballinrees	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ballymoney LM	[redacted]		[redacted]	[redacted]	[redacted]
Limavady LM	[redacted]		[redacted]	[redacted]	[redacted]
CB to FB LM	[redacted]		[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

(The above table is an extract 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 contract 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 Alpha financial model as follows:

Capital Maintenance	To End per Fin Model	After Indexation	2015/16
Dunore Point	[redacted]	[redacted]	[redacted]
Castor Bay	[redacted]	[redacted]	[redacted]
Moyola	[redacted]	[redacted]	[redacted]
Ballinrees	[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]	[redacted]

(The above table is an extract from an excel spreadsheet with totals based on rounded values)

Line 15 - Residual interest

As Kinnegar and Omega are off balance sheet an element of the unitary charge is capitalised to reflect residual value in NIW accounts at the end of the contract – figures taken from Contractors Financial Models. The total for Omega is not divisible by Facility (Scheme).

Line 16 - Atypical payments capitalised

Nil

Line 19 - Interest

As Alpha is an on-balance sheet PFI contract the Company has recognised a finance lease creditor on its balance sheet - this figure represents the notional interest on the finance lease. The data is consistent with the Company's financial accounts. See point 13 above for site allocation workings.

The Company's statutory accounts have been prepared on an IFRS basis in 2015/16. The amounts disclosed in lines 12, 13, 14, 15, 19 and 20 are all consistent with the figures in the Company's financial accounts pre IFRS adjustments.

A breakdown of the accruals 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	[redacted]	[redacted]	[redacted]	[redacted]
Disputed Amts	[redacted]	[redacted]	[redacted]	[redacted]
Claims	[redacted]	[redacted]	[redacted]	[redacted]
Other	[redacted]	[redacted]	[redacted]	[redacted]

An amount of [redacted] included in unitary charge accruals of [redacted] relates to the outstanding monthly invoices for February and March unpaid at 31 March 2016. 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.

The [redacted] of disputed amounts arise from 2013/14 - 2015/16 Omega disputes in relation to performance deductions.

The [redacted] has moved from the previous year as follows.

Accrual at 31 March 2015	[redacted]
2015/16 Payment	[redacted]
2015/16 New Accrual	[redacted]
2015/16 Out of Spec Sludges	[redacted]
Accrual at 31 March 2016	[redacted]

The other accruals include [redacted] for contractor claims for additional costs associated with the industrial action during the year and [redacted] in respect of Ballynacor sludge lagoons with this remedial work expected to be completed early 2016/17.

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.

Lines 23 – 24 - Turbidity

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.

For 2013, the WTWs in service have now stabilised with 20 NIW sites and 5 PPP.

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.

2014 PPP WTW Included in calculations

WTW Code	WTW Name	Turbidity 95 %ile	>= 0.5 NTU
W1301P	Moyola PPP	0.176	0
W1701P	Ballinrees PPP	0.242	0

WTW Code	WTW Name	Turbidity 95 %ile	>= 0.5 NTU
W2308P	Castor Bay PPP	0.246	0
W3301P	Dunore Point PPP	0.193	0
W3315P	Forked Bridge PPP	0.2334	0

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 AIR16.

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.

Line 40 - Sludge produced by the PPP facility

Whilst the total sludge production recorded against each PPP contract and PPP as a whole is inconsistent with last year's records, the records for each of the individual Omega sites are different from those recorded in AIR15.

The variations are tabulated below;

PPP Production	AIR16	AIR15	AIR14	AIR13	AIR12	AIR11	AIR10
Armagh WWTW	0.535	0.579	0.547	0.535	0.570	0.759	0.840
Richhill WWTW	0.071	0.063	0.071	0.065	0.066	0.213	0.210
Ballynacor WWTW	1.564	2.269	2.007	2.069	3.330	2.468	2.290
Ballyrickard WWTW	1.064	1.337	1.126	1.158	1.225	1.627	1.717
NDA WWTW	1.818	1.633	1.920	1.628	1.559	1.753	1.654
Kinnegar WWTW	0.501	0.668	0.643	0.726	0.823	0.792	0.700
Omega Screenings and Grit	0.083	0.083	0.088	0.106			
Kinnegar Screenings and Grit	0.049	0.057	0.047	0.022			
Totals	5.685	6.689	6.449	6.309	7.573	7.612	7.411

The changes in sludge production 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

Line 41 - Sludge exported to Duncrue Incinerator

Variances are accounted for in Line 40 commentary above.

Line 46 - Sludge disposed of from site to - Farmland Advanced

A full year service resulted in 2.019 TTDS arising from the Contractor's choice of alternative compliant disposal routes. This is a variation from the 1.559 TTDS report in AIR15.

Line 47 - Sludge disposed of from site to - Incineration

A full year service resulted in 36.199 TTDS being incinerated as the contractor's preferred method of disposal, this being a smaller amount than reported in AIR15 [37.497 TTDS].

Line 48 - Sludge disposed of from site to - Landfill

A full year service resulted in 0.132 TTDS 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 smaller than that 0.140TTDS reported in AIR15. 0 TTDS of dewatered sludge cake was disposed to landfill.

Line 49 - Sludge disposed of from site to - Composted

A full year service resulted in 0 TTDS arising from the Contractor's choice of alternative compliant disposal.

Line 50 - Sludge disposed of from site to - Land Reclamation

A full year service resulted in 0.290 TTDS arising from the Contractor's choice of alternative compliant disposal routes. AIR15 reported a disposal of 0.084 TTDS.

Line 51 - Sludge disposed of from site to - Other (Willow Coppice)

A full year service resulted in 0.0 TTDS arising from the Contractor's choice of alternative compliant disposal routes. AIR15 reported a disposal of 0.0 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	Servic	e
2	Service Area			na	WT	WT	WT	WT	WD	WD	WD	WWT	WWT	WWT	WWT	WWT	WWT	WWS	WWS	WWS	All	All	All	e	Service
3	Name of works			na	Balinrees	Castor Bay	Dunore Point	Moyola	DBFO LM	Ballymoney LM	Limavad y 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	[redacted]																				
5	Payment by Concessionaire to Operating Company	£m	3		[redacted]																				
C	**DIRECT COSTS TO NI WATER**																								
6	Power	£m	3		0.686	1.918	1.565	0.402	0.000			0.000	0.036	0.133	0.552	1.022	0.235	0.000	0.197	1.329	4.571	0.000	3.504	4.571	3.504
7	Other direct costs	£m	3		0.055	0.009	0.009	0.008													0.081	0.000	0.000	0.081	0.000
8	Total direct costs	£m	3	sum 6 + 7	0.741	1.927	1.574	0.410	0.000	0.000	0.000	0.000	0.036	0.133	0.552	1.022	0.235	0.000	0.197	1.329	4.652	0.000	3.504	4.652	3.504
9	General and support expenditure	£m	3		0.004	0.005	0.005	0.004	0.004	0.004	0.004	0.031	0.026	0.026	0.027	0.027	0.027		0.027	0.027	0.030	0.031	0.187	0.030	0.218
10	Total functional expenditure	£m	3	sum 8 + 9	0.745	1.932	1.579	0.414	0.004	0.004	0.004	0.031	0.062	0.159	0.579	1.049	0.262	0.000	0.224	1.356	4.682	0.031	3.691	4.682	3.722
D	**OPERATING EXPENDITURE - NI WATER**																								
11	Scientific services	£m	3		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.022	0.002	0.003	0.006	0.003	0.004	0.000	0.000	0.058	0.000	0.022	0.076	0.000	0.098
12	Rates	£m	3		0.839	3.000	2.254	0.422	0.000	0.000	0.000	0.146	0.022	0.095	0.305	0.156	0.107	0.000	0.086	0.147	6.515	0.146	0.918	6.515	1.064
13	Estimated terminal pumping costs	£m	3									0.000	0.000	0.000	0.186	0.285	0.000	0.000	0.000	0.000		0.000	0.471		0.471
14	Estimated sludge costs	£m	3									0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.310	8.493		0.000	8.803		8.803
E	**TOTAL PPP OPERATING EXPENDITURE**																								
15	Total PPP operating expenditure	£m	3	Sum 5, 10, 11 and 12	[redacted]																				

Table 43 - PPP Reporting – Operational Costs

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 AIR15 have been commented on in the commentary to that table.

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:

Quality Monitoring Change credit	[redacted]
EIB Step-down	
Refund in respect of reorganisation costs	
Total	

Kinnegar

The data is provided as an aggregate of the monthly invoiced amounts by the Contractor to the Company. There are no atypical amounts recorded in the 2015/16 year.

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 2015/16 [redacted] of performance deductions were recognised by the contractor.

In addition this line includes atypical amounts as follows:

North Down and Ards Disinfection Change	[redacted]
Omega Service Level Adjustment (Supplemental 4)	
Change in Weighbridge Calibration Frequency	
Claim made in respect of NI Water's Trade effluent obligations.	[redacted]
DWF change at Ballynacor	
2015/16 Out of Specification sludges	
NIW Payment for Access Gate at NDA	
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.

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.

NOTE: There is an additional [redacted] payment, not included in Table 43 or 22, to the Engineering Procurement Contractor [NOT the Operating Contractor: as it is outside the costs associated with Sewage Treatment] in relation to remedial work on BNC Lagoons.

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.

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 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 arrived at by running a report on P101 cost centre. Costs were allocated by scheme on the basis of percentage time spent by each staff member working on each scheme 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 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 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.

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	000	1	818.0	A2	825.0	B2	828.1	A2	839.7	A2										
2	Properties below reference level at end of year	nr	0	1,420	B3	1,257	B3	1,082	B3	900	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										
	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	More than 12 hours	nr	0	2,607	B3	1,195	B3	25,693	B3	841	A3										
6	More than 24 hours	nr	0	1,554	B3	12	B3	13,788	B3	32	A3										
7	Total connected properties at year end	nr	0	817,960	A2	824,974	B2	828,060	A2	839,710	A2										
8	OPA supply interruption value	nr	2	1.98	B3	0.97	B3	11.72	B3	1.14	A3										
	DRINKING WATER QUALITY																				
9	% iron compliance at consumers tap	%	2	97.36	A1	98.28	A2	98.90	A2	98.40	A2										
10	% managanese compliance at consumers tap	%	2	99.83	A1	99.79	A2	99.82	A2	99.89	A2										
11	% aluminium compliance at consumers tap	%	2	99.59	A1	99.60	A2	99.80	A2	99.25	A2										
12	% turbidity compliance at consumers tap	%	2	99.70	A1	99.84	A2	99.85	A2	99.73	A2										
13	% faecal coliforms compliance at consumers tap	%	2	99.89	A1	99.86	A2	99.99	A2	99.98	A2										
14	% trihalomethanes compliance at consumers tap	%	2	97.50	A1	98.50	A2	99.00	A2	99.74	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										
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										
17	Flooding incidents (overloaded sewers attributed to severe weather)	nr	0	181	B2	5	B2	3	B2	1	B2										
18	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.0	A2	638.1	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										
	DG5 SEWER FLOODING - OTHER CAUSES																				
20	Flooding incidents (other causes - equipment failures)	nr	0	15	B2	14	B2	2	B2	1	B2										
21	Flooding incidents (other causes - blockages)	nr	0	22	B2	36	B2	38	B2	34	B2										
22	Flooding incidents (other causes - collapses)	nr	0	4	B2	5	B2	12	B2	3	B2										
23	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.0	A2	638.1	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										
	DG5 PROPERTIES ON THE FLOODING REGISTER																				
25	2 in 10 register at end of year	nr	0	30	B2	62	B2	60	A2	59	B2										
26	Problems solved due to ESL funding	nr	0	20	A1	3	B2	5	A2	3	B2										
27	1 in 10 register at end of year	nr	0	10	B2	8	B2	8	A2	7	B2										
28	Number of domestic properties connected to sewerage system	000	1	623.3	A2	628.3	B2	630.0	A2	638.1	A2										
29	% of domestic properties considered to be at risk of flooding by sewage (At risk OPA valu	%	4	0.0088	B2	0.0110	B2	0.0110	A2	0.0103	B2										
C	**SECURITY OF SUPPLY**																				
	DG4 HOSEPIPE RESTRICTIONS																				
30	Hosepipe retrictions (OPA value)	%	0	0	A1	0	A1	0	A1	0	A1										
	LEAKAGE																				
31	Leakage (Target)	nr	2	168.00		169.00		165.00		163.00											
32	Leakage (Actual)	nr	2	161.75	B4	167.21	B3	165.99	B3	161.99	B3										
33	% of leakage target not met (Leakage OPA value)	nr	2	0.00	B4	0.00	A1	0.00	B3	0.00	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										
	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										
36	Security of supply index - company's actual based on planned level of service	nr	0	100	A2	100	A2	100	A2	100	A2										
37	% of target not met (Performance against target OPA value)	%	2	0.00	A2	0.00	A2	0.00	A2	0.00	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										
39	Total billing contacts	nr	0	77,051	B2	78,463	B2	75,545	B2	75,490	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										
	DG7 - RESPONSE TO WRITTEN COMPLAINTS																				
41	Total written complaints	nr	0	3,173	B2	2,505	B2	2,364	B2	2,269	B2										
42	Number dealt with within 10 working days	nr	0	3,166	B2	2,498	B2	2,363	B2	2,266	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										
	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										
45	Total metered accounts	nr	0	110,164	A1	115,227	A1	118,732	A1	123,763	A1										
46	Metered accounts excluded from indicator	nr	0	42,688	A1	47,784	A1	51,214	A1	55,875	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										
	DG9 TELEPHONE CONTACT and new CM/SAT																				
48	Total of calls not abandoned	nr	0	216,006	A2	223,256	A2	226,204	A2	209,284	A2										
49	Total calls received on customer contact lines	nr	0	219,399	A2	226,881	A2	230,847	A2	210,487	A2										
50	% calls not abandoned (0.25 of DG9 OPA value)	%	2	98.45	A2	98.40	A2	97.99	A2	99.43	A2										
51	All lines busy	nr	0	0	A2	0	A2	32	A2	159	A2										
52	% calls not engaged (0.25 of DG9 OPA value)	%	2	100.00	A2	100.00	A2	99.99	A2	99.92	A2										
53	Call Handling Satisfaction	nr	2	4.54	A1	4.63	A1	4.65	A1	4.59	A1										
53a	Net Promoter Score	nr	2							0	0										
53b	OMNIBUS 1	nr	1							80.5	A1										
53c	OMNIBUS 2	nr	0							8	A1										
53d	Repeat Contact	%	1							32.2	A2										
53e	First Point of Contact Resolved (FPOCR)	%	1							67.8	A2										
E	**ENVIRONMENTAL PERFORMANCE**																				
	POLLUTION INCIDENTS																				
54	Number of High & Medium category pollution incidents (Sewage)	nr	0	18	A1	26	A1	25	A1	21	A1										
55	Equivalent population served (resident)	000	2	2,107.96	C5	2,131.81	C5	2,110.77	C5	2,119.20	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										
57	Number of Low category pollution incidents (Sewage)	nr	0	163	A1	188	A1	136	A1	117	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										
59	Number of High & Medium category pollution incidents (Water)	nr	0	0	A1	0	A1	0	A1	0	A1										
60	Winter population	000	2	1,842.61	C2	1,850.54	C2	1,862.72	C2	1,874.73	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										
	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										
	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										

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	140,604	A2	36,509	A2	177,113	A2
2	Grid electricity purchased - renewable energy	MW.hr	0	68,105	A2	48,376	A2	116,482	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	453	A2	143	A2	596	A2
5	Total electricity consumption	MW.hr	0	209,162	A2	85,029	A2	294,191	A2
6	Non-renewable electricity generated and exported to the grid	MW.hr	0	0	A2	0	A2	0	A2
7	Renewable electricity generated and exported to the grid	MW.hr	0	2,687	A2	0	A2	2,687	A2
8	Total renewable enegry generated	MW.hr	0	3,140	A2	143	A2	3,283	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 si	$t.CO_2 e$	0	3,020	C3	3,655	A2	6,674	C3
10	Process and fugitive emissions	$t.CO_2 e$	0	3,875	C3	3,375	A3	7,250	C3
11	Transport: company owned or leased vehicles	$t.CO_2 e$	0	2,472	A2	125	A2	2,597	A2
B.2	**Scope 2 Emissions**								
12	Total grid energy used (including CHP electricity purchased).	$t.CO_2 e$	0	91,640	A2	44,223	A2	135,863	A2
B.3	**Scope 3 Emissions**								
13	Business travel on public transport and private vehicles used for company business	$t.CO_2 e$	2	596.72	A3	11.51	A3	608.23	A3
14	Outsourced activities (if not included in Scope 1 or 2) Energy and other	$t.CO_2 e$	2	0.00	B2	11,360.76	B2	11,360.76	B2
15	Not used								
16	Not used								
17	Gross operational emissions	$t.CO_2 e$	0	101,603	A2	62,750	A2	164,353	A2
C	**Net annual operational emissions**								
18	Exported renewables (generated on-site and exported)	$t.CO_2 e$	2	-1,146.24	A2	0.00	A2	-1,146.24	A2
19	Green tariff electricity purchased	$t.CO_2 e$	2	0.00	A2	0.00	A2	0.00	A2
20	Net operational emissions	$t.CO_2 e$	0	100,457	A2	62,750	A2	163,207	A2
D	**ANNUAL OPERATIONAL GHG INTENSITY RATIO VALUES**								
21	Operational GHG per Ml of treated water	$t.CO_2 e/Ml$	3	0.180	A2	0.327	A2	0.223	A2
22	Operational GHG per Ml of sewage treated (flow to full treatment)	$t.CO_2 e/Ml$	3	0.631	B3	0.712	A2	0.659	B3
23	Operational GHG per Ml of sewage treated (based on water distribution input)	$t.CO_2 e/Ml$	3	0.966	B3	0.465	B3	0.691	B3
E	**RENEWABLE INCENTIVES**								
24	Revenue from renewable energy sales and incentives	£000	3	224.716	A2	0.000	A2	224.716	A2

Table 45 – Energy Consumption and Greenhouse Gas Accounting

Definition

Table 45 contains data relevant to the Company's energy consumption and greenhouse gas accounting as requested for the AIR16 return.

Processing rule:

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 NIW only, by outsourced PPP concessions in separate columns and also calculating 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 39.8% of its total electricity consumption from renewable sources within the reporting period.

Self-generated renewable electricity has been via hydro and solar schemes across several sites and a steam turbine at the Incinerator. The outputs are detailed in Table 1.

Table 1

Site	kWhrs
Fofanny	372,600
Oaklands	206,901
Silent Valley	2,480,025
Incinerator	142,802
Antrim	18,955
Lisnaskea	29,262
Newry	18,536
Glenavy	1,217
Irvinestown	310
Kesh	363
Killyhevlin	4,361
North Coast	5,490
Tandragee	1,792

Further investigatory work is ongoing to enable installation of hydro and wind turbine systems at other sites. These will likely occur within this 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 around 35% of consumption would be from good quality REGO (Renewable Energy Guarantees of Origin) accredited renewable sources. This is achieved by placing a specific schedule of c300 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. 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	0.180	0.327	0.223	A2
Annual operational emissions intensity ratio per Ml of treated sewage (FFT)	tonnes CO_2e/ML	0.631	0.712	0.659	B3
Annual operational emissions intensity ratio per Ml of treated sewage (DI Input)	tonnes CO_2e/ML	0.966	0.465	0.691	B3

Calculations for the tonnes CO_2e/ML intensity ration have been generated from the UK Water Industry Carbon Accounting Workbook V10.1 (March 2016) outputs using data from AIR16 Table 10 and Table 14.

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 V10.1

For example the confidence grade A2 has been applied to electricity consumption whilst the majority of NIWs meter are automatic there is a portion whereby estimated meter reads are provided. Taking this into consideration against the sites on automatic meters the accuracy of the overall value provided would be in range +/- 5%.

Confidence grade B3 has been applied to calculations made for volume of wastewater treated and volume of wastewater treated of flow to full treatment as these figures have been derived from reliable information within the business with accuracy being +/- 10%.

Confidence grade C3 has been used were values have been extrapolated from AIR data the previous year as data provided for existing AIR period is unreliable and accuracy is estimated to be within +/- 10%.

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 10.1 (March 2016) for greenhouse gas emissions associated with the provision of water, wastewater, sludge disposal, administrative function and transport in its AIR16 return.

Data sources for the AIR16 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 V10.1 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 V10.1

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 AIR16 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 (CRCEES).

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 AIR16 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.
- Company air travel (estimated at 50 tonnes CO^2e based on AIR10, but not included in the AIR11, AIR12, AIR13, AIR14 or AIR15 returns).
- 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 AIR17 reporting only if deemed in further discussion to have a material impact on the emissions level.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 46 SERVICEABILITY
SERVICEABILITY RETURN

	DESCRIPTION	UNITS	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	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					
2	Total connected properties at year end	000		786.1	794.7	800.0	804.4	798.7	806.4	810.4	818.0	825.0	828.1	839.7					
3	Total length of mains	km		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					
4	Number of mains bursts (incl Active leakage)	nr			5,054	3,611	3,764	3,910	3,634	2,665	2,474	2,299	2,266	1,972					
5	Mains bursts per 1000km	nr		-	194.6	138.5	142.9	147.9	137.4	100.6	92.7	86.1	84.8	73.8					
6	Interruptions to supply greater than 3 hours resulting from equipment failure	nr	35,700	24,995	30,360	39,883	36,882	34,268	39,647	44,960	40,697	44,499	70,272	98,979					
7	DG3 Properties affected by interruptions >12 hrs (unplanned & unwarned)	nr	1,676	1,670	767	1,839	2,010	1,588	4,180	765	1,019	1,195	929	841					
8	DG3 Percentage properties affected by interruptions >12 hrs (unplanned & unwarned)	%	0.22	0.21	0.10	0.23	0.25	0.20	0.52	0.09	0.12	0.14	0.11	0.10					
9	Number of regulatory samples taken for Iron at customer taps	nr	1,962	1,971	1,928	2,012	2,124	2,036	1,736	1,732	1,710	1,876	1,896	1,876					
10	Number of regulatory Iron samples exceeding the drinking water standard PCV	nr	46	41	45	34	41	43	35	30	47	36	20	30					
11	Number of regulatory Iron samples exceeding 75% of the drinking water standard PCV	nr	108	72	71	64	66	76	55	50	74	62	43	54					
12	Percentage of regulatory Iron samples exceeding 75% of the drinking water standard PC	%	5.50	3.65	3.68	3.18	3.11	3.73	3.17	2.89	4.33	3.30	2.27	2.88					
13	Customer contacts (Discoloured water)	nr					4,085	3,840	3,010	2,344	2,464	3,465	2,744	3,179					
14	Customer contacts per 1000 population (Discoloured water)	nr				-	2.30	2.15	1.67	1.30	1.35	1.90	1.49	1.72					
15	Distribution losses	Ml/d	141.90	127.76	118.74	111.38	131.49	140.55	130.66	122.02	115.44	127.31	126.08	122.08					
16	Company's overall serviceability assessment for water infrastructure	Text								Stable	Stable	Stable	Stable	Stable					
B	**WATER NON-INFRASTRUCTURE**																		
17	Number of regulatory samples taken for Turbidity at WTWs	nr	9,570				5,275	5,252	5,139	4,948	4,810	4,795	4,635	4,510					
18	Number of regulatory samples taken for Turbidity at WTWs which exceed 1.0 NTU	nr	254	153	114	50	42	41	29	28	11	18	11	20					
19	Number of regulatory samples taken for Turbidity at WTWs which exceed 0.8 NTU	nr	135	158	79	30	15	40	23	23	16	29	21	19					
20	Percentage of regulatory samples taken for Turbidity at WTWs which exceed 0.8 NTU	%					0.28	0.76	0.45	0.46	0.33	0.60	0.45	0.42					
21	Number of regulatory samples taken for THMs at customer taps	nr	1,057	952	704	752	765	784	432	408	392	396	391	388					
22	Number of regulatory THM samples exceeding the drinking water standard PCV	nr	358	239	150	243	141	30	8	3	10	6	4	1					
23	Number of regulatory THM samples exceeding 75% of the drinking water standard PCV	nr	578	439	280	441	289	57	32	21	52	31	34	44					
24	Percentage of regulatory THM samples exceeding 75% of the drinking water standard PC	%	54.68	46.11	39.77	58.64	37.78	7.27	7.41	5.15	13.27	7.83	8.70	11.34					
25	Events at WTW resulting from treatment difficulties or ineffective treatment categorised as 'significant' or higher	nr				14	27	28	12	28	26	15	23	24					
26	Number of regulatory samples taken at Service Reservoirs for coliform bacteria	nr	18,258	18,232	17,914	17,581	17,408	17,429	16,966	16,862	16,690	16,118	15,640	15,433					
27	Number of regulatory samples taken for coliform bacteria at Service Reservoirs exceeding the drinking water standard PCV	nr	59	86	68	43	22	24	8	22	27	26	17	20					
28	Percentage of regulatory samples taken for coliform bacteria at Service Reservoirs exceeding the drinking water standard PCV	%	0.32	0.47	0.38	0.24	0.13	0.14	0.05	0.13	0.16	0.16	0.11	0.13					
29	Unplanned (reactive) maintenance	%										96.4	97.4	98.3					
30	Company's overall serviceability assessment for water non-infrastructure	Text								Stable	Stable	Stable	Stable	Stable					
C	**SEWERAGE INFRASTRUCTURE**																		
31	Total length of sewers	km		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					
32	Total number of rising main failures	nr					25	25	37	26	41	16	11	9					
33	Total number of gravity sewer collapses	nr					1,368	988	1,229	1,191	1,081	1,104	1,325	1,218					
34	Total number of sewer collapses	nr				677	1,393	1,013	1,266	1,217	1,122	1,120	1,336	1,227					
35	Sewer collapses per 1,000km	nr			-	47.3	96.3	68.7	84.9	80.6	73.6	72.7	85.7	78.5					
36	Total number of sewer blockages	nr				16,912	28,010	26,409	26,230	24,444	20,801	18,062	16,729	15,991					
37	Sewer blockages per 1,000km	nr			-	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					
38	Number of H, M pollution incidents from sewer network (CSOs, rising mains and foul sewers)	nr						38	34	30	14	14	17	11					
39	Number of H, M and L pollution incidents from sewer network (CSOs, rising mains and foul sewers)	nr						244	221	199	137	149	126	86					
40	Properties flooded in the year (other causes)	nr				366	23	5	28	23	41	55	52	38					
41	Areas flooded externally in the year (other causes)	nr				4,283	7,968	6,872	1,314	Not reported	3,212	3,348	4,379	3,889					
42	Total number of equipment failures repaired	nr				11,715	10,965	10,882	11,492	11,476	10,333	10,899	11,245	9,986					
43	Number of pumping station emergency overflows triggered by equipment failure	nr									21	18	22	15					
44	Number of sewer repairs	nr						1,013	1,266	1,217	1,122	1,120	1,336	1,227					
45	Company's overall serviceability assessment for sewerage infrastructure	Text								Stable	Stable	Stable	Stable	Stable					
D	**SEWERAGE NON-INFRASTRUCTURE**																		
46	% WwTW discharges not compliant with numeric consents	%	20.0	18.0	16.0	16.0	12.0	12.0	11.7	6.9	6.9	8.2	7.8	7.40					
47	% of total p.e. served by WwTWs not compliant with numeric consents excluding upper tier failures	%	37.00	33.20	23.10	15.50	9.80	8.60	5.08	4.80	1.68	2.40	1.85	1.71					
48	Number of BOD, SS and Ammonia sample results recorded for compliance reporting at WwTWs with numeric consents	nr	11,234	11,251	11,461	11,524	9,088	8,747	8,585	8,863	9,161	8,938	8,528	8,738					
49	Number of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value	nr	652	817	444	297	363	333	361	279	302	370	299	276					
50	Percentage of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value	%	5.80	7.26	3.87	2.58	3.99	3.81	4.21	3.15	3.30	4.14	3.51	3.16					
51	Number of WwTWs with one or more compliance sample result (BOD, SS or Ammonia) exceeding the numeric consent value	nr	104	132	115	99	103	98	102	91	76	87	60	55					
52	Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%										77.20	79.15	80.72					
53	Unplanned (reactive) maintenance	%										94.5	96.4	97.8					
54	Company's overall serviceability assessment for sewerage non-infrastructure	Text								Stable	Stable	Stable	Stable	Stable					

Table 46 – Serviceability

Line 1 - Water Population

The population data used by NIW has been derived from 2014 based Population Projections obtained from NISRA (Northern Ireland Statistics & Research Agency) website at http://www.nisra.gov.uk/archive/demography/population/projections/NPP14-coc.xls

NISRA Population Projection 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.

The water population is calculated by deducting the assessed population residing in those properties not connected to the water distribution network.

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 2011 (statistical annex – Table 5.6) http://www.nihe.gov.uk/2011_house_condition_survey_annex_tables__published_october_2012_.pdf

The number of unconnected properties is 7,981 and an occupancy rate is calculated at 0.474 (rounded) to determine a total population for unconnected properties of 3,783. The total supplied population for all connected properties is calculated as 1,850.27 (x1000).

Line 2 – Total Connected Properties at Year End

Table 46 Line 2 has been copied from AIR16 Table 2 Line 1 – Total Connected Properties at Year End

Northern Ireland Water's (NIW) property data is provided via a data download of the property database tables held within the RapidXtra billing system. The data is then manipulated within Microsoft SQL to produce the Rapid Property Summary Report.

The automated Property Model is used to populate the figures within Tables 2, 3, 4, 7, 13, 17a, 44 & 46 - (Rapid Property Summary as the input).

The difference between the AIR15 and the AIR16 figures is 11650. The breakdown can be explained as follows:

1) New Connections during the 2015/16 reporting year.
2) Added as a result of a customer contact. E.g. septic tank empty request, no water complaint, blocked sewer etc.
3) Removal of duplicates/properties as a result of data quality initiatives
4) The decreased number of properties within the no water/well water category (further detail provided within the Table 7 Commentary)

In addition to the above, other data quality requirements have been built into the new CBC Contract. They cover all aspects of the property life cycle (creating, amending and demolishing properties) and data degradation will be monitored/measured throughout. The work on data validation has commenced, with new validations 'live' as a result of Phase 1 & 2 implementation further validations will be implemented as Phase 3 & 3a during 2016/17 & 2017/18.

Annex A details the Line Methodology followed for each of the figures calculated in Table 2.

Line 3 - Total length of 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 AIR15 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.

As per the reporter's recommendation during the AIR14 audit this figure includes trunk mains that are marked as "Out of Service" on the Corporate Asset Register. This recommendation was made as although these mains are currently out of service they are not abandoned and could potentially come back into service in the future.

Line 6 - Interruptions to supply greater than 3 hours resulting from equipment failure

This serviceability measure was introduced for the first time in AIR13. As a result, the AIR13 commentary covered the historical period 2003/04 to 2011/12 as well as 2012/13. NI Water's AIR14 and AIR15 commentaries focused on 2013/14 and 2014/15 with references to historical trends. The Company's AIR16 commentary focuses on 2015/16, again with references to historical trends.

Limitations in quality or availability of submission

The outturns for the period 2007/08 to 2015/16 should be viewed as more reliable and accurate than the outturns for the period 2005/06 to 2006/07.

The explanatory comments accompanying 'other cause' interruptions for the period 2007/08 to 2012/13 i.e. interruptions not assigned to one of eleven standard causes, varied in terms of both availability and clarity.

Changes to historical outturns

The historical outturns remain as they were reported for AIR13, AIR14, AIR15 and PC15.

Assumptions made in the assessment process

As the definition of 'equipment failure' is open to interpretation, NI Water has summarised its interpretation as follows:

Interruptions can be caused by:

- company employees
- contractors working for, or on behalf of the company
- third parties

For the purposes of this assessment, all properties affected by interruptions caused by third parties and company contractors have been excluded.

	Reason for Exclusion
Third Parties	Such interruptions are the result of third party damage /interference

	and not equipment failures
Engineering Procurement Contractors	The majority of interruptions (those that are planned and warned) are the result of mains rehabilitation and not equipment failures
	The small number of interruptions that are unplanned and unwarned are normally the result of human error and not equipment failures
Customer Field Services Contractors	The majority of interruptions are of too short a duration to report
	The small number of reportable interruptions are normally the result of human error and not equipment failures

NI Water has been capturing information on the cause of interruptions since February 2007 to date by assigning one of eleven standard causes to each interruption record (to June 14) and one of eighteen standard causes (from July 14). During this time, when an interruption was not attributed to one of the standard causes, for example, main abandoned/altered/diverted, it was assigned to the 'other' causes category and in the majority of cases; explanatory comments were provided although the level of clarity varies.

The following table lists the nineteen standard causes of interruption under which all interruption records have been categorised since the introduction of the Central Incident Management System (CIMS) in July 2014.

	Standard Cause	**Assessment**	**Reason**
1	Burst Main/Main Repair	Include	'Below Ground' Infrastructure Failure
2	Electricity Supply Failure	Exclude	Electricity Company Responsible
3	Hydrant Abuse	Exclude	Third Party Responsible
4	Install New Fitting	Exclude	New work
5	Leakage Detection	Exclude	Proactive work
6	Mains Rehabilitation	Exclude	Proactive work
7	New Mains Tie In	Exclude	New work
8	Other	Review comments and reassign cause	
9	Replacement Fitting	Include	'Below Ground' Infrastructure Failure
10	Routine Maintenance	Exclude	Proactive work
11	Service Pipe Repair	Include	'Below Ground' Infrastructure Failure
12	Water Supply Failure	Review comments and reassign cause	
13	Airlock in Main	Include	'Below Ground' Infrastructure Failure
14	Broken/Jammed/Misaligned Fitting	Include	'Below Ground' Infrastructure Failure
15	Human Error	Exclude	Human Error
16	Low SR (Distribution Issue)	Include	'Below Ground' Infrastructure Failure
	Low SR (Supply Failure)	Exclude	'Above Ground' Infrastructure Failure
17	Pump Equipment M&E Failure	Include	'Below Ground' Infrastructure Failure
18	Telemetry Failure	Include	'Below Ground' Infrastructure Failure
19	Planned Restriction	Review comments and reassign cause	

The decision has been taken to exclude from the assessment, all properties affected by interruptions attributed to proactive work, new work and third party interference. In the case of electricity supply failures, it is assumed that the interruptions were unrelated to a failure of the Company's standby generation facilities and therefore, the assessment excludes all

properties affected by such events.

For the purposes of reporting on Table 46 Line 6, the Company has reviewed its greater than 3 hours interruption records assigned to the 'Other' and 'Water Supply Failure' standard causes along with available information listed in the 'Comments' field or additional comments sought from the Field Managers and where possible, has identified interruptions caused by equipment failures.

The decision has been taken to further exclude from the assessment:

- all properties affected by planned and warned interruptions where it was not possible to positively ascertain the precise cause of interruption from the comments provided
- all properties affected by interruptions attributed to human error
- all properties affected by interruptions to facilitate third parties/NI Water contractors
- all properties affected by interruptions involving the 'above ground' infrastructure since this is the subject of a separate assessment in Table 46

The following table lists a further 12 causes of interruption, identified as a result of this exercise.

	Cause of Interruption	**Assessment**	**Reason for Exclusion**
1	Restriction in Main	Include	'Below Ground' Infrastructure Failure
2	Cause Unknown – Planned & Warned	Exclude	Most planned and warned interruptions are not the result of equipment failure
3	Cause Unknown – Unplanned, Unwarned	Include	Most unplanned, unwarned interruptions are the result of equipment failure
4	Control / Sensor Failure	Include	'Below Ground' Infrastructure Failure
5	Failure to Re-valve Following Step Testing	Exclude	Human Error
6	Frozen Service Pipe	Include for purposes of table completion but discuss impact of exclusion in commentary	
7	Increased Demand	Include for purposes of table completion and unless third party responsibility has been confirmed	
8	Main Abandoned / Altered / Diverted	Exclude	'Below Ground' Infrastructure Change
9	New Connection	Exclude	New Work
10	To Facilitate Third Party/ NIW Contractor	Exclude	Requested Interruption
11	Water Quality Issues	Include, only if related to a distribution issue	
12	Water Treatment Works Failure	Exclude	'Above Ground' Infrastructure Failure

The following table lists the annual numbers of DG3 properties affected by interruptions greater than 3 hours resulting from equipment failure as reported in AIR16 Table 46 Line 6.

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Properties	24,995	30,360	39,883	36,882	39,040	518,065	44,960	40,697	44,499	111,081	98,979

Methodology used to Calculate Outturn for 2015/16

The AIR16 outturn has been calculated using the same methodology previously used to calculate the outturns for 2007/08 to 2014/15.

Data Source: Monthly Composite Interruption Data Files (Apr 15 to Mar 16)

The following table shows how the Master Data Set is consistent with the figures reported in AIR16 Table 2 Lines 5, 9 and 13 and how the figures for Table 46 Line 6 have been derived from the Master Data Set.

		Properties
Unplanned Interruptions: More than 3 hours	CIMS	104,745
	EP Return	490
	Sub Total	105,235
Planned and Warned Interruptions: More than 3 hours	CIMS	10,482
	EP Return	23,447
	Sub Total	33,929
Interruptions Caused by Third Parties: More than 3 hours	CIMS	4,739
	EP Return	0
	Sub Total	4,739
Overruns: More than 3 hours	CIMS	1,825
	EP Return	475
	Sub Total	2,300
Total (Master Data Set of All Interruption Records >3 Hours)		= 146,203
Third Party Interruptions (Removed)		-4,739
EP Interruptions (Removed)		-24,412
Non Equipment Failures (Removed)	CIMS	-18,073
Total (AIR16 Table 46 Line 6)		= 98,979
Airlock in Main	CIMS	382
Burst Main/Main Repair	CIMS	85,866
Telemetry Failure	CIMS	0
Replacement Fittings (e.g. SV, FH)	CIMS	3,802
Service Pipe Repair/Replacement	CIMS	1,252
Pump Equipment Failure	CIMS	3,322
Broken/Jammed/Misaligned Fitting	CIMS	4,173
Low SR	CIMS	103
Planned Restrictions	CIMS	79
Total Properties Affected by Equipment Failures >3 Hours		= 98,979

Changes in methodology used to capture or report data

Cause of Interruption

Information on the cause of interruptions was not captured prior to 2007/08. The reported outturns for the period 2005/06 to 2006/07 are estimates based on the historical relationship between unplanned interruptions and interruptions resulting from equipment failure for the

period 2007/08 to 2012/13 with the impact of significant freeze/thaw events and industrial action removed.

The reported outturns for the period 2007/08 to 2015/16 are based on any available information on the cause of interruptions and where the cause of interruptions could not be determined, an assumption was made that only unplanned interruptions were the result of equipment failure. The reported outturns are based on the inclusion of significant freeze/thaw events and industrial action as this is consistent with the approach that has previously been adopted by NI Water for AIR Table 2 Lines 5 to 8.

For the purposes of AIR14, AIR15 and AIR16, where the precise cause of interruption could not be identified from the comments provided as part of the DG3 interruption record, additional comments were sought from the Field Managers and any requirement to make an assumption regarding the cause of an interruption was removed.

Central Incident Management System (CIMS)

Last year, NI Water's outturns were heavily influenced by the impact of industrial action. With the impact of industrial action removed, the Company still reported an increase in the number of properties that experienced an unplanned, unwarned interruption lasting more than 3 hours and evidence linked this to an increase in the number of unplanned, unwarned interruptions involving more than 2,000 properties. A further factor was believed to have been the introduction of the Central Incident Management System (CIMS) on 4 July 2014.

In 2015/16, the number of properties that experienced an unplanned, unwarned interruption lasting more than 3 hours was 105,235. A review of the monthly outturns for this measure indicates that in the last quarter of 2015/16, there was a notable increase in the average number of properties affected per month, 15,375 compared to an average of 6,568 for the first three quarters. In the last quarter there was also an increase in the average number of interruption events per month, 77 compared to an average of 61 for the first three quarters. And there was an increase in the average number of 'no water' complaints received per month, 2,283 compared to an average of 1,658 for the first three quarters. These increases are consistent across several independent data sources and are attributed to a number of difficult repairs in rural areas with no options to rezone.

The Company also believes that the introduction of CIMS has been a factor, in part because the new system ensures that more unplanned, unwarned interruptions are being captured than would previously have been the case and in part because the information is less robust for interruptions lasting between 3 and 6 hours. Since the introduction of the new system, the focus has been on unplanned, unwarned interruptions lasting more than 6 hours as they represent the interruptions on which NI Water's performance is measured. Now that CIMS has had an adequate bedding-in period and staff are more familiar with the system and associated change in methodology, the Company aims to address this issue. A new phase of CIMS is currently at the testing stage and will be implemented in 2016/17 to improve the usability and functionality of the current system, so making time for staff to spend on shorter duration interruptions.

Impact of methodology changes on reported figures and data trends

In order to assess the impact of methodology changes on reported figures and data trends, the Company has analysed and compared the trendlines for the periods 2007/08 to 2015/16 and 2005/06 to 2015/16, excluding the impact of significant freeze/thaw events and industrial action.

When the calculated outturns for the period 2007/08 to 2015/16 are based on the exclusion of significant freeze/thaw events and industrial action, the trendline equation is y = 28262e0.102x and the trendline values are as follows:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	31,297	34,658	38,379	42,501	47,064	52,118	57,715	63,913	70,776

When the estimated outturns for the period 2005/06 to 2006/07 are combined with the calculated outturns for the period 2007/08 to 2015/16, the trendline equation becomes y = 23386e0.1003x and the trendline values are as follows:

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	25,853	28,581	31,596	34,930	38,615	42,689	47,193	52,172	57,676	63,761	70,488

The inclusion of estimated outturns for the period 2005/06 to 2006/07 reduces the rate at which numbers of affected properties have risen from 2007/08 to 2015/16 i.e. 39,479 properties (trendline range: 31,297 to 70,776) compared to 38,891 properties (trendline range: 31,596 to 70,488).

Performance which the company considers to be atypical

NI Water's KPI targets are based on typical performance less reductions that are considered to be both challenging and achievable through changing work and management practices, a greater understanding of the root cause of interruptions and through investment in infrastructure. When the Company fails a target, it is therefore an indication of atypical performance.

The following table shows NI Water's KPI targets for properties affected by unplanned and unwarned interruptions together with the corresponding outturns. Figures in bold text indicate instances where an outturn was worse than a target.

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
>6 hr Target	16,000*	9,653*	7,987*	8,089	7,864	7,673	7,473	7,273	7,223
Outturn (AIR T2 L6)	10,828*	8,801*	10,378*	476,289	7,023	10,487	6,742	43,767	8,699
>12 hr Target	2,000*	1,206*	1,198*	1,750	1,700	1,650	1,600	1,500	1,500
Outturn (AIR T2 L7)	1,960*	2,086*	3,947*	214,274	765	2,607	1,195	25,693	841
>24 hr Target	240*	80*	79*	80	80	80	80	80	80
Outturn (AIR T2 L8)	78*	621*	2,295*	40,959	18	1,554	12	13,788	32

*Note: Targets and outturns included third party interruptions & overruns

Although Table 46 Line 6 relates to interruptions >3 hours, the above statistics still provide an indication of when performance was atypical i.e. instances when a target was missed. Based on the above statistics, the Company considers its performance to have been atypical in 2009/10, 2010/11, 2012/13 and 2014/15 as on these four occasions, all three outturns were worse than the corresponding targets.

Cause of atypical performance and basis of assessment

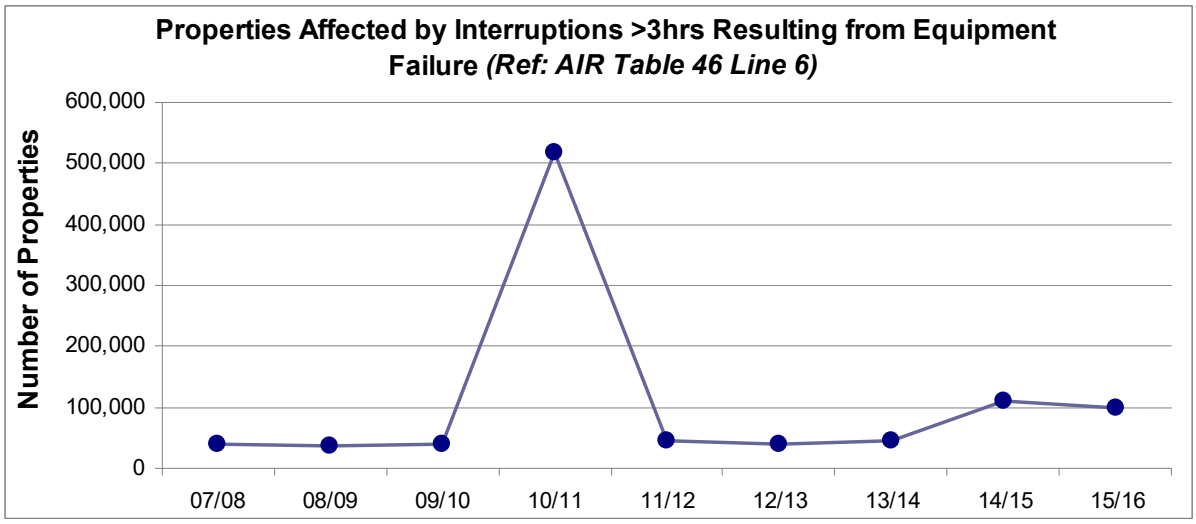
NI Water's atypical performance in 2009/10, 2010/11, 2012/13 and 2014/15 can be largely attributed to the following significant freeze/thaw events and industrial action:

- Freeze/Thaw Event from 24 December 2009 to 21 January 2010
- Freeze/Thaw Event from 8 to 12 December 2010
- Freeze/Thaw Event from 21 December 2010 to 6 January 2011
- Industrial Action from 22 December 2014 to 21 January 2015

Atypical performance can also be attributed to events involving more than 2,000 properties. Such events are normally infrequent but in 2015/16, there was an increase in events. The following table provides a list of all such events for the period 2007/08 to 2015/16.

Interrupt No.	Event Description	Date of Event	Affected Properties >3hrs
Manually Created	Burst main, Omagh Town Centre	26 Jan 08	3,155
12920, etc.	Burst main, Saintfield Road, Ballygowan	25 Jun 10	3,175
15132, etc.	Burst 500mm trunk main, Head Road, Kilkeel	2 Feb 11	4,264
16737	Conlig telemetry fault	16 Aug 11	7,937
17474	Burst main, Moneymore Road, Magherafelt	30 Nov 11	2,247
19209	Burst 12 inch trunk main, Victoria Terrace, Portadown	25 Jun 12	2,142
22417	Burst 12 inch trunk main, Cambrai Street, Belfast	27 Jul 13	3,200
24137	Burst trunk main, Stiles Way, Antrim	5 Feb 14	5,669
Event 51; DG3 30	Service pipe repair, Queens Avenue, Cookstown	8 Jul 14	2,906
Event 11813; DG3 1561	Low service reservoir, Carn Road, Seafin, Meigh	14 Dec 14	3,055
Event 23093; DG3 12728	Replacement fitting, Lislea Drive, Malone Lower, Belfast	25 Mar 15	2,681
Event 23126; DG3 12733	Burst main, Racecourse Hill, Downpatrick	28 Mar 15	3,752
Event 23620; DG3 13158	Burst main, Warren Road, Donaghadee	29 May 15	3,007
Event 34662; DG3 14084	Burst main, Randox Road, Crumlin	13 Oct 15	2,679
Manually Created	Burst main, Ravara Road, Ballygowan	13 Nov 15	2,076
Event 45411; DG3 24705	Pump equipment failure, Brootally Road, Milford	11 Jan 16	2,489
Event 45671; DG3 24947	Burst main, Hillhead Road, Ballyclare	13 Feb 16	3,158
Event 55778; DG3 35054	Burst main, Whisker Road, Sion Mills	23 Feb 16	4,602

The following graph shows the numbers of properties affected by supply interruptions >3 hours resulting from equipment failure for the period 2007/08 to 2015/16.



The graph clearly shows the impact of the early and late freeze/thaw events of 2010/11 and the industrial action of 2014/15. The inclusion of equipment failures associated with freeze/thaw events and industrial action makes it difficult to determine the year-on-year trend as such events are atypical in terms of both frequency and severity. Also evident from the graph is the impact of an increase in the number of events involving more than 2,000 properties.

Quantification of impact on performance

The company has examined the impact of the removal of interruptions attributed to the freeze/thaw events of 2009/10 and 2010/11 and the industrial action of 2014/15. Although the adverse weather event of March 2013 resulted in numerous unplanned interruptions, the interruptions were attributed to electricity supply failures and not equipment failures.

The following table provides a summary of the numbers of properties affected by interruptions >3 hours resulting from equipment failure together with an estimate of performance excluding the impact of significant freeze/thaw events, industrial action, and interruptions involving more than 2,000 properties.

Properties Affected by Interruptions >3hrs Resulting from Equipment Failure	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**	**13/14**	**14/15**	**14/15**
AIR Table 46 Line 6	39,883	36,882	39,040	518,065	44,960	40,697	44,499	111,081	98,979
09/10 Freeze/Thaw – Frozen Pipes	N/A	N/A	-1,564	N/A	N/A	N/A	N/A	N/A	N/A
10/11 Freeze/Thaw – Supply Rotation	N/A	N/A	N/A	-442,767	N/A	N/A	N/A	N/A	N/A
10/11 Freeze/Thaw – SR Drain Down	N/A	N/A	N/A	-25,439	N/A	N/A	N/A	N/A	N/A
Actual Dec + Jan Equipment Failures	N/A	N/A	-14,379	-21,383	N/A	N/A	N/A	-51,528	N/A
Typical Dec + Jan Equipment Failures	N/A	N/A	+11,171*	+11,171*	N/A	N/A	N/A	+10,719**	N/A
Performance Excluding Significant Freeze/Thaw Events & Industrial Action	**39,883**	**36,882**	**34,268**	**39,647**	**44,960**	**40,697**	**44,499**	**70,272**	**98,979**
Burst main, Omagh, 26/01/08	-3,155	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Burst main, Ballygowan, 25/06/10	N/A	N/A	N/A	-3,175	N/A	N/A	N/A	N/A	N/A
Burst main, Kilkeel, 02/02/11	N/A	N/A	N/A	-4,264	N/A	N/A	N/A	N/A	N/A
Telemetry fault, Conlig, 16/08/11	N/A	N/A	N/A	N/A	-7,937	N/A	N/A	N/A	N/A
Burst main, Magherafelt, 30/11/11	N/A	N/A	N/A	N/A	-2,247	N/A	N/A	N/A	N/A
Burst main, Portadown, 25/06/12	N/A	N/A	N/A	N/A	N/A	-2,142	N/A	N/A	N/A
Burst main, Belfast, 27/07/13	N/A	N/A	N/A	N/A	N/A	N/A	-3,200	N/A	N/A
Burst main, Antrim, 05/02/14	N/A	N/A	N/A	N/A	N/A	N/A	-5,669	N/A	N/A
Service pipe repair, Cookstown, 08/07/14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2,906	N/A
Replacement Fitting, Belfast, 25/03/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2,681	N/A
Burst main, Downpatrick, 28/03/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3,752	N/A
Burst main, Donaghadee, 29/05/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3,007
Burst main, Crumlin, 13/10/15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2,679
Burst main, Ballygowan,	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2,076
Pump equipment failure, Milford, 11/01/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2,489
Burst main, Ballyclare, 13/02/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3,158
Burst main, Sion, 23/02/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-4,602
Performance Excluding Unplanned Interruptions Involving >2,000 Properties	**36,728**	**36,882**	**34,268**	**32,208**	**34,776**	**38,555**	**35,630**	**60,933*** **	**80,968**

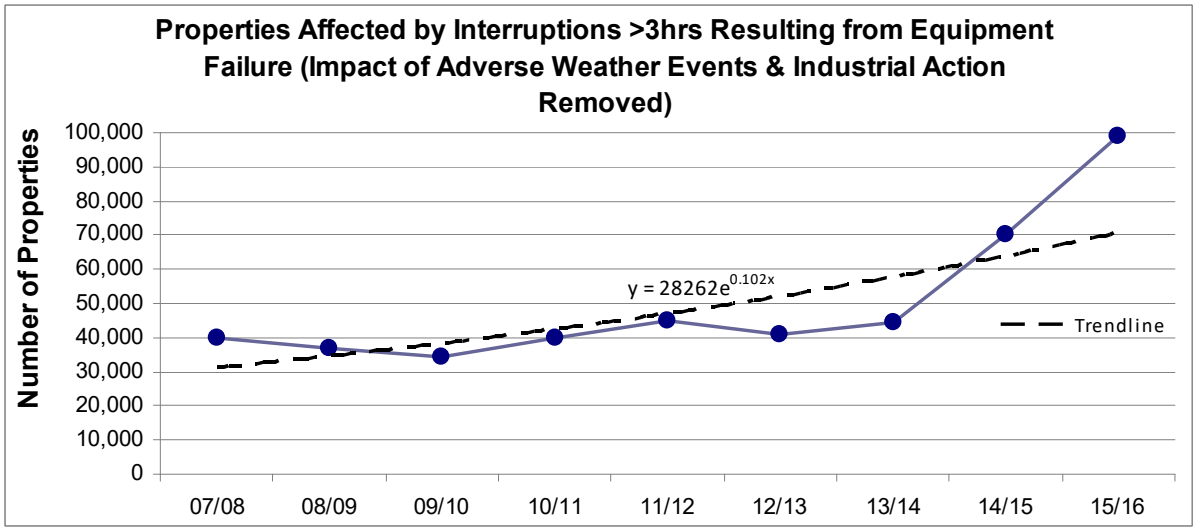
*Estimate based on average Dec + Jan equipment fails (07/08, 08/09, 11/12 & 12/13)

**Estimate based on average Dec + Jan equipment fails (07/08, 08/09, 11/12, 12/13 & 13/14)

***Impact of industrial action & Low SR, Meigh, 14/12/14 (3,055 props) normalised together

Estimate of performance excluding impact of extreme or atypical events

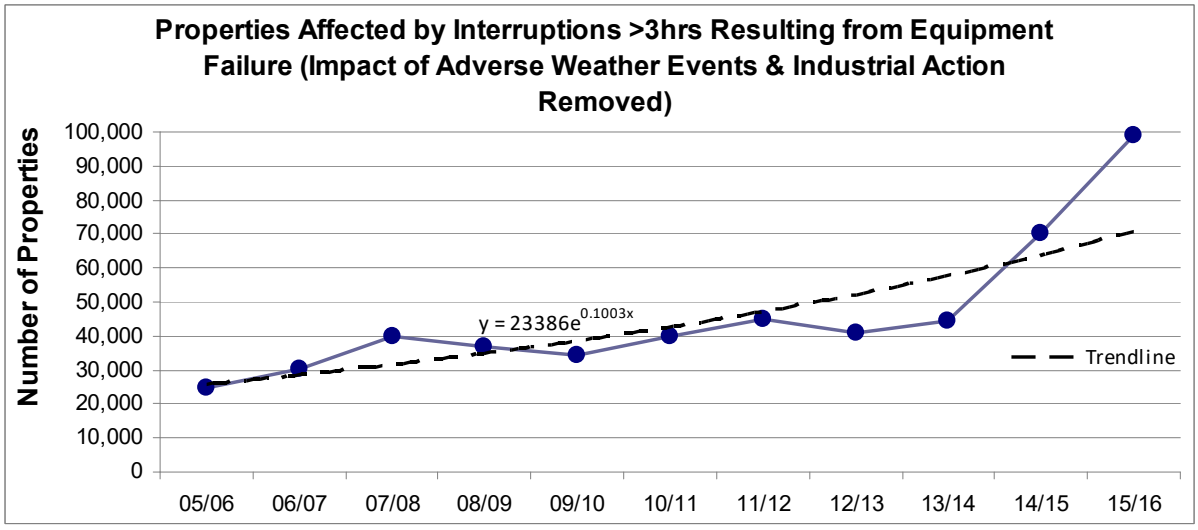
The following graph shows the numbers of properties affected by supply interruptions greater than 3 hours resulting from equipment failure with the impact of significant freeze/thaw events and industrial action removed.



When the calculated outturns for the period 2007/08 to 2015/16 are based on the exclusion of significant freeze/thaw events and industrial action, the trendline equation is y = 28,262e0.102x and the trendline values are as follows:

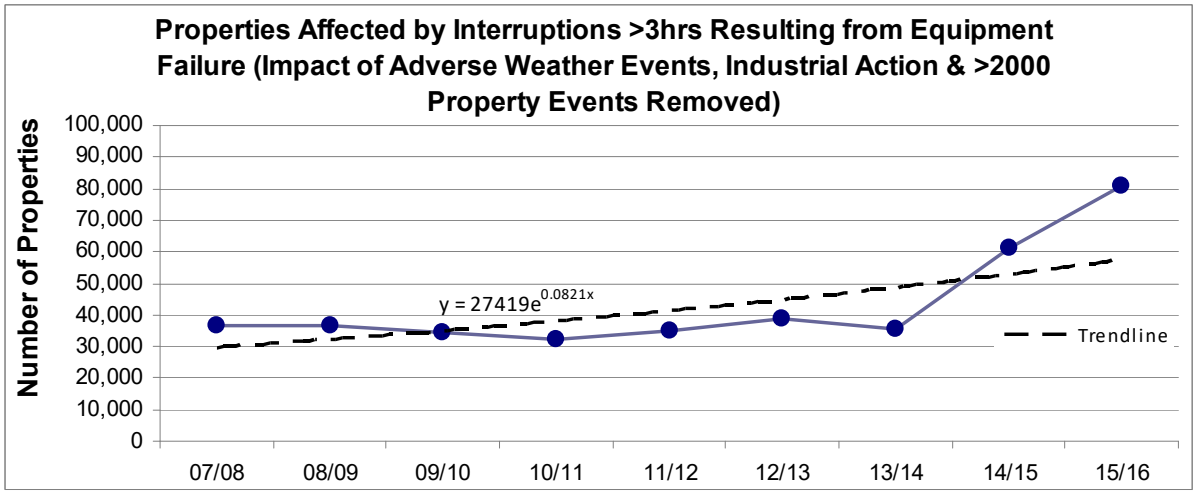
	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	31,297	34,658	38,379	42,501	47,064	52,118	57,715	63,913	70,776

The following graph is similar to the previous graph, except for the inclusion of estimated outturns for the period 2005/06 to 2006/07. As information on the cause of interruptions was not collated by the Company prior to 2007/08, the view is that the assessment should be based on the seven-year period 2007/08 to 2013/14.



Explanation of revised assessment

The final graph in the series shows the numbers of properties affected by supply interruptions greater than 3 hours resulting from equipment failure with the impact of significant freeze/thaw events and industrial action removed, as well as the impact of interruptions involving more than 2,000 properties.



When the calculated outturns for the period 2007/08 to 2014/15 are based on the exclusion of significant freeze/thaw events, industrial action and the further exclusion of the seventeen interruptions involving more than 2,000 properties, the trendline equation is y = 27,419e0.0821x and the trendline values are as follows:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	29,765	32,312	35,077	38,078	41,336	44,873	48,713	52,881	57,405

The exclusion of the seventeen interruptions involving more than 2,000 properties reduces the rate at which numbers of affected properties have risen from 2007/08 to 2015/16 i.e. 39,479 properties (trendline range: 31,297 to 70,776) compared to 27,640 properties (trendline range: 29,765 to 57,405).

The final graph does not represent the reported outturns for the period 2007/08 to 2013/14 (for the purposes of consistency, these have been reported including the impact of significant freeze/thaw and adverse weather events).

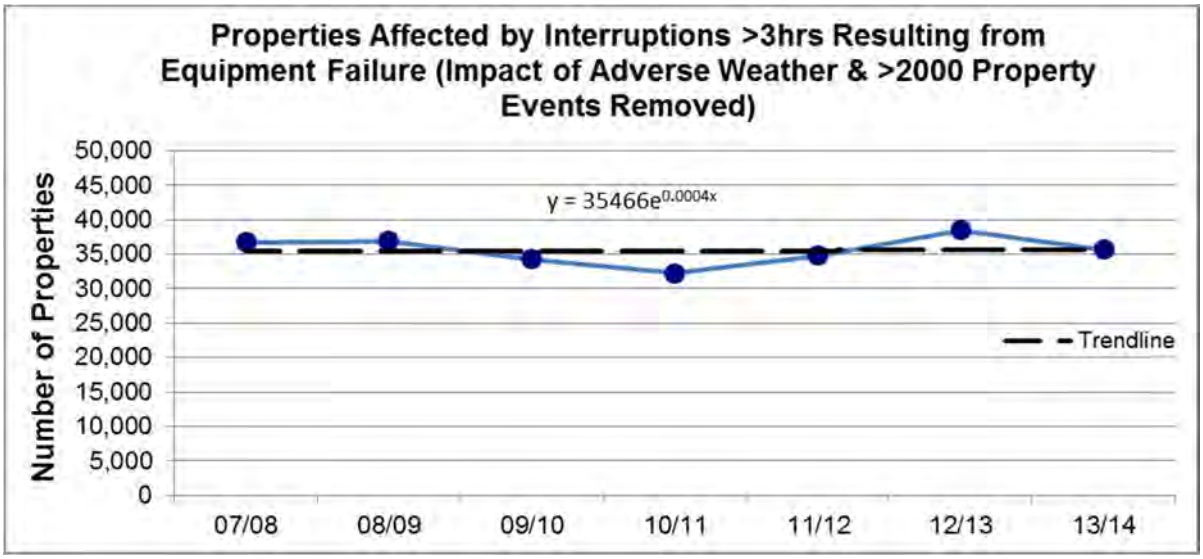
Overall assessment of trend

When analysing performance trends, it is important that the data is of consistent quality, otherwise there is a risk that a change in data quality could be mistaken for a change in performance. Provided that the quality of data is consistent, the accuracy of the data becomes irrelevant and a trend assessment based on the data should be reliable.

In the case of this performance measure, the introduction of CIMS in July 2014 and the associated change in methodology has resulted in two distinct datasets, one relating to the period 2007/08 to 2013/14 and one relating to the period 2014/15 to 2015/16. When the two datasets are combined, the trend for the entire 9-year period is one of worsening performance but this should be viewed with caution. It is probably better to look at the two datasets independently before drawing any conclusions.

2007/08 to 2013/14 Dataset

During the 7-year period from 2007/08 to 2013/14, data was of consistent quality as the methodology was unchanged. A trend assessment based on this dataset should therefore be reliable.



The graph above was derived for AIR14 and points to a stable performance trend.

2014/15 to 2015/16 Dataset

During the 2-year period from 2014/15 to 2015/16, there may have been a variation in the quality of data captured before and after the introduction of CIMS on 4 July 2014 as this marked a change in methodology. The new system ensures that more unplanned, unwarned interruptions are being captured than would previously have been the case and this is helping to improve the accuracy of NI Water's return. But the information is less robust for interruptions lasting between 3 and 6 hours because the focus has so far been on interruptions that impact on the Company's performance measures. A variation in the quality of data would have weakened the reliability of a trend assessment based on this dataset and a trend assessment based on a combination of the two datasets.

In addition to the issues described overleaf where there is still some uncertainty regarding the overall impact that CIMS has had on the accuracy of outturns for this measure, the Company is aware of certain issues which have had a definite, unfavourable impact on performance and where the impact has been easier to quantify. In the section of the commentary on 'Changes in methodology used to capture or report data', the increase in the number of properties that experienced an unplanned, unwarned interruption lasting more than 3 hours in 2015/16 is attributed to an increase in incidents in rural areas involving limited rezoning options.

The Company believes the independent assessment for the 7-year period from 2007/08 to 2013/14 to be more reflective of the true data trend for this measure since it is a lengthier period during which the methodology was unchanged and the quality of data was consistent. The conclusion is that based on an analysis of properties affected by supply interruptions greater than 3 hours resulting from equipment failure and with the impact of extreme and atypical events excluded, NI Water's performance against this measure has been a horizontal trendline year-on-year.

Data used for serviceability assessment

For our serviceability assessment we adjusted for severe weather and industrial action as follows:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Value	39,883	36,882	34,268	39,647	44,960	40,697	44,499	70,272	98,979

Line 7 - DG3 Properties affected by interruptions > 12hrs (unplanned & unwarned)

This serviceability measure was introduced for the first time in AIR13. As a result, the AIR13 commentary covered the historical period 2003/04 to 2011/12 as well as 2012/13. NI Water's AIR14 and AIR15 commentaries focused on 2013/14 and 2014/15 with references to historical trends. The Company's AIR16 commentary focuses on 2015/16, again with references to historical trends.

Note: The following commentary should be read in relation to Table 46 Line 8 as the Line 7 outturns are used to calculate the Line 8 outturns.

Limitations in quality or availability of submission

The outturns for the period 2007/08 to 2015/16 should be viewed as more reliable and accurate than the outturns for the period 2005/06 to 2006/07.

Changes to historical outturns

The historical outturns remain as they were reported for AIR13, AIR14 and PC15.

Assumptions made in the assessment process

Unlike Table 46 Line 6 where a number of assumptions have been made regarding the interpretation of an 'equipment failure', no such assumptions have been made regarding this assessment process.

Changes in methodology used to capture or report data

The AIR14 outturn and the outturn for the first three months of 2014/15 were calculated using the same methodology used to calculate the outturns for 2007/08 to 2012/13.

Central Incident Management System (CIMS)

In 2014/15, the following change in methodology occurred. On 4 July 2014, the Operations Management Information System (OMIS) was replaced by the Central Incident Management System (CIMS) for recording details relating to supply interruptions. Based on an assessment of data captured by the new system from July 2014 to March 2016, the consensus is that there has been no impact on the accuracy of the reported outturns for this measure. The property counts and times associated with unplanned and unwarned interruptions lasting more than 12 hours have always been less likely to be inaccurate because of the interest these interruptions generate within the Company and because of their impact on KPI performance.

2015/16 Data Capture and Reporting: The following table lists the annual numbers of DG3 properties affected by unplanned and unwarned interruptions greater than 12 hours. The figures were derived from AIR16 Table 2 Line 7.

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Number of Properties (Ref: AIR T2 L7)	1,670	767	1,839	2,010	3,675	214,274	765	2,607	1,195	25,693	841

Impact of methodology changes on reported figures and data trends

It is not thought that CIMS has had an impact on the outturns for higher time bands since interruptions with longer durations have always been the subject of added scrutiny and are therefore less likely to have gone unreported by the Company.

Performance which the company considers to be atypical

NI Water's KPI targets are based on typical performance less reductions that are considered to be both challenging and achievable through changing work and management practices, a greater understanding of the root cause of interruptions and through investment in infrastructure. When the Company fails a target, it is therefore an indication of atypical performance.

The following table shows NI Water's KPI targets for properties affected by unplanned and unwarned interruptions together with the corresponding outturns. Figures in bold text indicate instances where an outturn was worse than a target.

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
>6hr Target	16,000*	9,653*	7,987*	8,089	7,864	7,673	7,473	7,273	7,223
Outturn (AIR T2 L6)	10,828*	8,801*	10,378*	476,289	7,023	10,487	6,742	43,767	8,699
>12hr Target	2,000*	1,206*	1,198*	1,750	1,700	1,650	1,600	1,550	1,500
Outturn (AIR T2 L7)	1,960*	2,086*	3,947*	214,274	765	2,607	1,195	25,693	841
>24hr Target	240*	80*	79*	80	80	80	80	80	80
Outturn (AIR T2 L8)	78*	621*	2,295*	40,959	18	1,554	12	13,788	32

*Note: Targets and outturns included third party interruptions & overruns

Table 46 Line 7 relates to interruptions >12 hours and the above statistics provide an indication of when performance was atypical i.e. instances when a target was missed. Based on the above statistics, the Company considers its performance to have been atypical in 2009/10, 2010/11, 2012/13 and 2014/15 as on these four occasions, all three outturns were worse than the corresponding targets.

Cause of atypical performance and basis of assessment

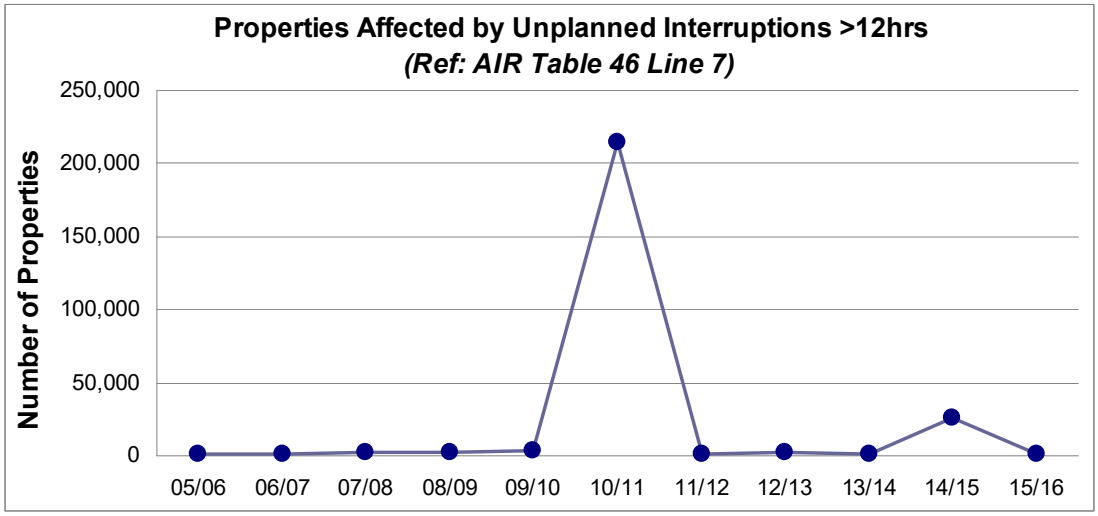
NI Water's atypical performance in 2009/10, 2010/11, 2012/13 and 2014/15 can be largely attributed to the following significant events:

- Freeze/Thaw Event from 24 December 2009 to 21 January 2010
- Freeze/Thaw Event from 8 to 12 December 2010
- Freeze/Thaw Event from 21 December 2010 to 6 January 2011

- Adverse Weather Event from 22 to 27 March 2013
- Industrial Action from 22 December 2014 to 21 January 2015

The Company's atypical performance in 2010/11 can also be attributed to an incident involving a burst trunk main on the Head Road, Kilkeel in early February. A review of the cause of this interruption reveals that the repair equipment failed and replacement equipment had to be sourced, resulting in an atypical delay.

The following graph shows the numbers of properties affected by unplanned and unwarned supply interruptions >12 hours for the period 2005/06 to 2015/16.



The graph clearly shows the impact of the early and late freeze/thaw events of 2010/11 and also, the industrial action of 2014/15. The inclusion of unplanned and unwarned interruptions associated with these events makes it difficult to determine the year-on-year trend as such events are atypical in terms of both frequency and severity.

Quantification of impact on performance

The Company has examined the impact of the removal of interruptions attributed to the freeze/thaw events of 2009/10 and 2010/11, the adverse weather event of March 2013 and also, the industrial action of 2014/15. The following table provides a summary of the numbers of properties affected by unplanned and unwarned interruptions >12 hours during these events, together with an estimate of performance excluding their impact.

Properties Affected by Unplanned & Unwarned Interruptions >12 Hours	**05/06**	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**	**13/14**	**14/15**	**15/16**
AIR Table 2 Line 7	**1,670**	**767**	**1,839**	**2,010**	**3,675**	**214,274**	**765**	**2,607**	**1,195**	**25,693**	**841**
09/10 Freeze/Thaw – Frozen Pipes	N/A	N/A	N/A	N/A	-1,564	N/A	N/A	N/A	N/A	N/A	N/A
10/11 Freeze/Thaw – Supply Rotation	N/A	N/A	N/A	N/A	N/A	-181,140	N/A	N/A	N/A	N/A	N/A
10/11 Freeze/Thaw – SR Drain Down	N/A	N/A	N/A	N/A	N/A	-25,439	N/A	N/A	N/A	N/A	N/A
12/13 March Adverse Weather	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1,588	N/A	N/A	N/A
Actual Dec + Jan Unplanned Interruptions	N/A	N/A	N/A	N/A	-764	-3,756	N/A	N/A	N/A	-24,966	N/A
Typical Dec + Jan Unplanned Interruptions	N/A	N/A	N/A	N/A	+241*	+241*	N/A	N/A	N/A	+202**	N/A
Performance Excluding Significant Freeze/Thaw Events & Industrial Action	1,670	767	1,839	2,010	1,588	4,180	765	1,019	1,195	929	841

*Estimate based on average Dec + Jan unplanned interruptions (07/08, 08/09, 11/12 & 12/13)

**Estimate based on average Dec + Jan unplanned interruptions (07/08, 08/09, 11/12, 12/13 & 13/14)

The Company has also examined the impact of the further removal of an incident involving a burst 500mm trunk main on the Head Road, Kilkeel in early February 2011.

The following table provides a summary of the number of properties affected by this incident together with an estimate of performance excluding its impact.

	05/06	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**11/12**	**12/13**	**13/14**	**14/15**	**15/16**
Number of Properties before exclusion	1,670	767	1,839	2,010	1,588	4,180	765	1,019	1,195	929	841
Burst 500mm trunk main, Head Road, Kilkeel on 02/02/11	N/A	N/A	N/A	N/A	N/A	-3,440	N/A	N/A	N/A	N/A	N/A
Number of Properties following exclusion	**1,670**	**767**	**1,839**	**2,010**	**1,588**	**740**	**765**	**1,019**	**1,195**	**929**	**841**

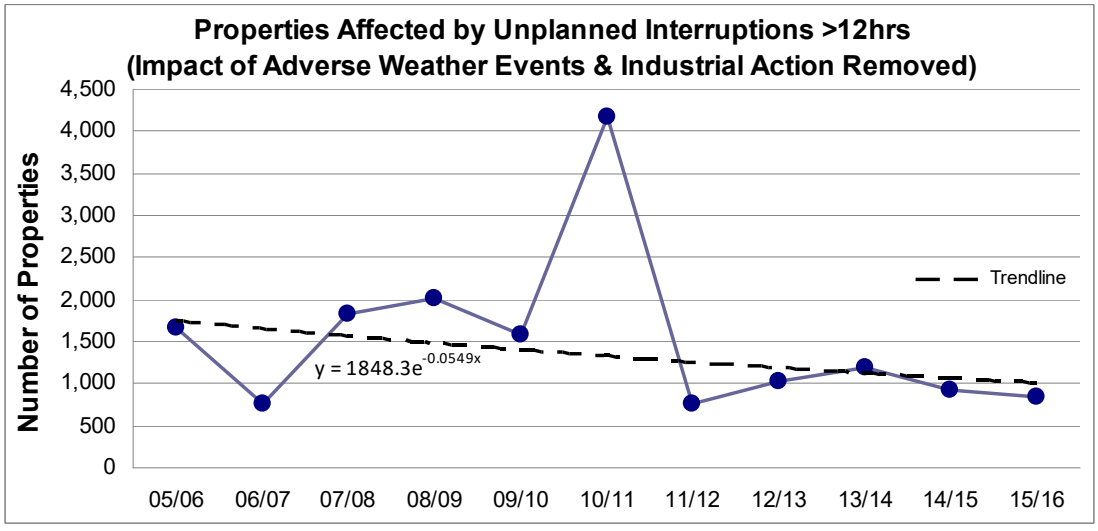
And the Company has examined the impact of the further removal of interruptions where the cause of interruption was unrelated to equipment failure.

The following table provides a summary of the numbers of properties affected by such interruptions together with an estimate of performance excluding their impact.

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Number of Properties before exclusion	1,839	2,010	1,588	740	765	1,019	1,195	929	841
Non Equipment Failures	-184	-652	-25	-43	-102	-2	-90	-1	-2
Number of Properties following exclusion	**1,655**	**1,358**	**1,563**	**697**	**663**	**1,017**	**1,105**	**928**	**839**

Estimate of performance excluding impact of extreme or atypical events

The following graph shows the numbers of properties affected by unplanned and unwarned supply interruptions greater than 12 hours with the impact of the freeze/thaw event of 2009/10 removed, the early and late freeze/thaw events of 2010/11 removed and the adverse weather event of March 2013 removed, as well as the impact of the industrial action of 2014/15.

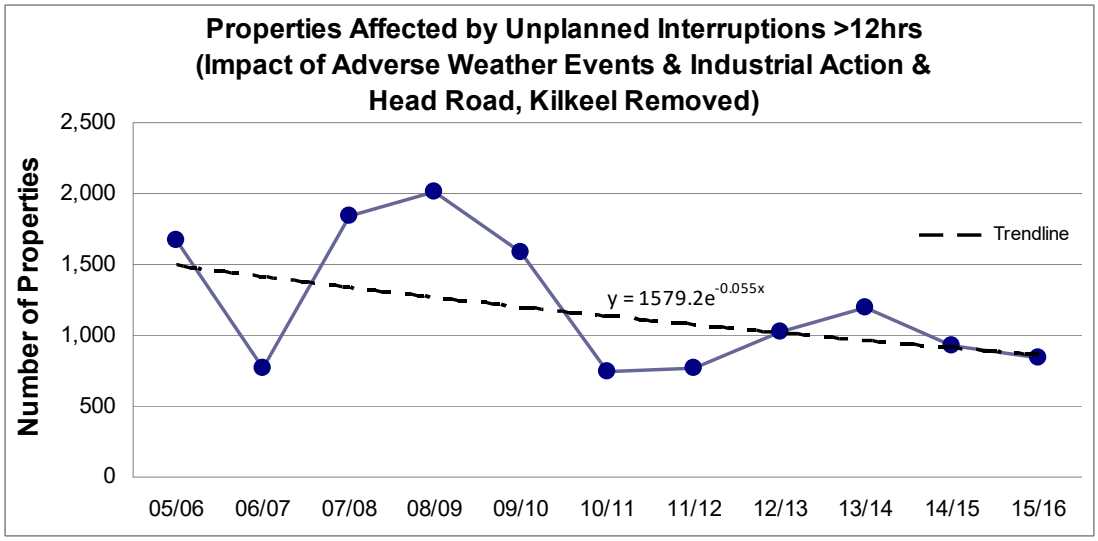


When the calculated outturns are based on the exclusion of significant freeze/thaw events, adverse weather events and industrial action alone, the trendline equation is y = 1848.3e-0.0549x and the trendline values are as follows:

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	**1,750**	**1,656**	**1,568**	**1,484**	**1,405**	**1,330**	**1,259**	**1,191**	**1,128**	**1,067**	**1,010**

The performance profile is still irregular, indicating that other atypical factors may be masking the true year-on-year data trend for this performance measure. The graph clearly shows the impact of the burst trunk main on the Head Road, Kilkeel in February 2011.

The following graph shows the numbers of properties affected by unplanned and unwarned supply interruptions greater than 12 hours with the impact of significant freeze/thaw events, adverse weather events and industrial action removed, as well as the impact of the Head Road incident.



When the calculated outturns are based on the exclusion of significant freeze/thaw events, adverse weather events, industrial action **and** the further exclusion of the Head Road incident, the trendline equation is y = 1579.2e-0.055x and the trendline values are as follows:

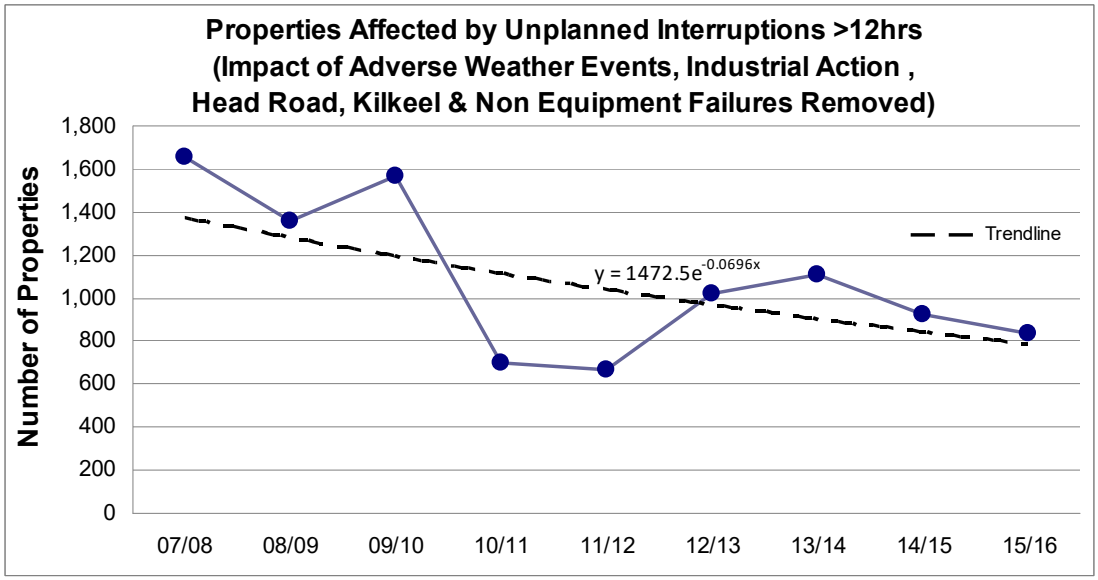
	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	**1,495**	**1,415**	**1,339**	**1,267**	**1,200**	**1,135**	**1,075**	**1,017**	**963**	**911**	**862**

Based on trendline analysis, the exclusion of the Head Road incident reduces the rate at which numbers of affected properties have fallen from 2005/06 to 2015/16 i.e. 739 properties (trendline range: 1,750 to 1,010) compared to 632 properties (trendline range: 1,495 to 862).

Explanation of revised assessment

There is still a possibility that other atypical factors may be masking the true year-on-year data trend for this performance measure. Therefore, NI Water has considered a fourth graph, based on the further exclusion of interruptions where the cause was unrelated to equipment failure. Examples include proactive work, new work, human error and other issues unrelated to asset performance. As these examples are not associated with a deterioration of the infrastructure, there is a greater likelihood of inconsistency.

The final graph in the series shows the numbers of properties affected by unplanned and unwarned supply interruptions greater than 12 hours for the period 2007/08 to 2015/16 with the impact of significant freeze/thaw events, adverse weather events and industrial action removed, as well as the impact of the Head Road incident and interruptions where the cause was unrelated to equipment failure.



When the calculated outturns are based on the exclusion of significant freeze/thaw events, adverse weather events, industrial action, the Head Road incident and the further exclusion of interruptions where the cause was unrelated to equipment failure, the trendline equation is y = 1472.5e-0.0696x and the trendline values are as follows:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Trendline Value	**1,373**	**1,281**	**1,195**	**1,115**	**1,040**	**970**	**905**	**844**	**787**

Based on trendline analysis, the exclusion of interruptions where the cause was unrelated to equipment failure further reduces the rate at which numbers of affected properties have fallen from 2007/08 to 2015/16 i.e. 632 properties (trendline range: 1,495 to 862) compared to 586 properties (trendline range: 1,373 to 787).

Although the graph does not represent the reported outturns for the period 2007/08 to 2015/16 (for the purposes of consistency, these have been reported including the impact of significant freeze/thaw events, adverse weather events and industrial action), the Company deems this graph to be the best representation of the true data trend for this performance measure. The trendline conforms to an exponential curve with performance improving year on year but at a decreasing rate with time.

With the impact of atypical events removed, the trendline helps to highlight true instances of asset over and under performance.

Asset over performance in 2011/12 is attributed to the mild winter weather and an associated reduction in the number of bursts.

Asset under performance in 2013/14 is attributed to an incident on 8 March 2014 involving a burst on a 14 inch main adjacent to the 27 inch Carmoney – Dupont trunk main. 499 properties in Londonderry experienced an unplanned interruption of 21.25 hours as a result of the incident. (Ref: Interrupt No. 24404)

Overall assessment of trend

The conclusion is that based on an analysis of all properties affected by unplanned and

unwarned supply interruptions greater than 12 hours over the last eleven years and with the impact of extreme and atypical events excluded, NI Water's performance against this measure has become better.

This assessment is based on the series of performance graphs produced for this measure which indicate a decreasing trend in the numbers of properties affected by unplanned and unwarned supply interruptions greater than 12 hours.

Data used for serviceability assessment

For our serviceability assessment we adjusted for severe weather and industrial action as follows:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Value	1,839	2,010	1,588	4,180	765	1,019	1,195	929	841

Line 8 - DG3 Percentage properties affected by interruptions >12 hrs (unplanned & unwarned)

Note: The commentary for Table 46 Line 7 should be read in relation to Table 46 Line 8 as the Line 7 outturns are used to calculate the Line 8 outturns.

The following table lists the annual DG3 percentage properties affected by unplanned and unwarned interruptions greater than 12 hours. The figures are based on the following information:

- DG3 properties affected by unplanned and unwarned interruptions greater than 12 hours, as reported in AIR Table 46 Line 7 (also reported in AIR Table 2 Line 7)
- Total connected properties at year end, as reported in AIR Table 46 Line 2 (also reported in AIR Table 2 Line 1)

Percentages are based on the following calculation: [Line 7 divided by (Line 2 multiplied by 1,000)] multiplied by 100

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Properties Affected by Unplanned & Unwarned Interruptions >12hrs (AIR T46 L7)	1,670	767	1,839	2,010	3,675	214,274	765	2,607	1,195	25,693	841
Total Connected Properties (AIR T46 L2 x 1,000)	786,128	794,710	800,018	804,418	798,740	806,444	810,367	817,960	824,974	828,060	839,710
Percentage (AIR T46 L8)	**0.21%**	**0.10%**	**0.23%**	**0.25%**	**0.46%**	**26.57%**	**0.09%**	**0.32%**	**0.14%**	**3.10%**	**0.10%**

Atypical Performance (2003/04 to 2015/16)

The commentary for AIR16 Table 46 Line 7 identifies atypical performance in 2009/10, 2010/11, 2012/13 and 2014/15 attributed to the following significant events:

- Freeze/Thaw Event from 24 December 2009 to 21 January 2010
- Freeze/Thaw Event from 8 to 12 December 2010
- Freeze/Thaw Event from 21 December 2010 to 6 January 2011
- Adverse Weather Event from 22 to 27 March 2013
- Industrial Action from 22 December 2014 to 21 January 2015

The commentary for AIR16 Table 46 Line 7 also identifies atypical performance attributed to an incident involving a burst 500mm trunk main at Head Road, Kilkeel on 02/02/11 as well as proactive work, new work, human error and other issues unrelated to asset performance.

The following table was first provided for AIR13 and has been updated for AIR16 to provide a quantification of annual performance excluding the impact of:

- significant events
- the Head Road, Kilkeel incident
- interruptions where the cause was unrelated to equipment failure

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Properties Affected by Unplanned and Unwarned Interruptions >12hrs (AIR T46 L7)	1,670	767	1,839	2,010	3,675	214,274	765	2,607	1,195	25,693	841
09/10 Freeze/Thaw – Frozen Pipes	N/A	N/A	N/A	N/A	-1,564	N/A	N/A	N/A	N/A	N/A	N/A
10/11 Freeze/Thaw – Supply Rotation	N/A	N/A	N/A	N/A	N/A	-181,140	N/A	N/A	N/A	N/A	N/A
10/11 Freeze/Thaw – SR Drain Down	N/A	N/A	N/A	N/A	N/A	-25,439	N/A	N/A	N/A	N/A	N/A
12/13 March Adverse Weather Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1,588	N/A	N/A	N/A
Actual Dec + Jan Unplanned Interruptions	N/A	N/A	N/A	N/A	-764	-3,756	N/A	N/A	N/A	-24,966	N/A
Typical Dec + Jan Unplanned Interruptions	N/A	N/A	N/A	N/A	+241*	+241*	N/A	N/A	N/A	+202**	N/A
Performance Excluding Freeze/ Thaw Events, Adverse Weather Events & Industrial Action	1,670	767	1,839	2,010	1,588	4,180	765	1,019	1,195	929	841
Total Connected Properties (AIR T46 L2 x 1,000)	786,128	794,710	800,018	804,418	798,740	806,444	810,367	817,960	824,974	828,060	839,710
Performance Excluding Freeze/ Thaw Events, Adverse Weather Events & Industrial Action	**0.21%**	**0.10%**	**0.23%**	**0.25%**	**0.20%**	**0.52%**	**0.09%**	**0.12%**	**0.14%**	**0.11%**	**0.10%**
Burst 500mm trunk main, Head Road, Kilkeel on 02/02/11	N/A	N/A	N/A	N/A	N/A	-3,440	N/A	N/A	N/A	N/A	N/A
Performance following further exclusion of Head Road, Kilkeel incident	**0.21%**	**0.10%**	**0.23%**	**0.25%**	**0.20%**	**0.09%**	**0.09%**	**0.12%**	**0.14%**	**0.11%**	**0.10%**
Proactive work, new work,	The cause of		-184	-652	-25	-43	-102	-2	-90	-1	-2

human error and other issues unrelated to asset performance	interruptions was not captured prior to 2007/08									
Performance following further exclusion of interruptions where cause was unrelated to equipment failure		**0.21%**	**0.17%**	**0.20%**	**0.09%**	**0.08%**	**0.12%**	**0.13%**	**0.11%**	**0.10%**

*Estimate based on average Dec + Jan unplanned interruptions (07/08, 08/09, 11/12 & 12/13)

**Estimate based on average Dec + Jan unplanned interruptions (07/08, 08/09, 11/12, 12/13 & 13/14)

Data used for serviceability assessment

For our serviceability assessment we adjusted for severe weather and industrial action as follows:

	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16
Value	0.23	0.25	0.20	0.52	0.09	0.12	0.14	0.11	0.10

Lines 9 – 12 - Iron at Customer Tap

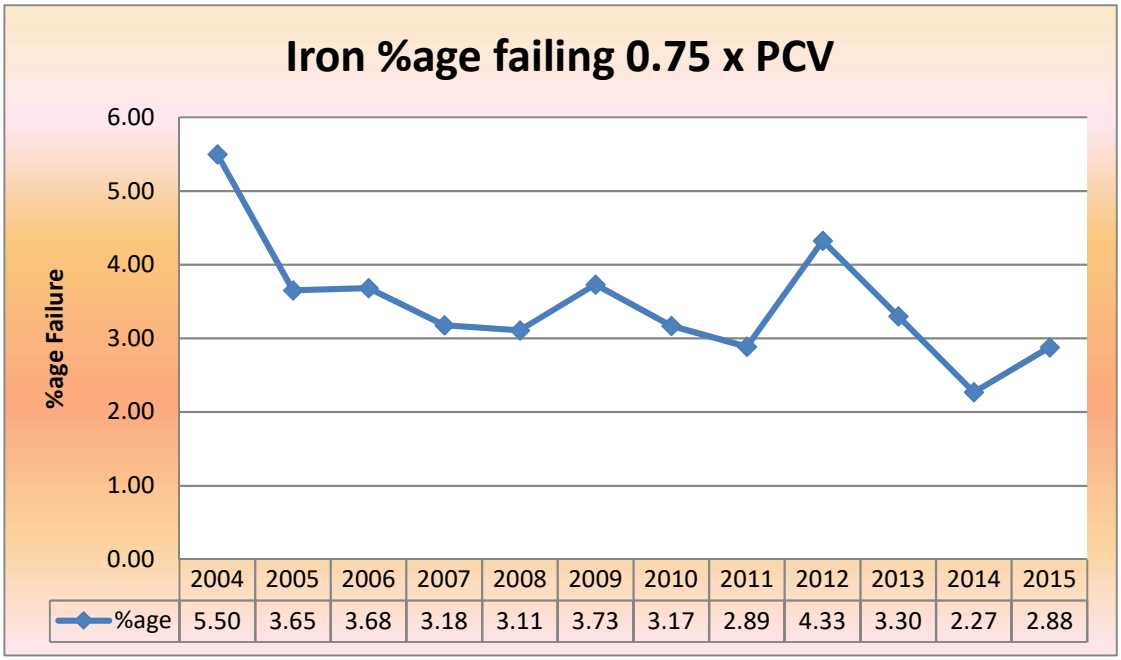
The calculations were carried out using the following data criteria:

- Prior to the calendar year to be tested, NIW determines the boundaries and populations of the water supply zones for that year, and provides a copy of that information to the Drinking Water Inspectorate (DWI).
- Only scheduled audit customer tap samples lifted to meet regulatory requirements from these zones during the calendar year are used, and using accredited laboratory analyses rather than onsite analyses.

Excluded from calculations

There were no zones excluded from the calculations.

Iron %age 0.75 x PCV Exceedance Chart



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
%age	5.50	3.65	3.68	3.18	3.11	3.73	3.17	2.89	4.33	3.30	2.27	2.88

Lines 13 – Customer Contacts (discoloured water)

No customer contact data was excluded from the calculations.

Line 14 – Customer Contacts per 1000 population (discoloured water)

The population figure used in the calculation was provided by Network Water Table 7 line 17.

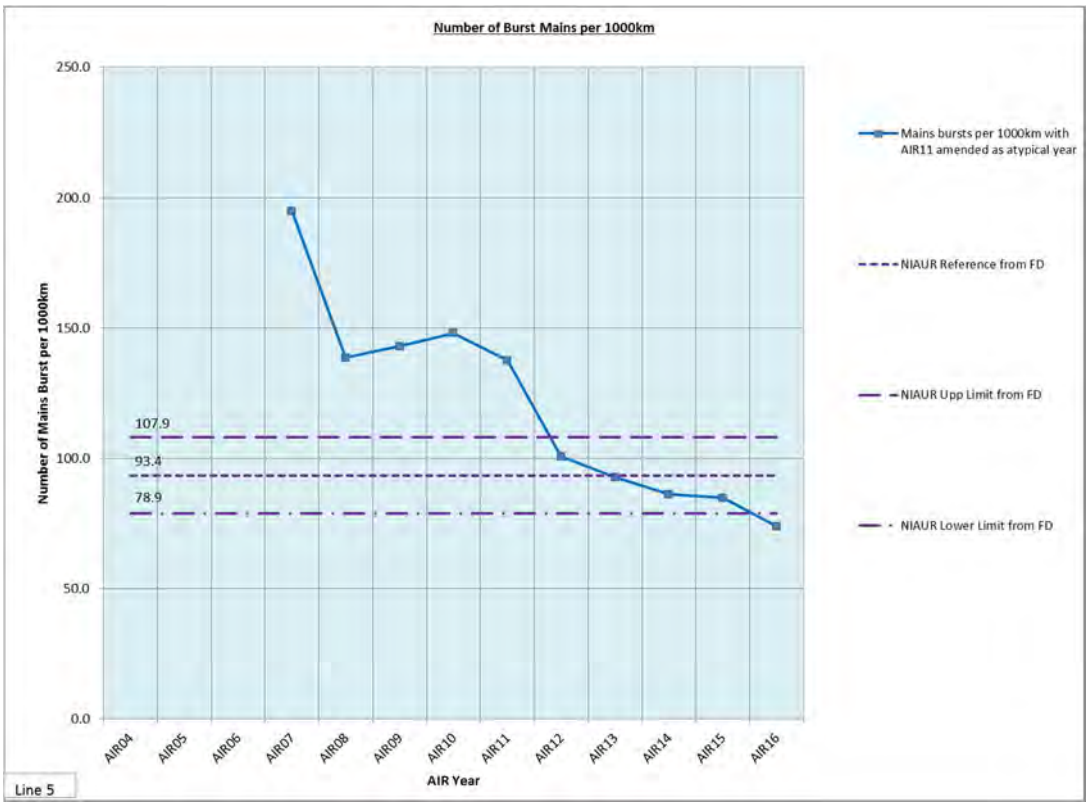
Line 15 – Distribution Losses

Distribution Losses for NI Water are calculated by subtracting Lines 16 (DSOU) and 20 (Water Delivered) from Line 26 (Distribution Input). Distribution Losses for AIR16 are estimated to be 122.08 Ml/d. This is a decrease on the AIR15 figure of 126.08 Ml/d.

Line 16 - Company's overall serviceability assessment for water infrastructure by reviewing Serviceability Indicators for Water Infra

Primary Indicator

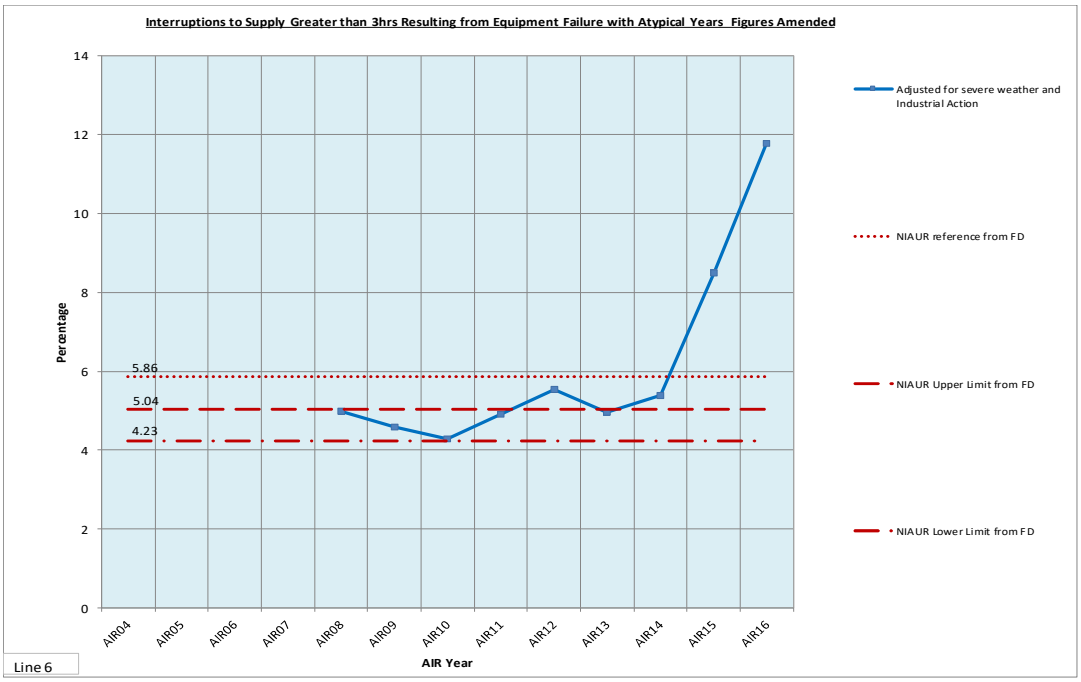
Line 5 – Number of Burst Mains per 1,000km



The number of Burst Mains per 1000 km has dropped to 73.8 for AIR 16. This assessment suggests that burst rates have been on a stable trend since AIR10 with six consecutive year-on-year improvements bringing the AIR16 figure to just below the lower control limit

Secondary Indicators

Line 6 – Interruptions to Supply > 3hrs resulting from Equipment failure



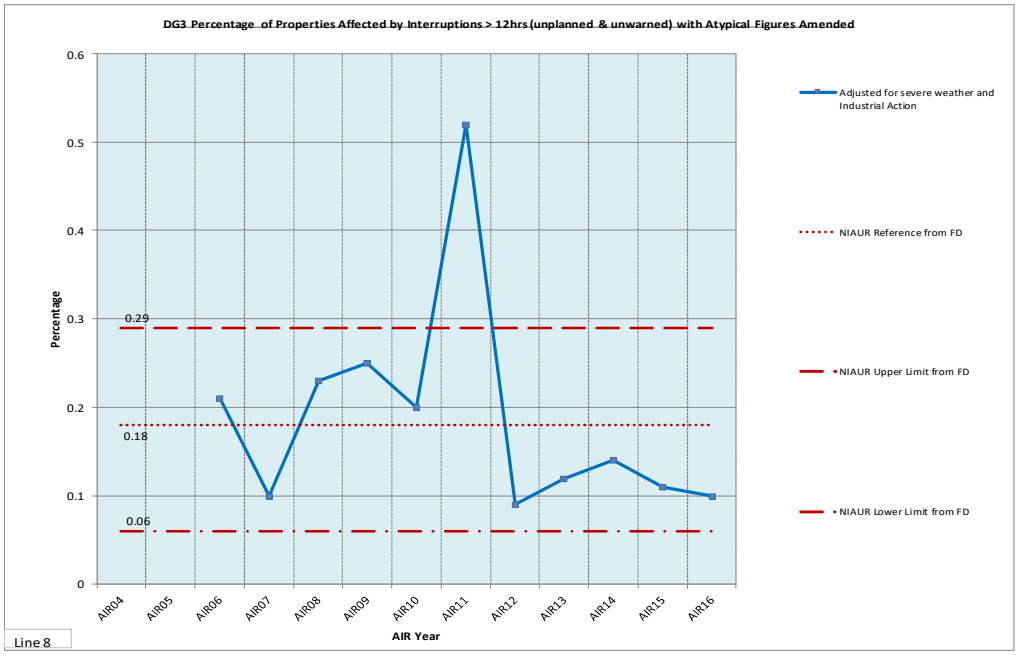
During the 2-year period from 2014/15 to 2015/16, there may have been a variation in the quality of data captured before and after the introduction of CIMS on 4 July 2014 as this marked a change in methodology. The new system ensures that more unplanned, unwarned interruptions are being captured than would previously have been the case and this is helping to improve the accuracy of NI Water's return. But the information is less robust for interruptions lasting between 3 and 6 hours because the focus has so far been on interruptions that impact on the Company's performance measures. A variation in the quality of data would have weakened the reliability of a trend assessment based on this dataset and a trend assessment based on a combination of the two datasets.

There is still some uncertainty regarding the overall impact that CIMS has had on the accuracy of outturns for this measure, the Company is aware of certain issues which have had a definite, unfavourable impact on performance and where the impact has been easier to quantify. In the section of the commentary on 'Changes in methodology used to capture or report data', the increase in the number of properties that experienced an unplanned, unwarned interruption lasting more than 3 hours in 2015/16 is attributed to an increase in incidents in rural areas involving limited rezoning options.

The Company believes the independent assessment for the 7-year period interruptions for the measure of interruptions to supply greater than 3 hours resulting from equipment failure from 2007/08 to 2013/14, to be more reflective of the true data trend for this measure since it is a lengthier period during which the methodology was unchanged and the quality of data was consistent. Work has recently commenced by the AMS Team to further improve the Capital Maintenance planning capability. This ongoing work over the next few years will develop the capability to more robustly clarify this issue

NI Water's assessment of performance against this measure is marginal due to 2 successive increases that together show a significant step up from the reference level.

Line 8 – DG3 Percentage of Properties Affected by Interruptions > 12hrs

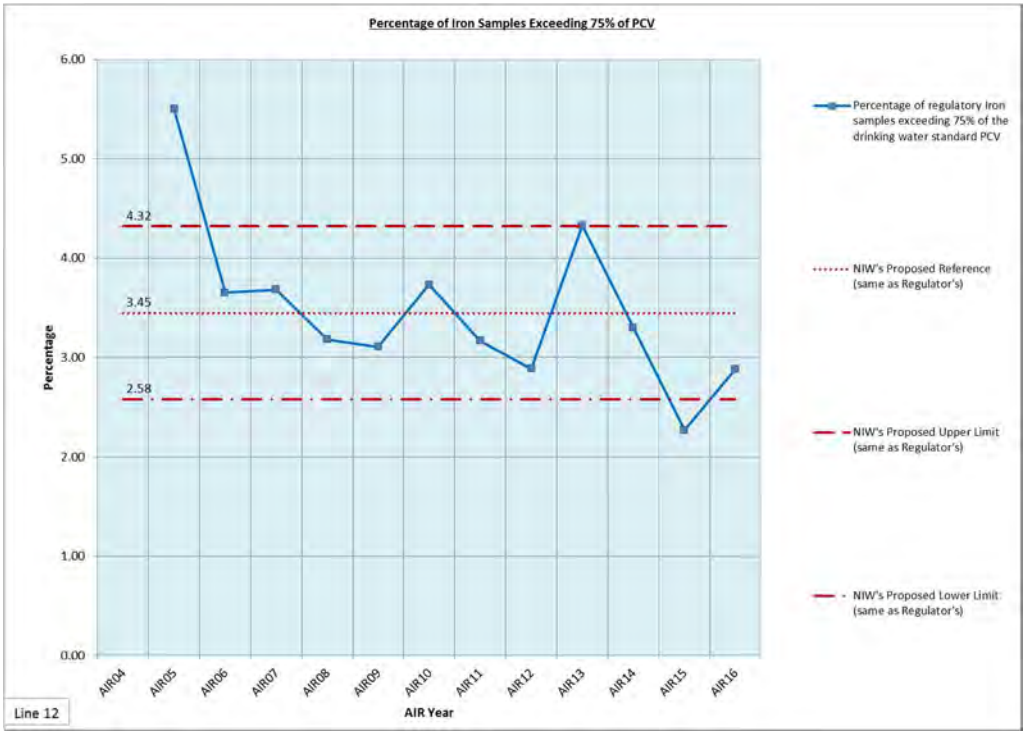


The conclusion is that based on an analysis of all properties affected by unplanned and unwarned supply interruptions greater than 12 hours over the last eleven years and with the impact of extreme and atypical events excluded, NI Water's performance against this measure has been 'stable'.

This overall assessment of serviceability is based on the series of performance graphs produced for this measure which indicate a decreasing trend in the numbers of properties affected by unplanned and unwarned supply interruptions greater than 12 hours.

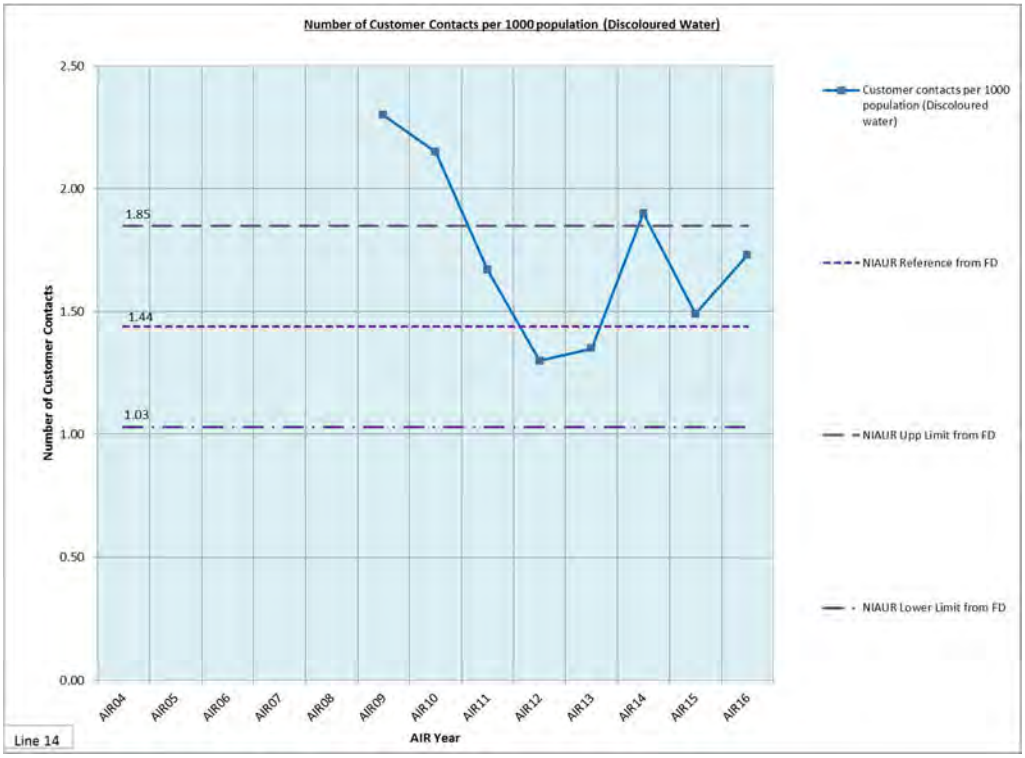
The Company has arrived at a 'Stable' assessment for this measure.

Line 12 – Percentage of Iron Samples Exceeding 75% of PCV



The AIR 16 output shows that the ongoing trend remains between the control boundaries.

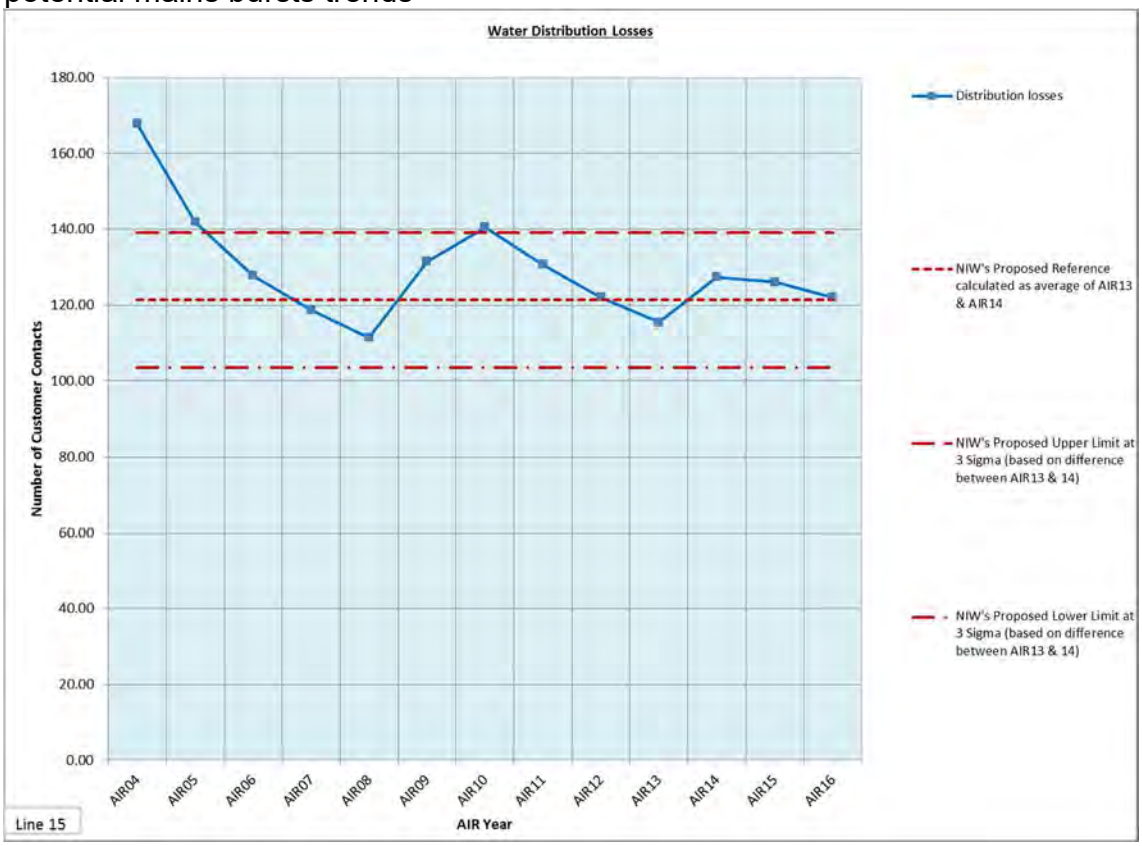
Line 14 – Number of Customers per 1000 population (Discoloured Water)



This graph demonstrates minor fluctuation of the trend between the control limits
The Company has arrived at a 'stable' assessment for this measure

Line 15 – Water Distribution Losses

This information as an explanatory factor for mains bursts which can be monitored for potential mains bursts trends



AIR 16 Table 46 Line 16 - Summary Comment

In relation to Line 6 – Interruptions to Supply > 3hrs resulting from Equipment failure

The conclusion for this line is that, based on an analysis of properties affected by supply interruptions greater than 3 hours resulting from equipment failure and with the impact of extreme and atypical events excluded, NI Water's performance against this measure is marginal due to 2 successive increases that together show a significant step up from the reference level

All other metrics suggest that the ongoing trends demonstrated above are within their respective upper and lower tolerances. For instance the burst rate shows evidence of declining year on year.

The overall Serviceability assessment of the Water Infrastructure Network is "Stable".

Lines 17 - 20 Turbidity at Water Treatment Works

The calculations were carried out using the following data criteria:

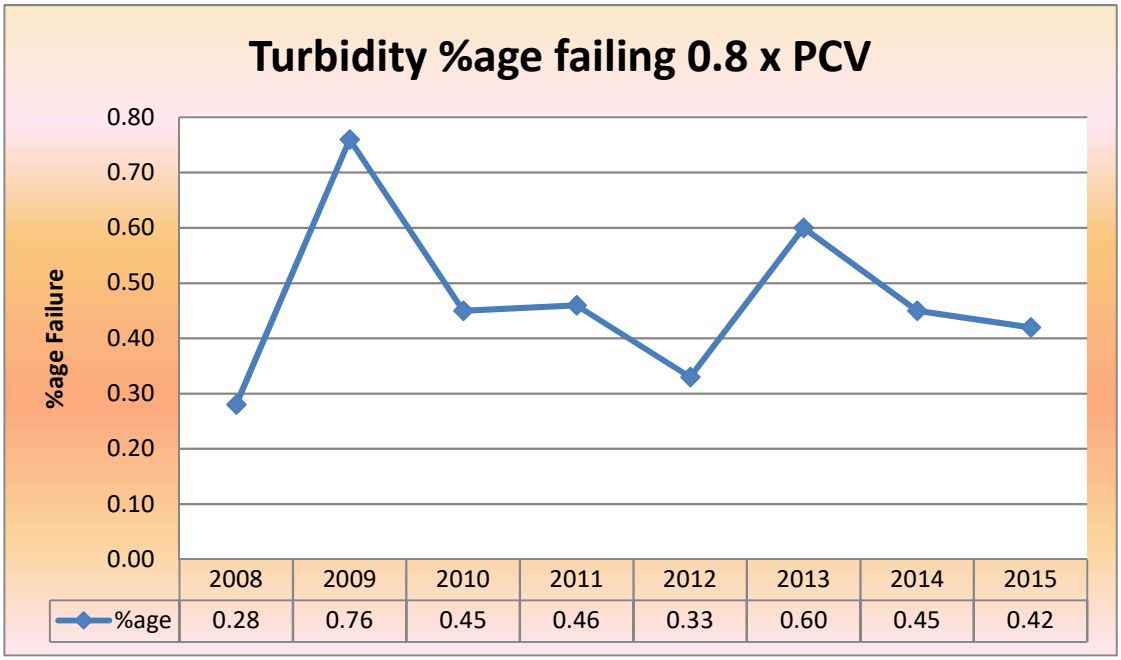
- Only scheduled audit final water samples lifted to meet Water Supply regulatory requirements during the calendar year were used, and using accredited laboratory analyses rather than onsite analyses.
- In 2015 there were 21 turbidity fails at WTWs which were found not to be representative of the water going into supply. All sample fails/exceedance results are included in compliance figures irrespective of whether the failure result was representative of the quality of water going into supply or not.

NIW v PPP

No WTWs were excluded, however whilst the return shows all relevant turbidity results, much of NIW's water is produced by PPP concessionaires. The breakdown of numbers between NIW and PPP is shown in the table below.

	Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
All	Count	9,482	8,964	7,749	7,561	6,928	6,638	6,617	6,460	6,335
	>PCV	52	45	47	35	32	12	18	10	20
	>0.8	99	78	70	55	41	20	38	26	40
NIW	Count	9,482	8,728	5,925	5,737	5,103	4,813	4,792	4,635	4,510
	>PCV	52	45	44	34	31	12	14	11	20
	>0.8	99	78	67	54	40	20	34	21	40
	>0.8 excl. atypicals	99	78	67	54	40	20	34	21	19
PPP	Count	0	236	1,825	1,825	1,825	1,825	1,825	1,825	1,825
	>PCV	0	0	3	1	1	0	4	1	0
	>0.8	0	0	3	1	1	0	4	1	0

Combined WTW Turbidity %age 0.8 x PCV Exceedances Chart (excluding PPP and decommissioned works)



Lines 21 - 24 Total Trihalomethanes at Customer Tap

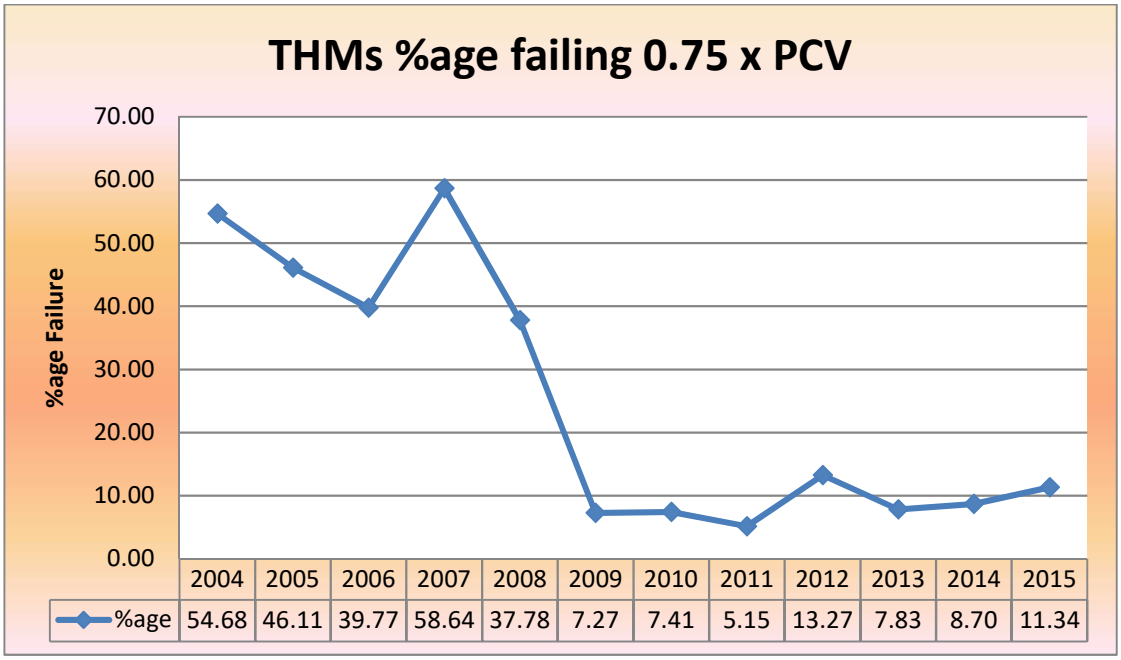
The calculations were carried out using the following data criteria:

- Prior to the calendar year to be tested, NIW determines the boundaries and populations of the water supply zones for that year, and provides a copy of that information to the Drinking Water Inspectorate (DWI).
- Only scheduled audit customer tap samples lifted to meet regulatory requirements from these zones during the calendar year are used, and using accredited laboratory analyses rather than onsite analyses.

Excluded from calculations

There were no zones excluded from the calculations

Total Trihalomethanes %age 0.75 X PCV Exceedances Chart



Lines 26 – 28 - Coliform bacteria at Service Reservoirs

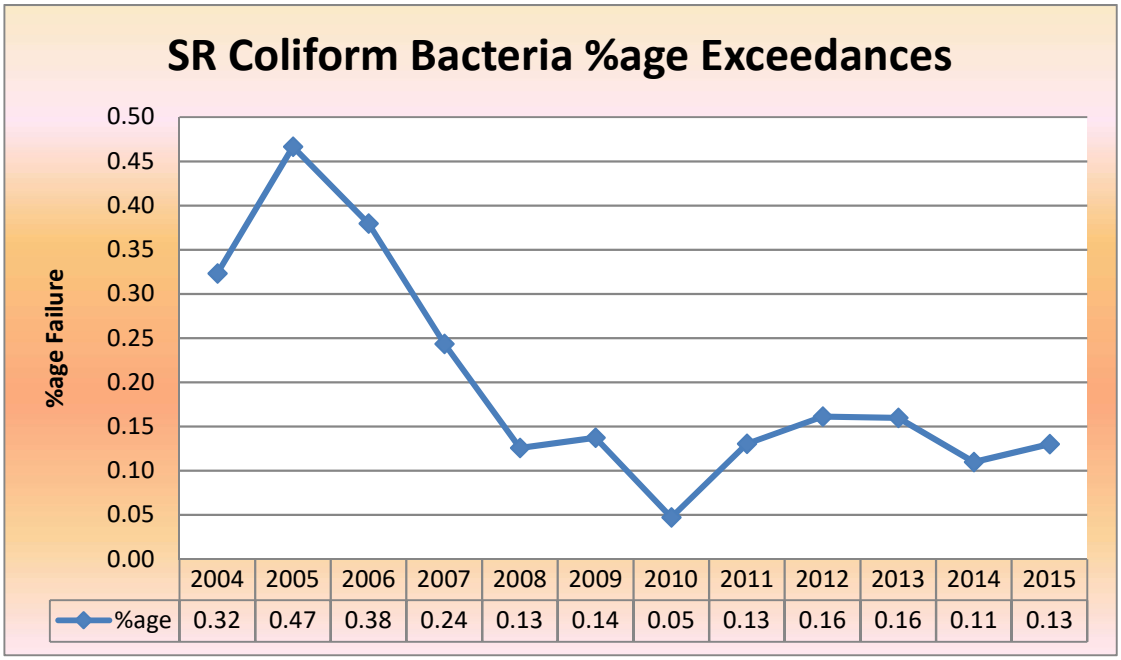
The calculations were carried out using the following data criteria:

- Only scheduled audit service reservoir samples lifted to meet Water Supply regulatory requirements during the calendar year were used, and using accredited laboratory analyses rather than onsite analyses.

Excluded from calculations

There were no SRs excluded from the calculations.

Service Reservoirs Coliform Bacteria %age Exceedances Chart



Line 25 – Events at WTW resulting from treatment difficulties or ineffective treatment categorised as 'significant' or higher

The DWI is responsible for categorising Events.

Line 29 - Unplanned (reactive) maintenance

Reporting restrictions

The ongoing development of the process for reporting of Water Non-infrastructure Unplanned (reactive) maintenance is expected to relate to the percentage availability of critical assets within this operational service area and although the principle of operation has already been proven through the development of M&E Out-of-Service databases for some equipment.

The return has been allocated a confidence grading of B2. This is due to the main factors listed;

- Telemetry signal anomalies and errors can adversely affect the data for individual items of equipment.
- Equipment which is registered as "tripped in auto", "in hand" or "tripped in hand" is generally deemed to be unavailable. However those assets which are only operated in a manual capacity i.e. always "in hand" can offer misrepresentative data unless filtered out.
- The report is only run on working days i.e. Mon – Fri figures in the report are based on a maximum of 20 days for a 4 week period.
- Reporting on a daily basis means that faults that are repaired prior to the end of the working day are not recorded.
- Due to the practice of using common alarm signals, mainly at Water Treatment Works (WTW), it is not possible to report on some items of individual plant.

Line 30 – Company's overall serviceability assessment for water non-infrastructure

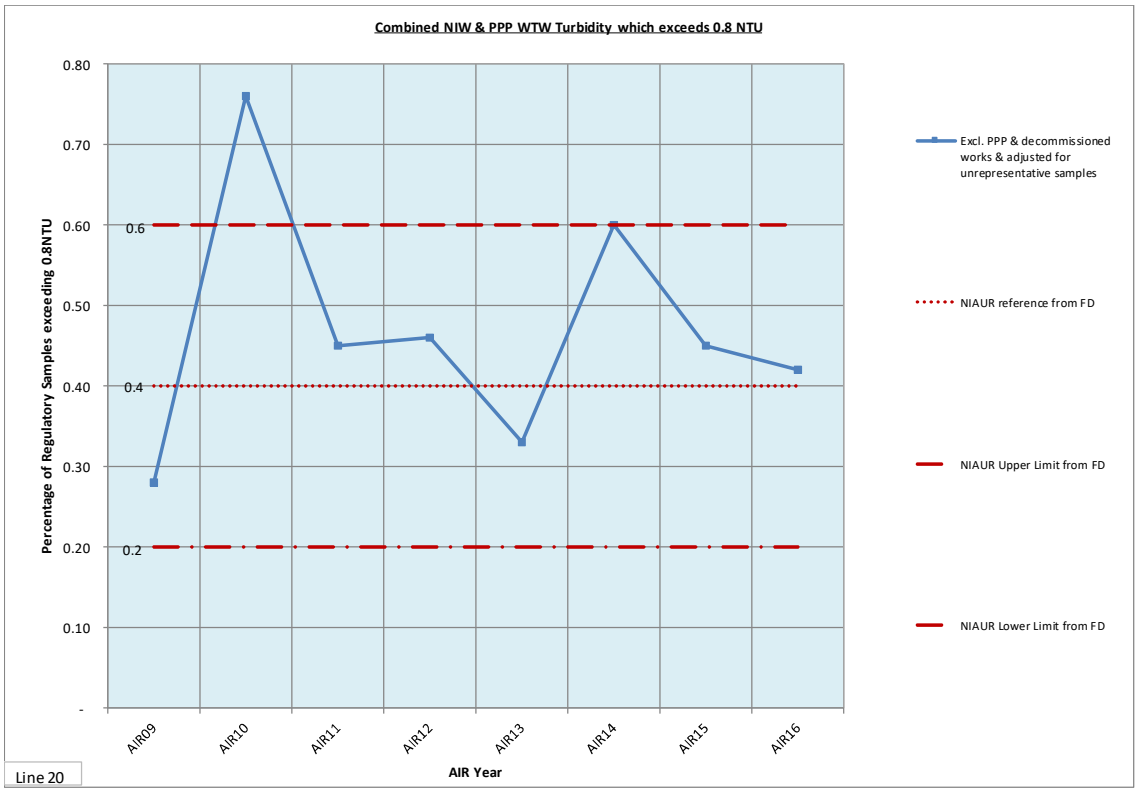
The serviceability assessment has been designated as Stable as the trend analysis associated with the basket of serviceability indicators, used to assess serviceability for water non-infrastructure, with the exception of THM's, are within the control limits based on the latest AIR16 information.

This can be seen in the serviceability graphs below:

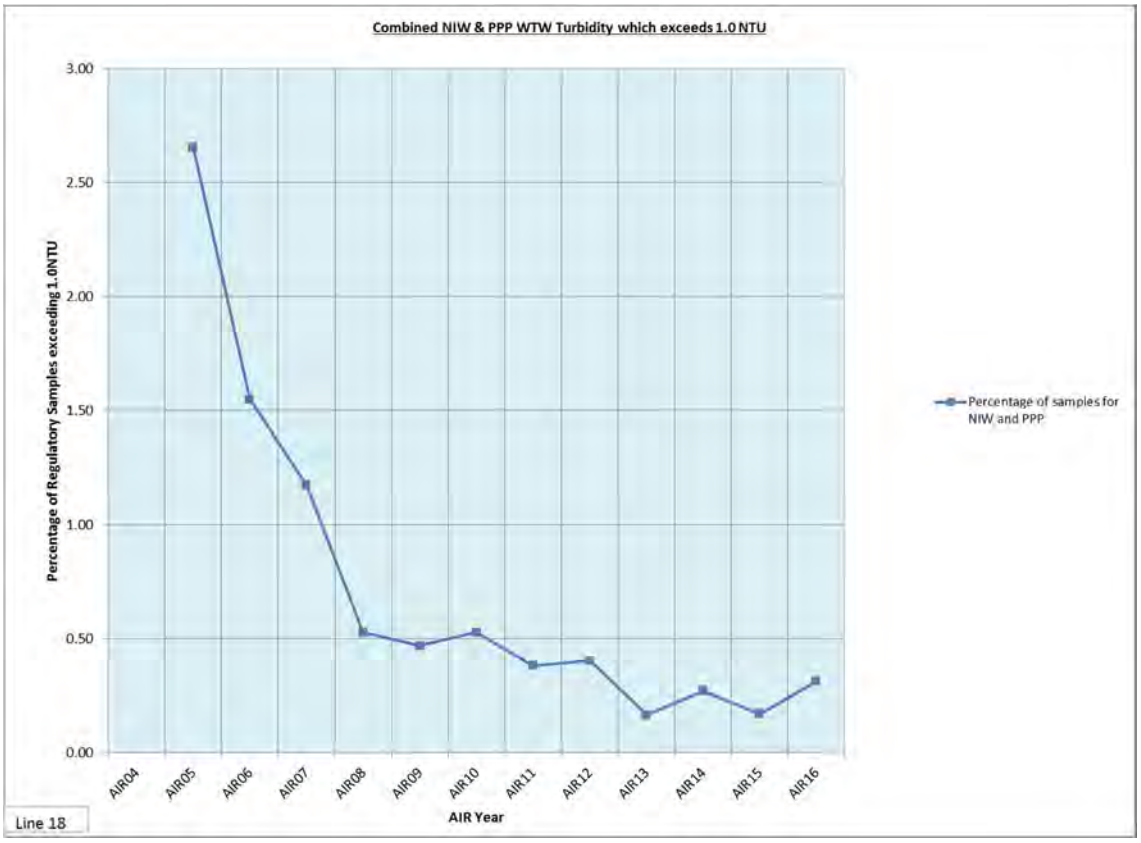
Primary Indicator

The "NIW WTW's excl. PPP & BH's/decommissioned works" line which exceeds 0.8 NTU Turbidity is within the control limits and therefore the performance is still Stable.

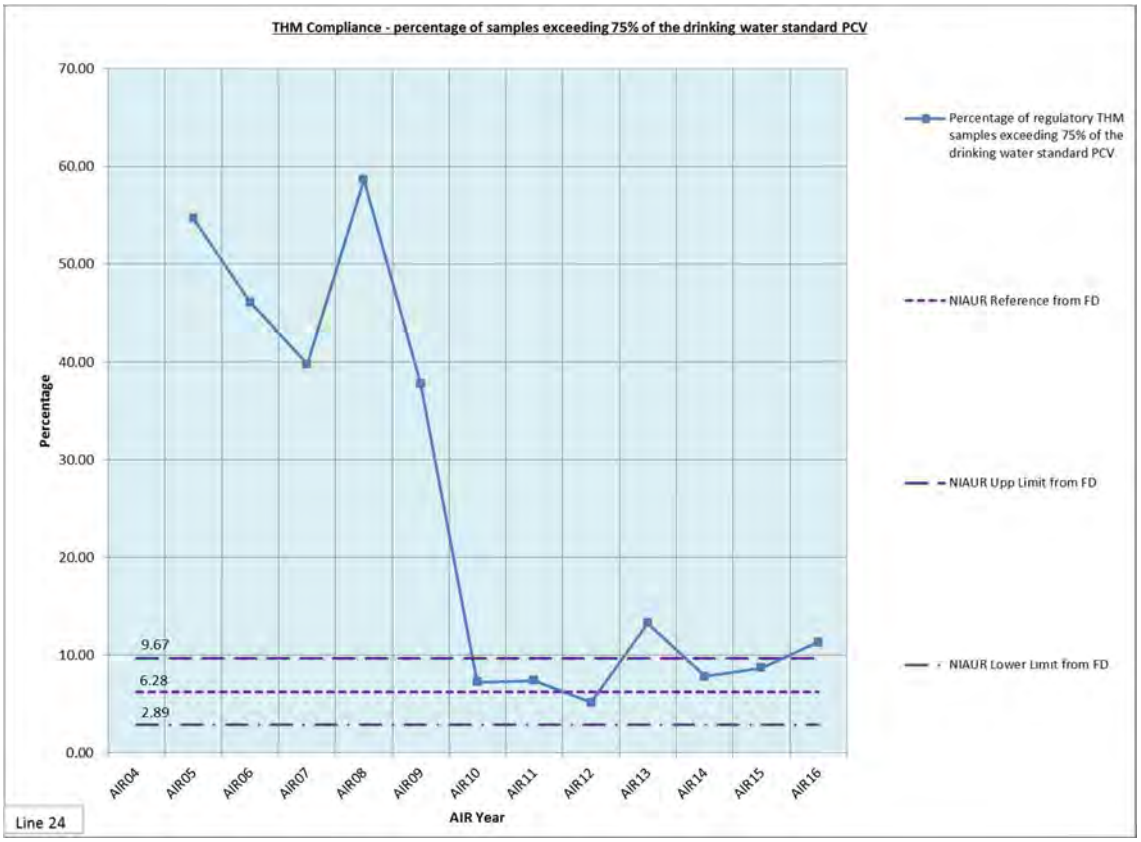
It should be noted that there were 21 failures due to unrepresentative samples. By reducing the number of fails by 21 and also the overall number of samples taken by 21, the percentage of samples exceeding 0.8NTU equates to 0.42%, which is within the control limits.



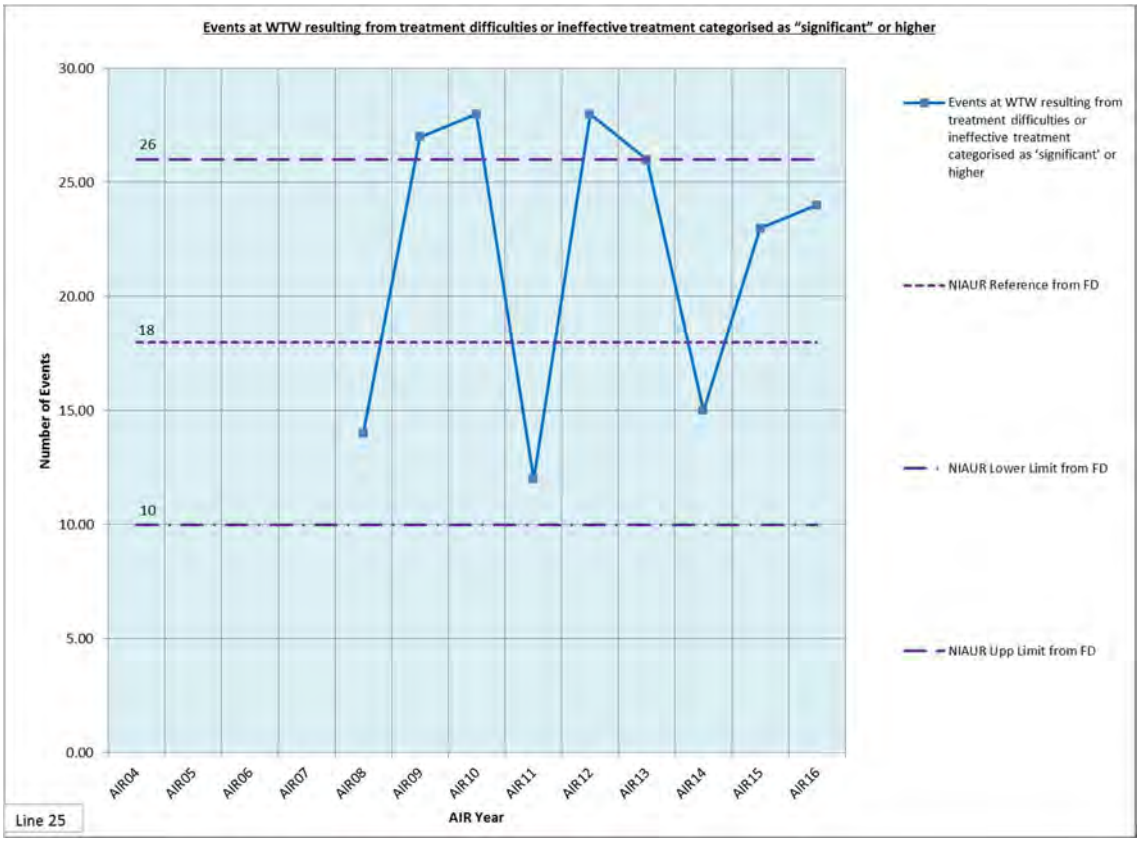
Secondary Indicators



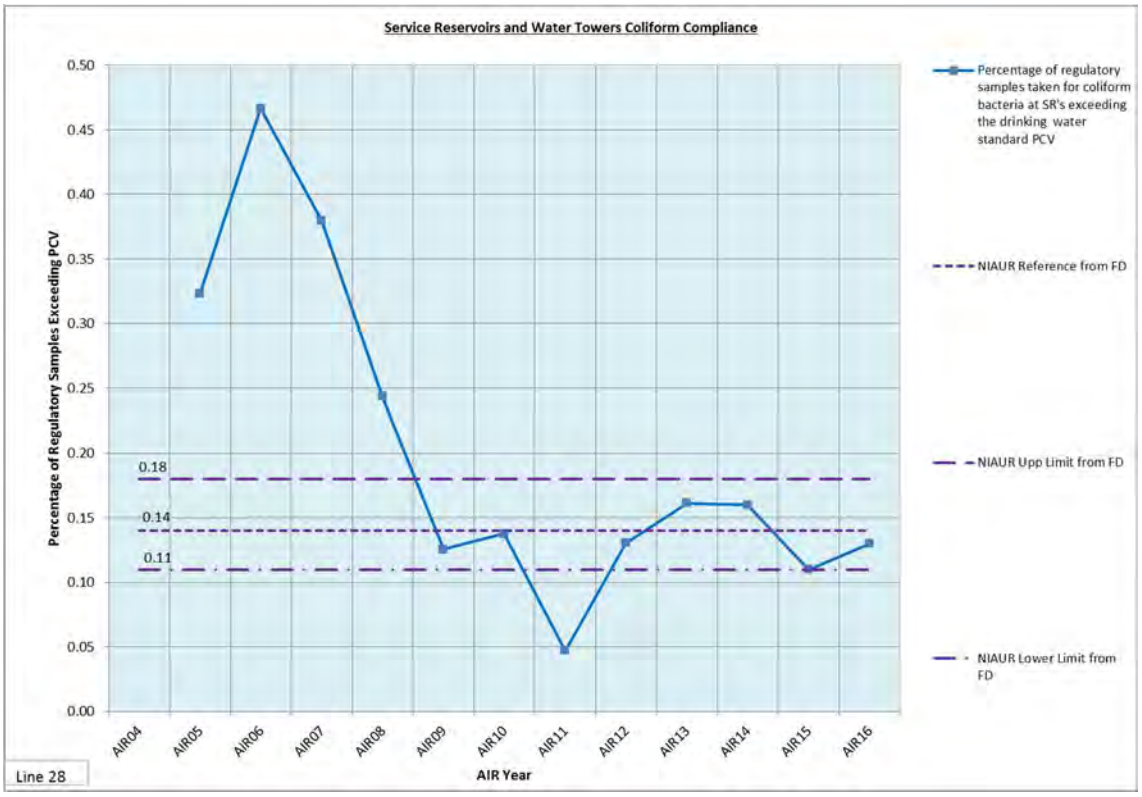
The “Combined NIW & PPP WTW Turbidity which exceeds 1.0 NTU” indicator is not commented on and does not have limits/reference levels set by the Regulator. It has been included for illustrative purposes only, and it has continued to perform well over the last six years.



Although the figure AIR16 has risen above the Upper Limit, serviceability for this indicator is still seen as Stable. It has been noted that there was a slight increase in THM > 75% of the PCV in 2015/16, which can in part, be attributed to Castor Bay WTW and Dunore Point WTW. The upward trend in the PPP sites in 2015 has been raised with NIW's PPP Contractor through our WQ monitoring meetings and is being kept under review.



"Events at WTW resulting from treatment difficulties or ineffective treatment categorised as significant or higher" has continued, for the third year, to perform as Stable.



"Service Reservoirs and Water Towers Coliform Compliance" has continued to show Stable performance over recent years

Line 31 – 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.

Lines 32, 33, 34, 35, 36, 37, 40, 43 & 44

Calculation Process

Data gathering and calculation is as described below.

The data required for table 46
Line 32 – Total number of Rising Main Failures
Line 33 – Total number of Gravity Sewer Collapses
Line 34 – Total number of Sewer Collapses
Line 35 – Sewer collapses per 1,000km
Line 36 – Total number of Sewer Blockages
Line 37 – Sewer blockages per 1,000km
Line 40 – Properties flooded in the year (other causes)
Line 43 – Number of pumping station emergency overflows triggered by equipment failure

Line 44 – Number of sewer repairs

Data is gathered by Wastewater Networks Field Managers using checked and paid invoices from the Sewer Maintenance Contractor and submitted through their line management (Area Managers), for quality control on an excel spreadsheet to WW Business Unit on a monthly basis. This information per area is automatically transferred to a composite Excel spread sheet to enable the information to be presented in the format as required for the AIR16 return. Because of the nature of the collecting of the information for lines 32, 33, 36 and 44 the data for these lines is purely input and not calculated.

Changes during report year

Work has progressed during the year to identify critical and lateral sewers these layers have been added to NIW's Corporate Asset Register. During this reporting period as per reporters recommendation no.30 WWBU has amended the CG for Table 16 Lines 13a – 13c from A2 to B4.There were changes made to the AIR 15 Data and the 2014/15 figure for Line 40 has been amended to 52 in line with the 2014/15 figure for Table 3 Line 6.

NIW are now being more proactive in their approach to repeat blockages. NIW Customer Field Managers (CFM) now have the resource of designated field technicians who are carrying out CCTV investigations on sewers which have repeat blockage complaints, any faults found have been remedied thus reducing the number of repeat incidents. As result of further refinement at NIW's request the contractor now (end of March 2016) accurately records on their invoices what section within the sewer the blockage occurred (e.g. main, lateral or private). NIW are now in a good position for AIR17 to report on whether collapses or blockages have occurred in a private lateral, public lateral or public main sewer.

Lines 38 and 39 - Number of High (H), Medium (M) and Low (L) pollution incidents from the sewer network

The figures reported have been audited by NIEA and are reported on calendar year performance. They were obtained from the NIEA Audit document which can be found in Sharepoint at –

Asset Management / Environmental Regulation / Wastewater and Waste / Enforcement / Pollution Incidents / 2015 / Business Unit Emails / Pollution Incident Tracker 2015

NIEA Classification of Pollution Incidents in 2015

Classification	CSO/Sewers	WWTW/WWPS	WTW/Distribution	Total
L	75	42	0	117
H/M	11	10	0	21
Total H/M/L	86	52	0	138

Line 42 - Total number of equipment failures

Reporting Restrictions

The MWM records do not incorporate instances of non-electromechanical devices such as storage tanks or hydrobrakes.

The failure of a pump, for example, on MWM will be recorded but not the outcome associated with this failure. It is therefore not possible to identify in isolation those equipment failures which resulted in "a detrimental impact on service to customers or the environment" since the vast majority of pumping stations possess an acceptable level of redundancy which mitigates the impact of failure on the customer.

These figures need not relate directly to equipment failures associated with M&E Services. In the vast majority of cases, for example, in SPS jobs the attendance is due to unblocking of pumpsets rather than pumpset failure. There is therefore a danger that the figures are incorrectly perceived as M&E equipment failures rather than as a result of external circumstances e.g. flash-flooding leading to blockages.

The return has been allocated a confidence grading of B2. This is due to two main factors i.e.

- Data is manually filtered to remove duplicate entries associated with “two-man” jobs. Given the manual element of this exercise there is some potential for error and
- Out of hours work may not all be captured using the current system which relies on all jobs being recorded on the MWM system. Given the company’s current operating model this does not occur in all instances.

Line 46 – Percentage of WWTW discharges not 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.

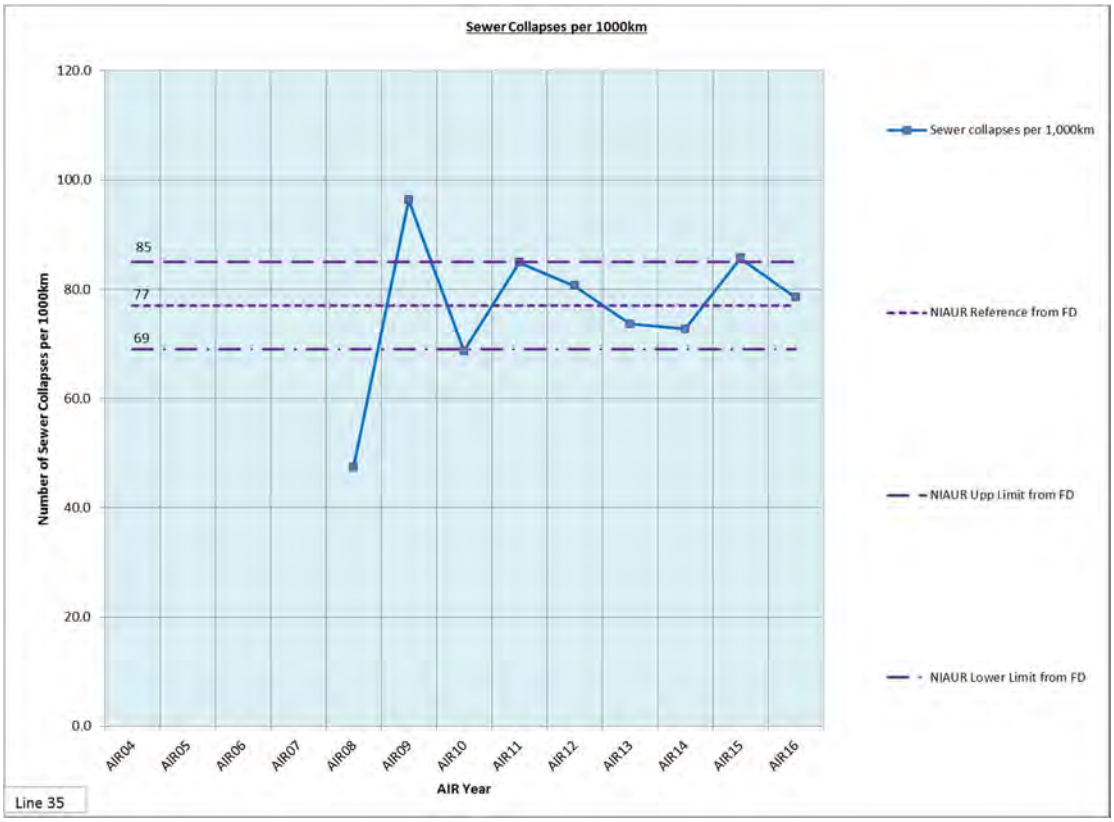
At monthly intervals (for the KPI, Board and CSDD/MT) and at the end of the calendar year, the number of WWTW which have passed their numeric WOC was calculated as a percentage of the total number of works to determine the compliance with the target.

Line 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 AIR16 information.

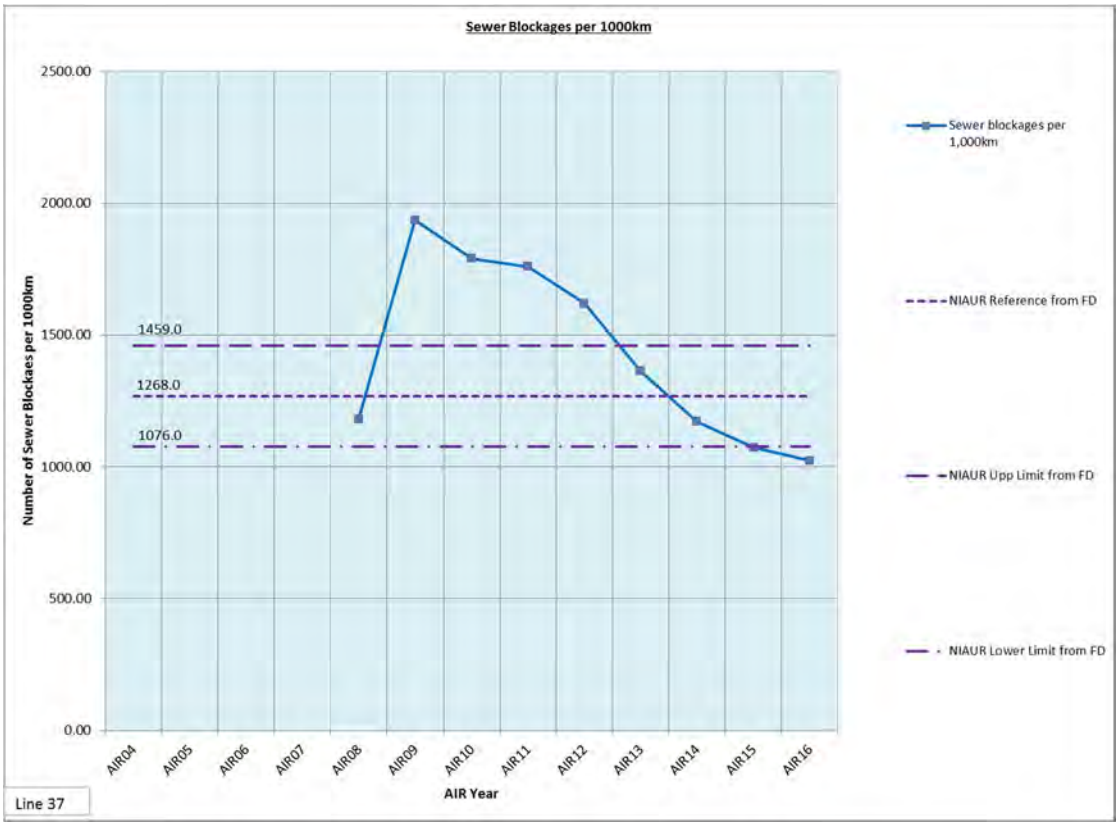
Wastewater Infra Serviceability

Primary Indicator

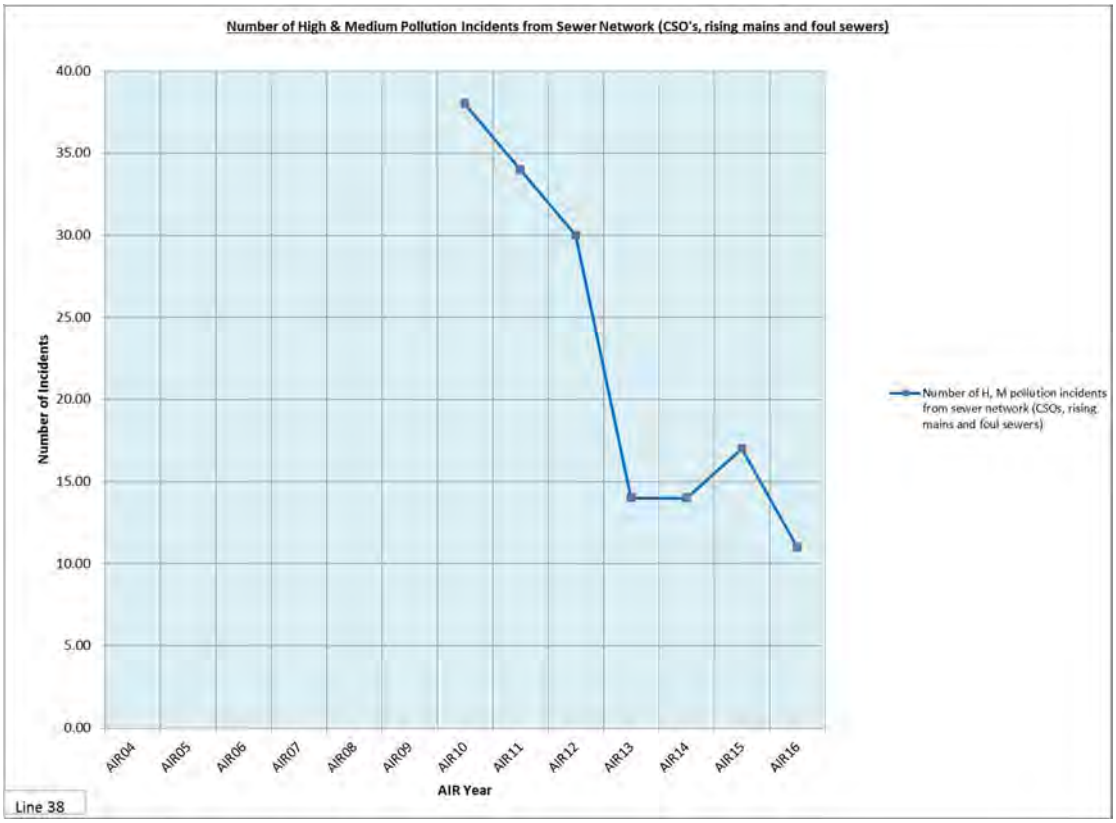


This graph shows the number of collapses reported over the AIR return periods which would indicate a stable output.

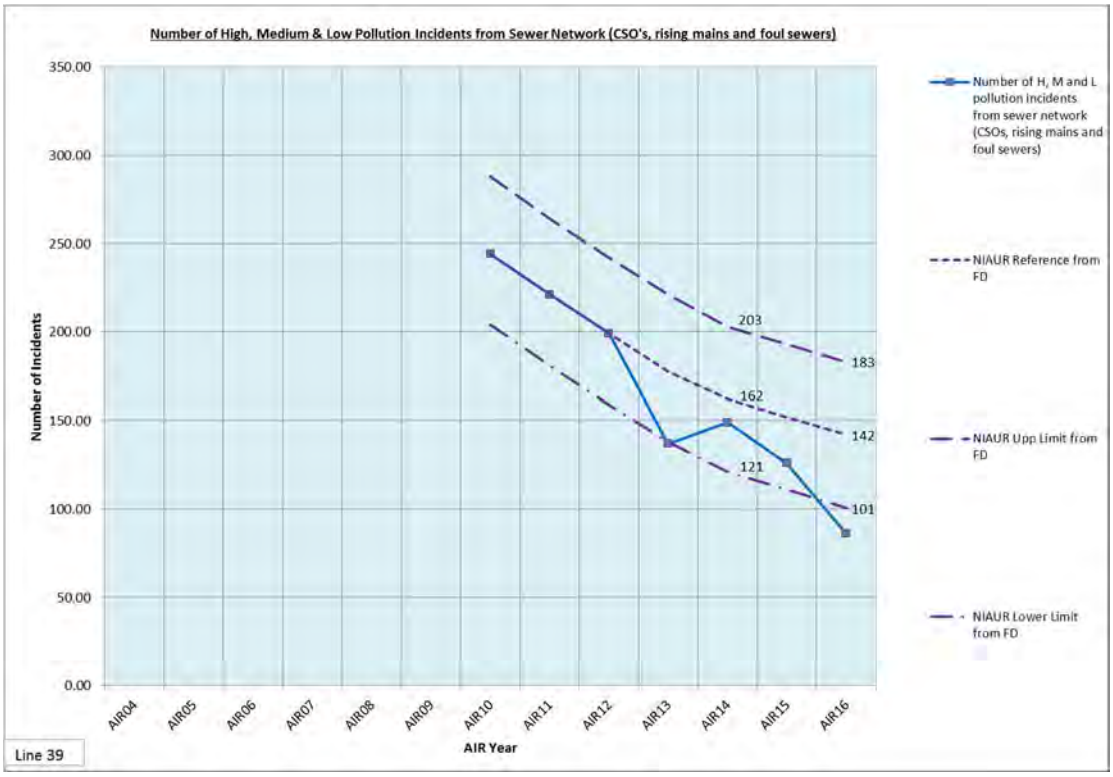
Secondary Indicators



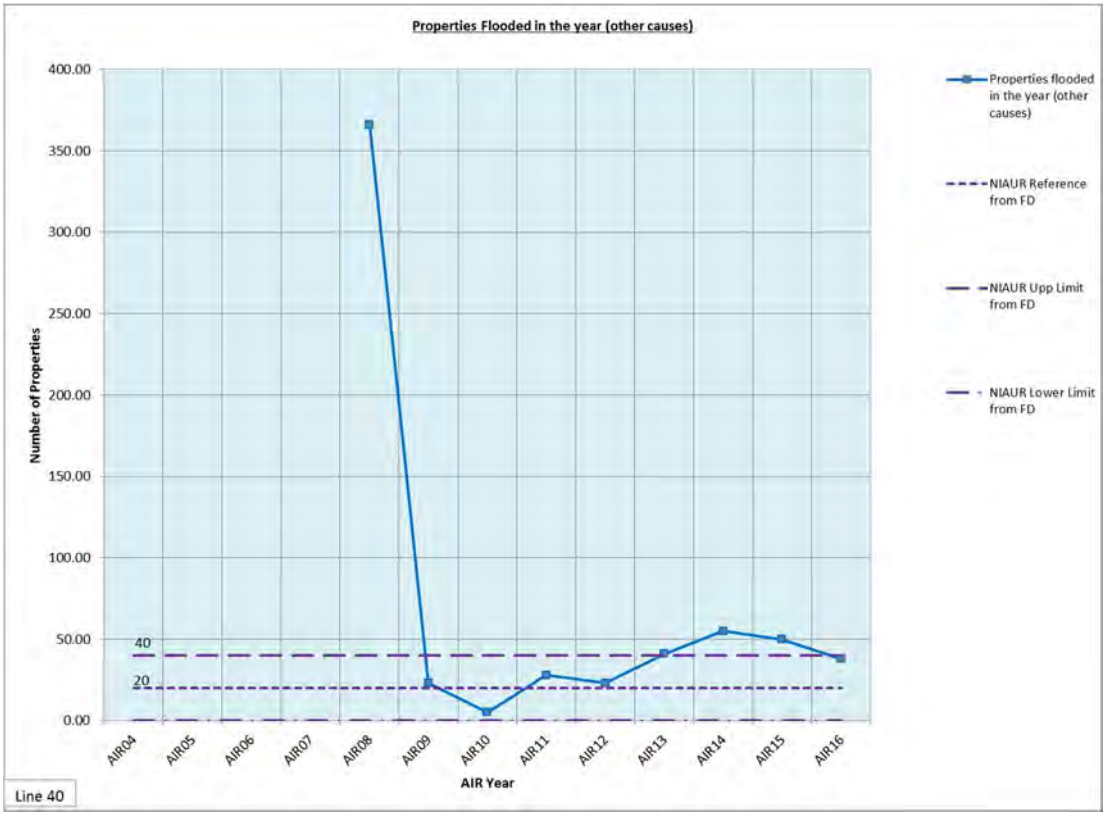
This graph indicates the number of blockages per 1000km over the different AIR return periods which would indicate a stable output.



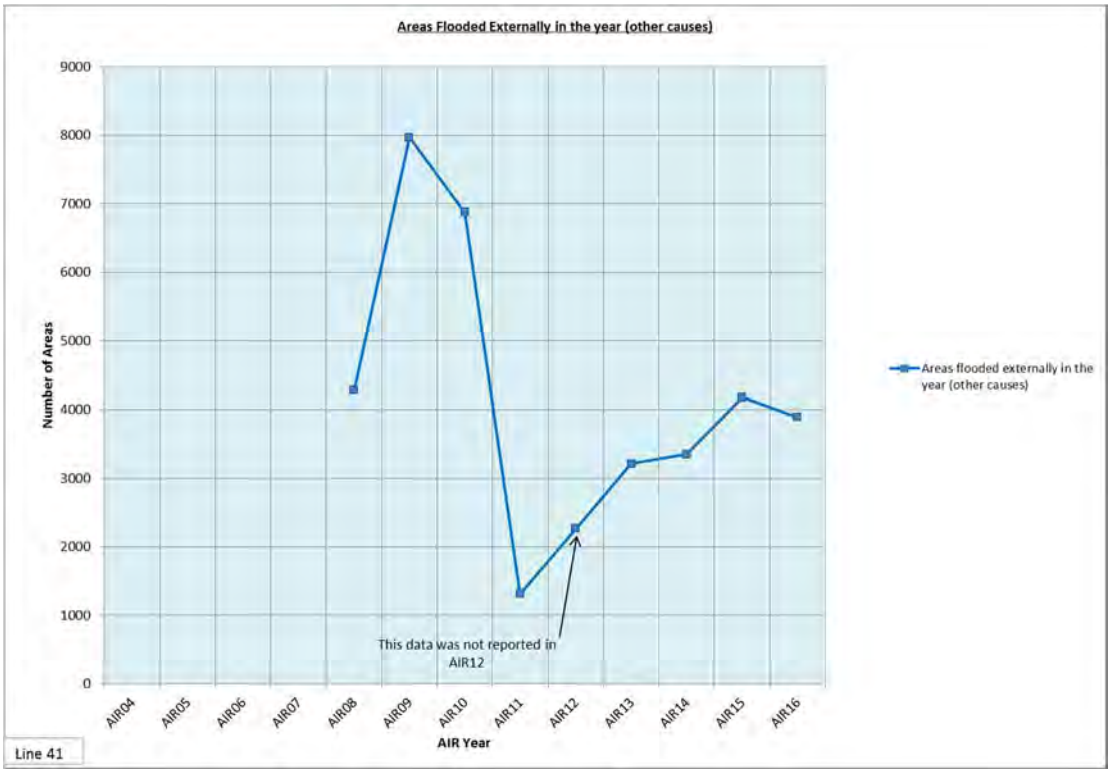
This graph has been submitted for information purposes only.



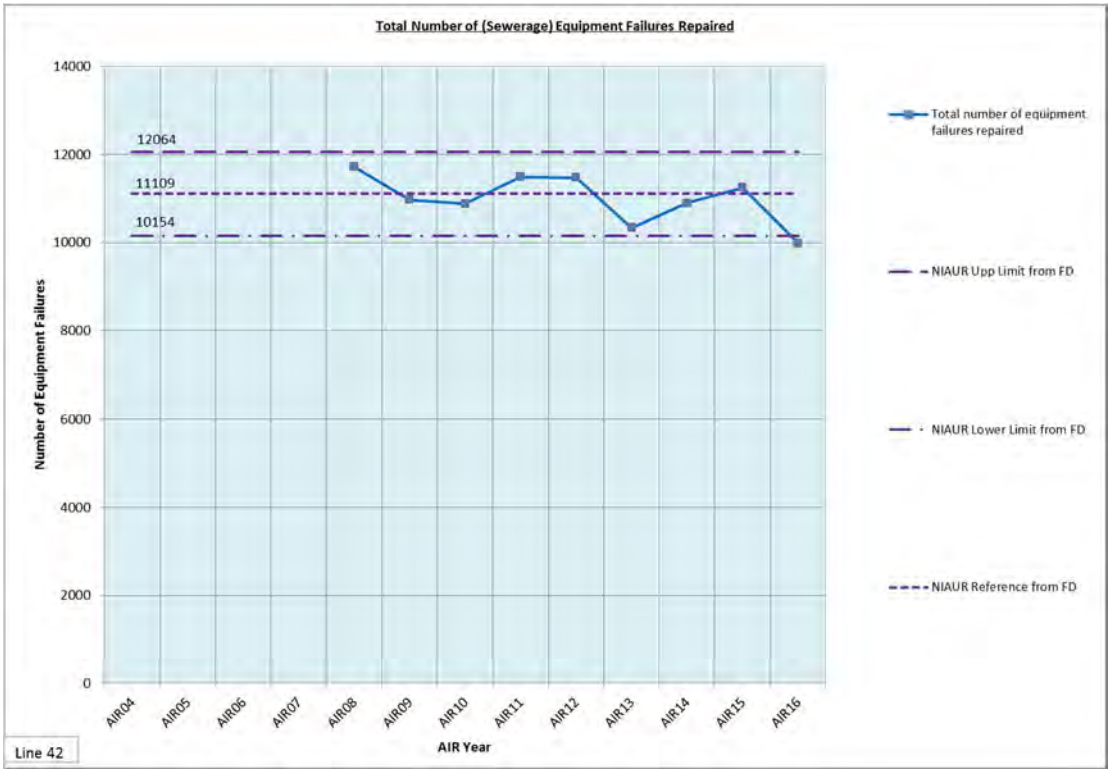
This graph shows the high, medium and low pollution incidents from the sewer network over the AIR return periods for CSO's, rising mains and foul sewers which would indicate a stable performance.



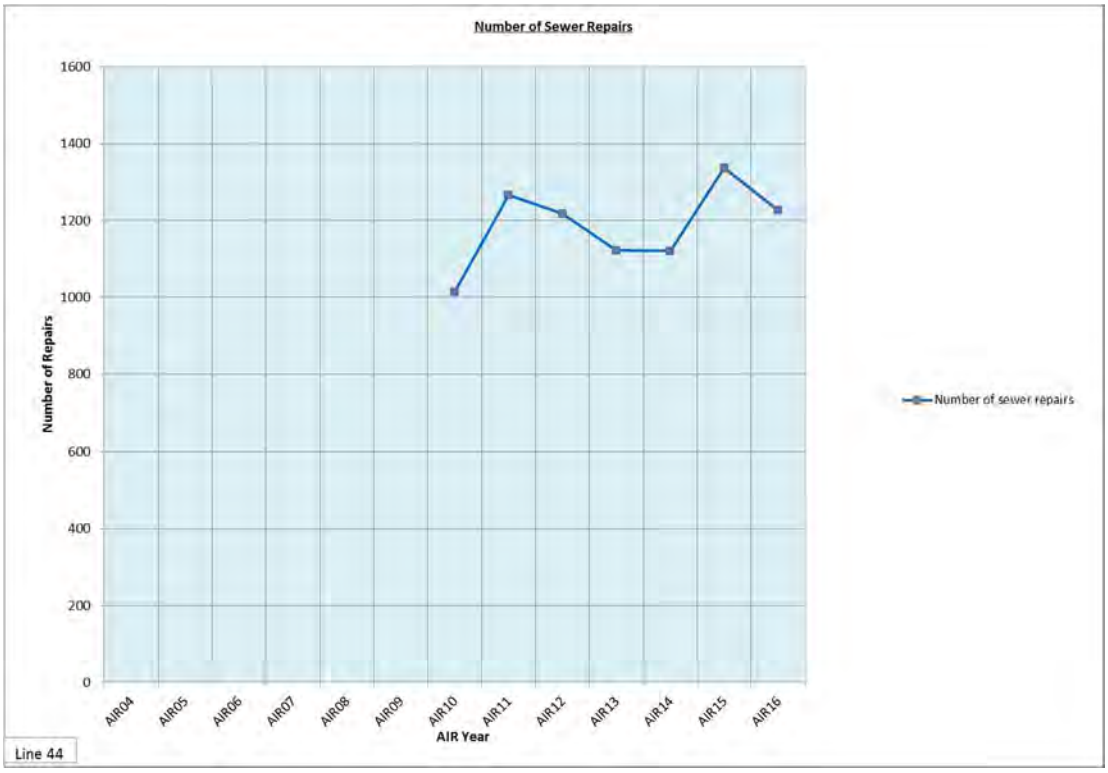
This indicator is to monitor performance and not incorporated in the serviceability assessment. We have kept the reference level and control limits from the FD for information only.



This graph is included for information only.



This graph shows the total number of sewerage equipment failures repaired which would indicate a stable performance.



This graph is included for information only.

Line 46 Calculations – Taken from AIR 16 Calculation Spreadsheet

No. of NI Water Only WWTW's = 230
No. of failing NI Water Only works = 17
No. of passing NI Water Only works = 213

17/230 x 100 = 7.39%
Reported to one decimal place = **7.4%**

Line 47 – Percentage of Total PE Served by WWTW's Not Compliant With Numeric Consents

The PE served by non-compliant WWTW was calculated as a percentage of the PE served by the total number of WWTW. Upper Tier Limits (UTL) were not applied in determining this compliance. The figure reported is based on the total population.

Line 47 Calculations – Taken from AIR 16 Calculation Spreadsheet

PE of failing NI Water Only works = 44823
Total PE of NI Water Only works = 1819373
PE of passing NI Water Only works = 1774550

44823 / 1819373 x 100 = **2.46%**

Lines 48-51 - WWTW Parameter Non-Compliance

The methodology for statistical calculations produced involved the use of the analytical results that are used for reporting to the Environmental Regulator. These samples are held in NI Water's LIMS (Laboratory Information Management System) and are representative, scheduled audit samples. No operational results were used for calculations.

The calculation for the AIR16 submission excludes audit samples which had a population equivalent less than 250, and those ammonia tests which although the site had a Water Order Consent, there was no ammonia consent.

In keeping with NIEAs assessment of NIW's compliance for 2014 onwards, the submission now also includes those BODs which were sampled as part of the UWWTR compliance sampling programme.

The queries also exclude those sites which have Suspended Solids scheduled as both SS_S and SS_MBR_S returning a single value for these samples instead of duplicates.

NIEA have agreed that from 2014 onwards, that NIW may reduce the sampling frequency of certain agreed sites which are unlikely to breach their consent conditions. This is typically a reduction of 50% and is reassessed and agreed annually on a site-by-site basis.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Count	11,234	11,251	11,461	11,524	9,088	8,747	8,585	8,863	9,161	8,938	8,528	8,738
> Consent	652	817	444	297	363	333	361	279	302	370	299	276
% Non-Compliance	5.80	7.26	3.87	2.58	3.99	3.81	4.21	3.15	3.30	4.14	3.51	3.16

Line 52 – Small WWTW compliance measure

Small WwTW Compliance is a new measure. The figure has been derived from projections used for PC15 small works compliance subject to the Northern Ireland Environment Agency (NIEA) audit. The projection report can be located at:

Sharepoint /Asset Management /Environmental Regulation /Wastewater and Waste / RWIP / 2015 /Small works compliance projections v3

As the units for Line 52 are still to be confirmed the figure has been reported as a percentage.

Line 53 - Unplanned (reactive) maintenance

Reporting restrictions

The ongoing development of the process for reporting of Sewage Non-infrastructure Unplanned (reactive) maintenance is expected to relate to the percentage availability of critical assets within this operational service area and although the principle of operation has already been proven through the development of M&E Out-of-Service databases for some equipment.

The return has been allocated a confidence grading of B2. This is due to the main factors listed;

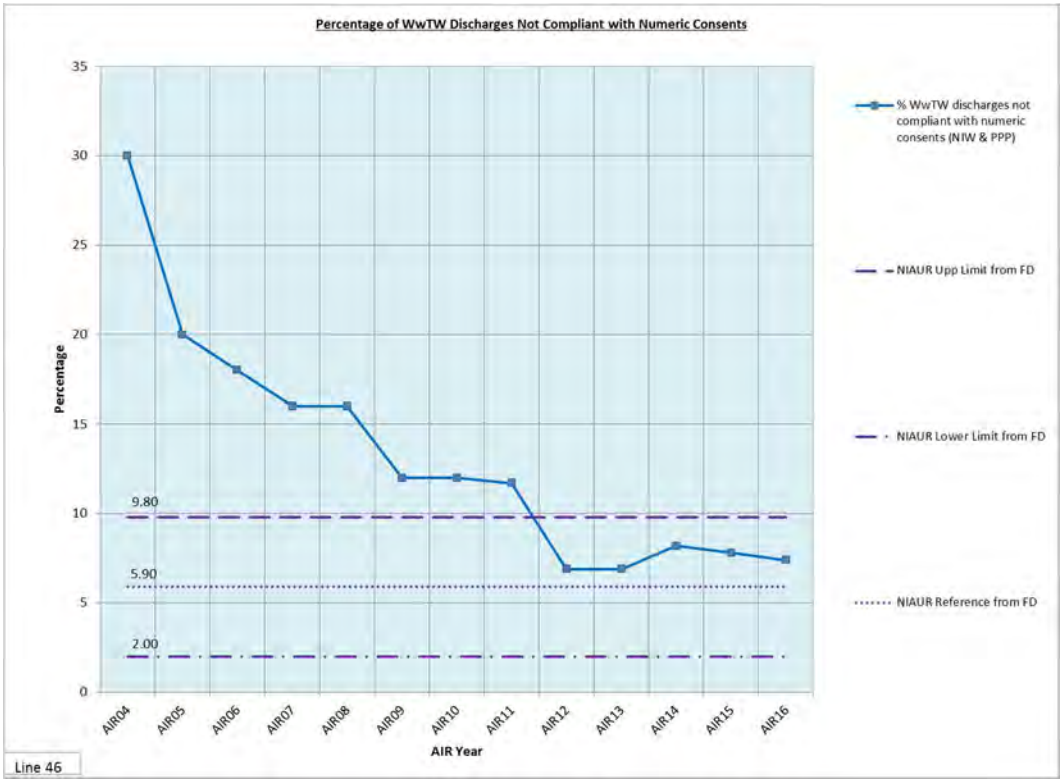
- Telemetry signal anomalies and errors can adversely affect the data for individual items of equipment.
- Equipment which is registered as "tripped in auto", "in hand" or "tripped in hand" is generally deemed to be unavailable. However those assets which are only operated in a manual capacity i.e. always "in hand" can offer misrepresentative data unless filtered out.
- The report is only run on working days i.e. Mon – Fri figures in the report are based on a maximum of 20 days for a 4 week period.
- Reporting on a daily basis means that faults that are repaired prior to the end of the working day are not recorded.

Line 54 – Company's overall serviceability assessment for sewerage non-infrastructure

All four areas of the serviceability indicators show that the wastewater non-infrastructure assets are performing well, and therefore the Company's overall serviceability assessment for Wastewater Non-Infrastructure is Stable.

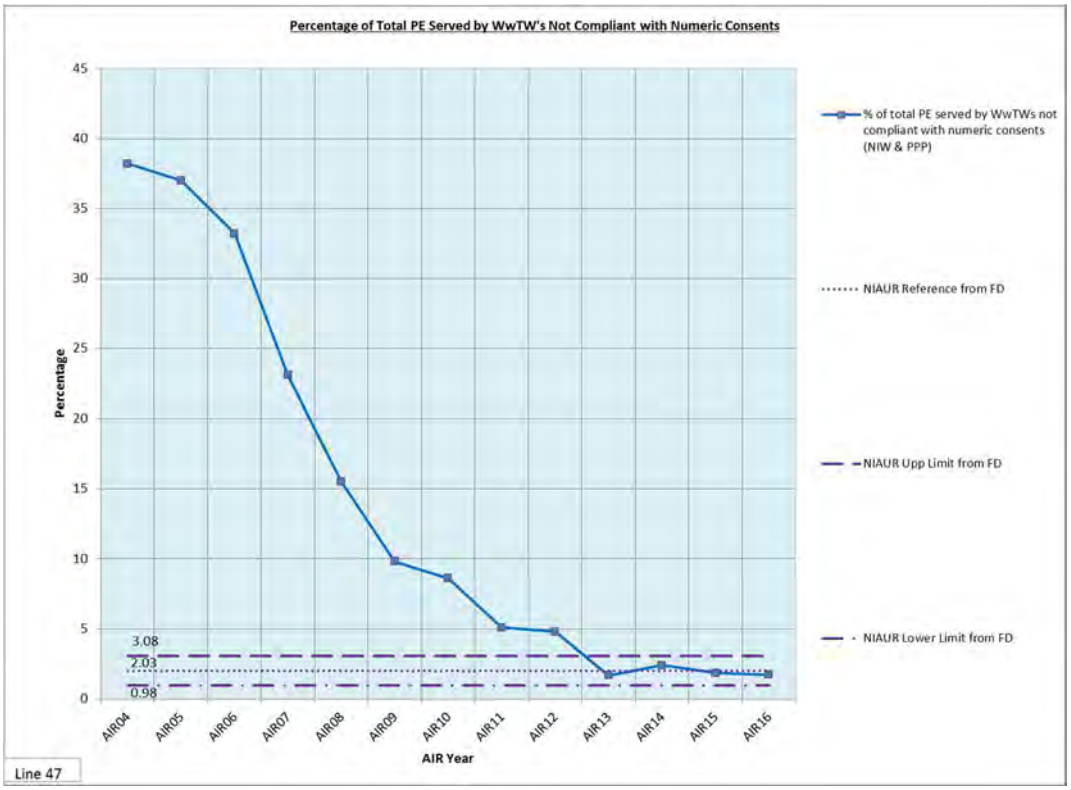
This can be seen in the serviceability graphs below:

Primary Indicator

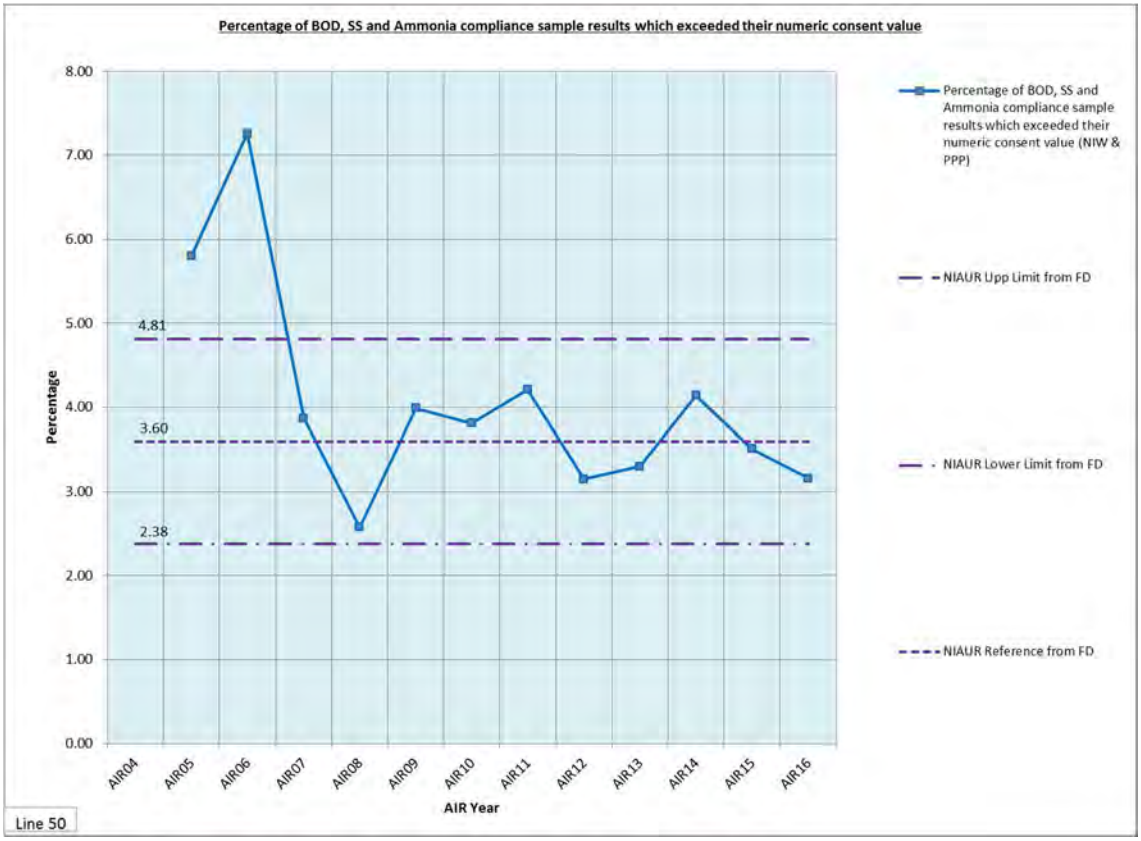


"Percentage of WwTW Discharges Not Compliant with Numeric Consents" continues to show an improving trend with an AIR16 figure of 7.4%, towards the reference level of 5.9%.

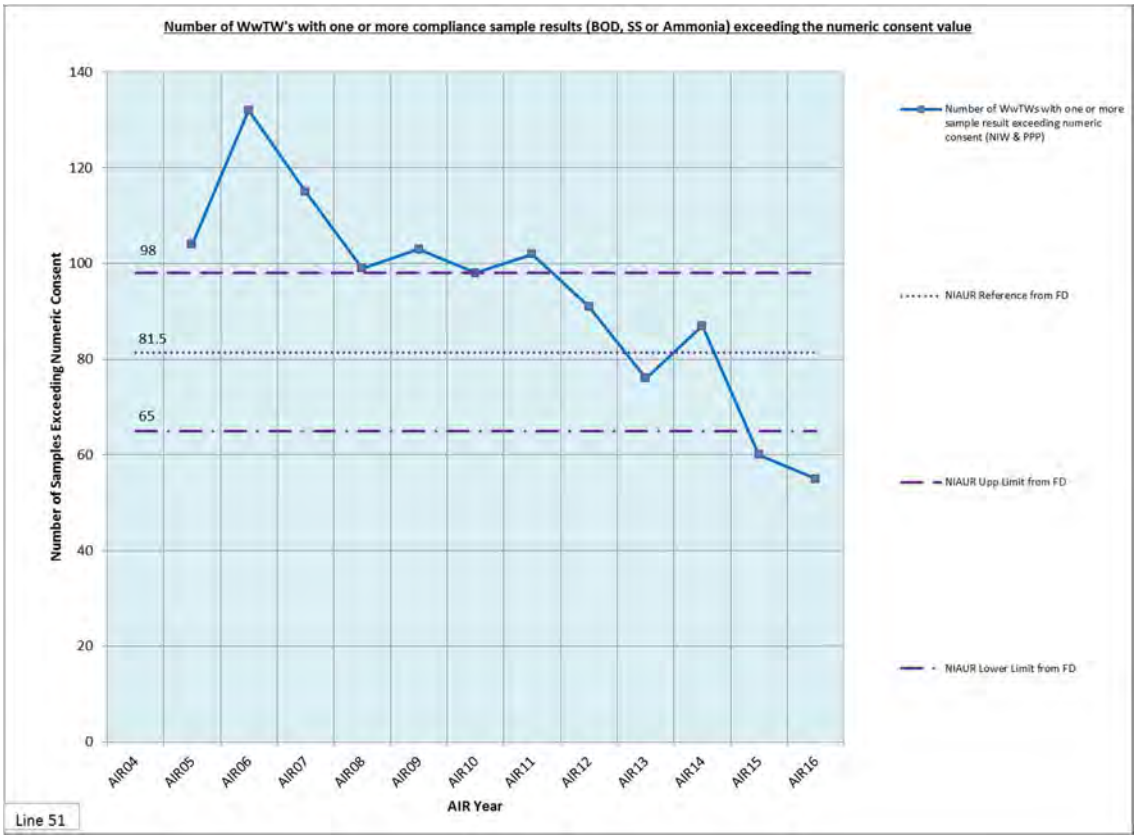
Secondary Indicators



"Percentage of Total PE Served by WwTW's Not Compliant with Numeric Consents" has for the last four consecutive years, performed well, with figures close to the reference.



There are no concerns with regards to "Percentage of BOD, SS and Ammonia compliance sample results which exceeded their numeric consent value", as the last 10 years' figures have remained within the limits.



"Number of WwTW's with one or more compliance sample results (BOD, SS or Ammonia) exceeding the numeric consent value" has continued to show improvement over the last 5 years.

Appendix 1 Compliance measurement

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, with WOC and UWWTR conditions 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 2015 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 16

1. For AIR 16 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 Asset Management Section (Performance Team – Above Ground) for the AIR 14 Return. These same PE's were also used to calculate the number of audit samples required per site for the 2015 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 16 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 decrease 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 used in AIR15	PE Supplied by Asset Management	Threshold Being Crossed
Ballymena	113,825	74,879	100,000
Dunmurry	53,605	46,458	50,000
Dromore (Tyrone)	2,032	1,917	2,000
Dundrum	2,613	1,674	2,000

The 2013 sample scheduling PE data, which was agreed with NIEA in November 2012, has been applied to the works in Table 2.

5. Only NI Water operated WWTW are included in assessment.

APPENDIX 2

Table 3 – Permitted Exceedances

No of Samples	Permitted Exceedances
4-7	1
8-16	2
17-28	3
29-40	4
41-53	5

APPENDIX 3

NORMAL OPERATING CONDITIONS UNUSUAL SITUATIONS AND NORMAL LOCAL CLIMATIC CONDITIONS

1. THE REGULATIONS' TERMINOLOGY

1.1 The term "normal operating conditions" is used in paragraph 4(b) of Part II of Schedule 3; the phrase "unusual situations such as those due to heavy rain" is used in paragraph 5 of Part II of Schedule 3; "normal local climatic conditions" are referred to in regulation 4(4)(a).

2. INTERPRETATION

2.1 In order to assist in interpreting the weather conditions that might be considered to be abnormal or unusual, a definition of exceptional weather conditions is given below, together with an example of what might be considered to be other kinds of abnormal or unusual operating conditions.

2.2 The abnormal conditions set out below include capital works construction and periods of industrial action. Both are being considered by the Regulatory Committee, along with other possible exceptions suggested by other Member States. An amendment to this guidance note will be issued in the light of any guidance from the Regulatory Committee.

2.3 Definitions

2.3.1 For the purpose of this *registered standard / consent* the works shall be deemed to have been under 'normal operating conditions' except during a period when the following apply:

a. 'Unusual weather conditions' which shall include the following:

i) low ambient temperature as evidenced by effluent temperature of 5^{o}C or less, or by the freezing of mechanical equipment in the works;

ii) significant snow deposits;

iii) fluvial flooding;

iv) weather conditions causing unforeseen loss of power to the works which could not be ameliorated by the reasonable provision and operation of standby generator facilities.

b. A reduction in the level of treatment due to periods of industrial action or acts of vandalism that could not have been reasonably prevented.

c. When the Regulator has issued a variation of the registered standard for reasons such as construction of capital works.

Annex A – Line Methodology for Table 2

A) Properties Receiving Pressure/Flow Below Reference Level

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 2015/2016 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 AIR16 (dated 31st March, 16) as attached.

Total Connected properties at Year End	AIR16
Extant Property Total	873450
less	
Domestic no water / well water	12338
Domestic sewerage only	6
Non-domestic no water / well water	5530
Non-domestic sewerage only	18
Non-domestic measured – not charged (test meters)	904
Non-domestic site meters	14240
Non-domestic trade effluent	83
Non-domestic unmeasured – not charged	599
Invalid Classification	22
Total Connected Properties at Year End	**839710**

Table 47 – Development Outputs

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.

Customer Services has been working extensively on providing an improved customer experience. Under the auspices of the Customer Engagement Oversight Group (CEOG), Customer Services 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:

- Customer Contacts,
- Resolving customer queries at first point of contact (FPOCR),
- Reducing repeat contacts, by analysing and understanding the reasons for these contacts, 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.

Planned next steps for delivery

The current proposals have been in place on/before 1st April 2016. This allows a period for testing and tuning for each of the measures in the first half of PC15, thereby providing sufficient data and trend analysis to enable performance targets to be set for the later years of the price control period.

Regular monitoring and reporting will continue to be available for meetings of CEOG for discussion ahead of any formal review.

Further reports may be developed as required to support the 4 key measures. This will be discussed and agreed at CEOG (as required).

Line 2 - Development of new consumer measures

The company shall provide a clear plan of how it will develop its approach to asset maintenance by the 30 June 2015 with an interim update by the 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.

1. Interim Update by 30th April 2015

In accordance with the Final Determination Main Report December 2014 (section 3.6. Reporting against development outputs) NI Water provided NIAUR with an interim update by 30th April 2015 on its plan of how 'it will develop its approach to asset maintenance'.
This update provided an overview of how NI Water had made considerable progress through enhancing the capital maintenance prioritisation methodologies, which had been in place for the PC15 Business Planning process, including the:

- Sewerage Infrastructure Investment Model (SIIM),
- Sewer Incident Analysis
- Water Infrastructure Investment Model (WIIM),
- Trunk Main Risk and Consequence Model, and
- Service Reservoir (SR) Condition Assessment Prioritisation Methodology,

The update reported on how new prioritisation methodologies were being developed for other asset types, including the:

- Wastewater Pumping Station Risk and Consequence Methodology, and
- Site Specific Plans for WWTWs and WTWs.

2. Clear Plan to Develop Approach to Asset Maintenance by 30th September 2015

Although section 3.6 of the Final Determination Main Report had requested NI Water to submit 'a clear plan of how it will develop its approach to asset maintenance by the 30 June 2015', NI Water advised NIAUR in its correspondence on 30th April 2015 that it would provide the plan by 30th September 2015, due to a number of reasons outlined.
NI Water duly submitted the document entitled 'Improving Capability in Capital Maintenance Planning During PC15', to NIAUR by that date, which set out its CMP High Level Roadmap, with Key Initiatives and milestones, to strengthen NI Water's approach to capital maintenance planning. The resultant improved capability in capital maintenance planning will enable NI Water to meet the basic requirements set out in Section 4 of the Final Determination and hence to produce a more robust and evidence-based business plan for the PC21 price control period.

The document described the objectives and deliverables for improved capability in capital maintenance planning that will:

1. Forecast the impact of differing levels of capital maintenance on asset performance and levels of service for customers and other stakeholders;
2. Understand the values and needs of customers and stakeholders, in relation to levels of service;
3. Carry out a bottom up forecast of how service will change in response to asset deterioration and maintenance interventions;

4. Establish a methodology to derive and balance the best value maintenance scenario, across the 4 key service areas (water and wastewater infrastructure and water and wastewater non-infrastructure), based on cost and service delivered; and
5. Use predominantly NI Water specific data to develop both bottom-up and top-down approaches.

The document also detailed the following eleven Key Initiatives that form NI Water's CMP High Level Roadmap:

1. Setting Strategy and Policy Objectives
2. Improve Asset Knowledge
3. Defining Failure Modes and Identifying Deterioration
4. Impacts of Asset Failure
5. Intervention Options and Impacts
6. Valuation of Service Levels
7. Intervention Cost Model(s)
8. Best Value Planning Tools
9. Integrated CMP Tool
10. 'Top Down' Methodology
11. Develop CMP Resources

3. Progress delivered against Key Initiatives within CMP High Level Roadmap (Sept 2015 – April 2016)

Since the formal submission of the CMP High Level Roadmap to NIAUR, the Roadmap information has been translated into a tracking spreadsheet which is being used for detailed project reporting to a Capital Maintenance Planning Group, which has been meeting on a monthly basis since Feb. The purpose of the group is to ensure that delivery against the eleven key initiatives is on target.

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
1. Strategy and Policy Objectives		
1.1 Confirm and implement the CMP High Level Roadmap including confirmation of roles, responsibilities, budgets and governance procedures	Q4 2015-16	Roadmap approved
1.2 Develop an initial framework of key service targets, measures and planning objectives to define the development of the capital maintenance model	Q4 2015-16	Initial framework completed
1.3 Develop a Capital Maintenance Planning Strategy to guide the outputs from the systems and processes that are put in place	Q4 2016-17	Not yet commenced

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
1.4 Determine how the developed CMP capability will be deployed to develop the PC21 business plan	Q2 2018-19	Not yet commenced
2. Improve Asset Knowledge		
2.1 Wastewater Infrastructure:	Q4 2017-18	
• **Critical Sewers** – Develop a tool to prioritise CCTV surveys, which will then be used to implement a 12-month survey programme.		Using model to predict sewers requiring rehabilitation and then carrying out CCTV surveys to confirm.
• **CSOs and Ancillaries** – Interrogate GIS system to review data (including sensitivities of locations) associated with CSOs.		Not yet commenced
2.2 Wastewater Non-Infra:	Q1 2019-20	
• **WWTWs > 250PE (inc Sludge Treatment Centres - STCs) & WWPS** - Formalise and enhance the recording of all asset specific information (on CAR) resulting from Maintenance Schedule Tasks, reactive and proactive work orders and capital maintenance interventions. The latter will be complimented by reliability and redundancy information which will be captured through liaison with Operational staff.		Commenced a 'Data Specification' document to identify most beneficial data to be collating.
• **Small WwTWs < 250PE** – Formalise and enhance the recording of all asset specific information (on CAR) resulting from Maintenance Schedule Tasks, reactive and proactive work orders and capital maintenance interventions. Reliability and redundancy information will be captured on WWTWs on the basis of cohorts of works treatment types, PE banding etc.		Commenced a 'Data Specification' document to identify most beneficial data to be collating

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• Develop Asset Performance Business Analytics to assist in the collation of all relevant asset knowledge held on corporate systems		APT presently working with ICT to develop Asset Performance Business Analytics
2.3 Water Infrastructure:	Q4 2016-17	
• **Strategic Mains** – Instigate a process for data capture (including condition data from routine maintenance)and root-cause analysis associated with future failures and/or adverse service impacts		An overview study has been initiated to determine the best practice approach to the condition grading of strategic mains.
• Undertake geographical analysis linking bursts to specific assets.		BAU links bursts to assets
• Obtain additional datasets (e.g. updated roads, rivers and flood plain datasets) and review and update the existing Trunk Main (Strategic Supply) Model.		Many datasets such as Road crossings are already included in the current Risk and Consequence Methodology Trunk Main Modellers have been requested to map potential trunk main sample points to the Trunk Main Model Rebuild. A small project is currently coming to an end whereby the highest risk valves have been identified in the Trunk Main/Strategic Network.

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• Identify and commission further condition assessment surveys on high-risk systems (including possible non-intrusive monitoring).		Condition assessments are prioritised and carried out each year as BAU An overview study has been initiated to determine the best practice approach to the condition grading of strategic mains.
• **Distribution Mains** – Improve the bottom up modelling approach within WIIM		WIIM 2 being completed
• Create distribution mains asset cohorts, within CAR, based on material, diameter, length and age ranges and link bursts to pipe asset cohorts.		Parent lengths being completed as an aide to analysis.
• Instigate a process for data capture and root-cause analysis associated with future failures and/or adverse service impacts.		Not yet commenced
• Assess data availability (as regards serviceability indicators) and implement BAU processes to capture and incorporate additional datasets (e.g. updated roads, rivers and flood plain datasets).		Not yet commenced
• **Service Reservoirs (SRs) & Clear Water Tanks (CWTs**) – Continue to integrate SR inspections with cleaning and maintenance programmes, where possible, and capture knowledge of improvement in asset performance from asset renewals / maintenance and the cleaning programme.		Alignment has been achieved between the SR inspections and the cleaning and maintenance programmes The Risk and Consequence Model analysis has also been updated.
2.4 Water Non-infra	Q3 2017-18	

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• **WTW and WPS** – Enhance the recording of all asset specific information (on CAR) resulting from Maintenance Schedule Tasks, reactive and proactive work orders and capital maintenance interventions. The latter will be complemented by reliability and redundancy information which will be captured through liaison with Operational staff.		Commenced a 'Data Specification' document to identify most beneficial data to be collating.
• Develop Asset Performance Business Analytics to assist in the collation of all relevant asset knowledge held on corporate systems.		APT presently working with ICT to develop Asset Performance Business Analytics
3. Define Failure Modes and Identify Deterioration		
3.1 Wastewater Infrastructure	Q4 2017-18	
• **Critical Sewers** – Develop the Sewerage Infrastructure Investment Model (SIIM) to link condition grade and collapse probability using published data / past failure data, to indicate sewer deterioration.		Not yet commenced
• **Other Sewers** – Develop SIIM to ascertain the probability of blockage and collapse based on relevant characteristics of sewer cohorts normalised for any specific weather effects or extreme weather events		Not yet commenced
• **Rising Mains** - Develop SIIM to ascertain burst probability based on characteristics of rising main cohorts**.**		Not yet commenced
• The need for a specific Deterioration Model for sewers will also be assessed		Not yet commenced
3.2 Wastewater Non-Infra	Q4 2018-19	

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• Review and develop the approach to standard asset lives for all WWTWs (and STCs) and WWPS informed by relevant criticality and reliability factors		APT presently working with ICT to understand information available from Asset Performance Business Analytics
• Allocate deterioration curves to asset lives and benchmark against other companies where possible		Not yet commenced
• Capture specific failure data against asset types; review recording processes to determine the reliability/relevance of the recording of failure types (including M&E) and activity types included within the MWM job management system		Assessing information from MWM
3.3 Water Infrastructure	Q4 2016-17	
• **Strategic/Distribution Mains** – Undertake statistical analysis of burst and deterioration data for the broader asset base and assess the viability of a deterioration model		Some deterioration of strategic mains has been incorporated within the Strategic Risk Model
3.4 Water Non-Infra	Q3 2017-18	
• Review and develop the approach to standard asset lives		APT presently working with ICT to understand information available from Asset Performance Business Analytics
• Allocate deterioration curves to asset lives and benchmark against other companies where possible		Not yet commenced
• Capture specific failure data against asset types; review recording processes to determine the reliability/relevance of the recording of failure types (including M&E) and activity types included within the MWM job management system		Assessing information from MWM
4. Impacts of Asset Failure		

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
4.1 Wastewater Infrastructure	Q2 2018-19	
• **Critical Sewers** – Review the number and cost to NI Water and stakeholders of blockages and collapses on critical sewers.		Not yet commenced
• **Other Sewers** – Enhance the consequence information within the existing SIIM to include the extent of impact		Not yet commenced
• **Rising Mains** – Develop the SIIM to include rising mains basing the approach on that used for gravity sewers		Not yet commenced
• **CSO and Ancillaries** – Ascertain and analyse failure data.		Not yet commenced
4.2 Wastewater Non-Infra	Q2 2019-20	
• **WWTWs > 250PE (inc STCs)** – Develop a service impact model; allocate the extent of service impact for each process stage/critical asset at each works including mitigation costs. Utilise the expertise of Operational staff to carry out FMECA type analysis (which may require a specific model) for each WWTWs.		A high level Risk Methodology is being developed for the 2017/18 Non-Infra Capital Maintenance Planning Workshops
• **Small WwTW < 250PE** - Develop generic assumptions on the extent of impact and mitigation costs, on the basis of cohorts of works treatment types, PE banding etc.		Not yet commenced
• **WWPS** – Develop the Risk and Consequence Methodology for WWPSs to incorporate the extent of service impact for each site including mitigation costs.		Pump efficiency assessment carried out for a number of WWPS
4.3 Water Infrastructure	Q2 2017-18	

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• **Strategic Mains** – Link burst and DG3 datasets to assets and analyse to understand the consequence of bursts		Bursts and DG3 datasets have been linked. Update required every time a WIIM review is undertaken.
• Create high-risk system schematics, to link and inform the DWSP risk assessments		Not yet commenced
• Validate the existing Trunk Main Risk and Consequence Model through review of scores and weightings and incorporation of ongoing case-based learning		BAU - The TM Review Group review ongoing issues and Capital Schemes and *re-prioritise* the list in relation to these issues at quarterly meetings. A revised formal iteration of the list will be considered in 2017-2018.
• Carry out hydraulic 'critical link analysis' for high-risk systems including modelling of flood impact and review/validate at a high level against actual incident data		Not yet commenced
• Subsequently update the existing Trunk Main Risk and Consequence model with newly available and improved data, consequence understanding and validation		BAU - A revised formal iteration of the list will be considered in 2017-2018
• **Distribution Mains** – Develop the risk and consequence aspect of WIIM and determine population at risk of interruption from failure of each main using critical link analysis and review/validate at a high level against actual incident data. WIIM will subsequently be developed with improved data, consequence understanding and validation.		Not yet commenced

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• **SR & CWT** – Develop good practice Service Reservoir risk assessments and formalise Expert and Challenge Panel meetings to validate the subjective weightings annually as part of business as usual		SR risk assessment methodology has been developed and reviewed in 2015
• Develop the Risk and Consequence Model from the existing SR/CWTs Condition Investment Prioritisation Methodology using good industry practise (UKWIR) and use outputs (vulnerability assessments) to inform the condition assessment programme		Risk and Consequence Model has been developed and reviewed in 2015
• Develop DWSP contingency and mitigation plans (capex / opex), by prioritised SR / CWT risk assessment score		Not yet commenced
• Update the Trunk Main (Strategic Supply) Model with the most strategic SR & CWTs and undertake resilience (which may include instrumentation control), criticality, water quality risk and outage assessments and planning. The output will inform DWSPs and allow NI Water to allocate extent of service impact for each structure.		A project for the updating of the Trunk Main (Strategic Supply) Model has been awarded and commenced .This Project should be completed in Spring 2017
4.4 Water Non-Infra	Q3 2017-18	
• **WTW** – Allocate the extent of service impact for each process stage/critical asset at each works including mitigation costs. Utilise the expertise of Operational staff to carry out FMECA type analysis (which may require a specific model) for each works		A high level Risk Methodology is being developed for the 2017/18 Non-Infra Capital Maintenance Planning Workshops
• **WPS** – Develop a Risk and Consequence Methodology for WPS, similar to that which NI Water has developed for the WWPS. It will be developed to incorporate the extent of service impact for each site including mitigation costs.		Methodology has been developed.

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
5. Intervention Options and Impacts		
5.1 Wastewater Infrastructure	Q3 2017-18	
• **Critical Sewers** – Review published repair cost factors against cost of historical repairs		Not yet commenced
• **Other Sewers** – Develop a cost model for proactive sewer cleansing programmes and a whole life valuation model to plan a programme of proactive sewer cleansing		Not yet commenced
5.2 Wastewater Non-Infra	Commence Q4 2015-16	
• For all **WWTWs (and STCs) and WWPS** capture and analyse information from Operators and corporate systems regarding the impact of maintenance interventions (including refurbishments, change to operating regime or MSTs, or mid-life interventions) on asset performance, efficiency and effect on asset lives		Not yet commenced
• Evaluate the cost risk of planned versus 'emergency' refurbishment/ replacement activities.		Not yet commenced
5.3 Water Infrastructure	Q2 2017-18	
• **Strategic Mains** – Develop an intervention strategy for prioritised pilot schemes with cost benefit analysis using best available data		Intervention strategy for prioritised schemes has been completed with schemes handed over to EP from this methodology in March/April 2016
• Identify contingency plans and potential capex & opex solutions for high-risk systems based on priorities following model updating, linking to the Water Resource Supply Resilience Plan and the DWSPs		Work being delivered through Water Resource Plan

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• **Distribution Mains** – Develop an Intervention Strategy with a focus on cost benefit and whole life value analysis, using outturn costs, rather than framework rates		Not yet commenced
• Prioritise critical sluice valves for intervention (based on risk and consequence approach) and identify capital need		A small project is currently coming to an end whereby the highest risk valves have been identified in the Trunk Main/Strategic Network. Some faulty valves have already been identified for maintenance and some have been prioritised for intervention. The next step is to assimilate the outputs for intervention at the Trunk Main Review Group
• **SR & CWT** – Develop cost benefit analysis of intervention types, based on UCD outturn costs		Not yet commenced
• Collate outputs from the condition assessment programme / interventions to better understand the effectiveness of interventions		Not yet commenced
• Develop a costed asset condition assessment programme and assess economic level of service risk		Not yet commenced
5.4 Water Non-Infra	Commence Q4 2015-16	

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• For all **WTW and WPS -** Capture and analyse information from Operators and corporate systems regarding the impact of maintenance interventions (including refurbishments, change to operating regime or MSTs, or mid-life interventions) on asset performance, efficiency and effect on asset lives		Not yet commenced
• Evaluate the cost risk of planned versus 'emergency' refurbishment/replacement activities.		Not yet commenced
6. Valuation of Service Levels		
6.1 Evaluate the appropriateness of the approach and the need to quantify service level values prior to further development	Q2 2016-17	Not yet commenced
6.2 Develop appropriate service measures and cost components (including Opex, reputation) to drive capital maintenance investment planning	Q3 2016-17	Not yet commenced
6.3 Review historical service level valuation data and evaluate model options	Q4 2016-17	Not yet commenced
6.4 Develop a service valuation model and populate it with available data – updating this subsequently to reflect the impact of updated S&EG (for PC21)	Q1 2017-18	Not yet commenced
6.5 Undertake customer engagement to understand priorities for customers and stakeholders and use this to inform / update the service valuation model	Q3 2018-19	Not yet commenced
7. Intervention Cost Model(s)		
7.1 Develop a UCD structure and process for capex (FOM _ Investment Planning project)	Q4 2015-16	Revised data capture sheet has been completed

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
7.2 Review and assess the use of current opex/capex systems such as MWM and Cost to Serve	Q1 2016-17	Not yet commenced
7.3 Create an Improvement Plan for opex/capex systems (including improved opex/capex data collection)	Q3 2016-17	Not yet commenced
7.4 Assess costs from wider business to inform service valuation model (customer complaint costs/call centre/ legal etc.)	Q4 2016-17	Not yet commenced
7.5 Populate the UCD with capital maintenance cost data	Q4 2017-18	Presently planning the UCD population phase
7.6 Develop cost curves and tabulations within the UCD	Commence Q1 2016-17	Not yet commenced
7.7 Implement improved opex/capex data collection	Q2 2018-19	Not yet commenced
7.8 Develop a model for analysing opex / capex data	Q2 2017-18	Not yet commenced
8. Best Value Planning Tools		
8.1 Wastewater Infrastructure	Q4 2017-18	
• **Critical / Other Sewers** – Develop the SIIM to incorporate a whole life valuation model to prioritise sewer rehabilitation.		Not yet commenced
• **Rising Mains** – Develop the SIIM to predict likely failures and will incorporate a whole life valuation model to identify priority rising mains for rehabilitation.		Not yet commenced
• **CSO and Ancillaries** – Develop a spreadsheet based prioritisation tool		Not yet commenced

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
8.2 Wastewater Non-Infra	Q2 2017-18	
• **WWTWs > 250PE (inc STCs**) – Assess, select and implement a best value planning model		Not yet commenced
• **WWTWs < 250 PE** - Develop a simplified planning spreadsheet.		Not yet commenced
• **WWPS** – Select and implement a strategic best value planning tool to model deterioration and mitigation impacts, populated with intervention and service costs		Not yet commenced
8.3 Water Infrastructure	Q4 2017-18	
• **Strategic Mains** – Review and develop the Trunk Main investment strategy model for high-risk schemes and systems to model deterioration and mitigation impacts as performance measures, populated with intervention and service costs		Not yet commenced
• **Distribution Mains** – Develop the WIIM to model mitigation impacts as performance measures, linking performance and deterioration to impacts, to enable full cost benefit analysis of schemes		Not yet commenced
• **SR & CWT** – Develop SR/CWT investment strategy model for high-risk SR/CWT's, populated with intervention and service costs		Not yet commenced
8.4 Water Non-Infra	Q3 2017-18	
• **WTW** – Assess, select and implement a best value planning model		Not yet commenced

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
• **WPS** – Select and implement a strategic best value planning tool to model deterioration and mitigation impacts, populated with intervention and service costs		Not yet commenced
9. Integrated CMP Tool		
9.1 Define strategic objectives for the Capital Maintenance Planning tool that incorporate regulatory, shareholder and stakeholder views in relation to priorities, risk and balancing investment	Q2 2016-17	Work has been initiated on assessing potential in-house solution
9.2 Develop a formal methodology to balance capital maintenance needs, projects and budgets	Q3 2016-17	Work has been initiated on assessing potential in-house solution
9.3 Review and assess existing (SCIM) and potential capital investment prioritisation tools	Q2 2016-17	Work has been initiated on assessing potential in-house solution
9.4 Develop and implement the appropriate capital investment prioritisation methodology or tool by March 2017	Q4 2016-17	Work has been initiated on assessing potential in-house solution
9.5 Implement trial run of the prioritisation tool with available data	Q4 2017-18	Not yet commenced
10. 'Top Down' Methodology		
10.1 Implement an annual review of serviceability performance and capital maintenance delivered by service to inform the Top Down methodology	Commence Q1 2016-17	Ongoing on an annual basis

Key Initiative	Delivery Milestone	Progress Sept 2015 to April 2016
10.2 Build on the PC15 top down approach (using serviceability and capital maintenance costs) to include consideration of excess opex costs incurred in maintaining service	Q3 2017-18	Not yet commenced
10.3 Review the relevance of an MEAV analysis for PC21, to provide an alternative top down assessment of future replacement costs of non-infrastructure assets	Q4 2017-18	Not yet commenced
10.4 Review alternative top-down benchmarks in context of the S&EG and other (ministerial) constraints to validate bottom up capital maintenance outputs	Q1 2018-19	Not yet commenced
11. Develop Capital Maintenance Planning Resources	Ongoing	
• Undertake strategic assessment of the asset management capabilities needed to deliver Key Initiatives		Not yet commenced
• Review current asset management capabilities versus expected requirement for skills and resources		Not yet commenced
• Deliver the required in house capabilities through appropriate skills development		Not yet commenced
• Identify requirements for outsourcing/ insourcing additional resources and capabilities		Not yet commenced

4. Summary of ongoing progress against the CMP High Level Roadmap Key Initiatives

Work is in progress on a number of service areas and tasks listed within the Key Initiatives such as the following:

1. A high level Risk Methodology is being developed for the 2017/18 Non-Infra Capital Maintenance Planning Workshops (in the interim until the formal methodology/model is developed);
2. Water Pumping Station Risk and Consequence Methodology is being developed;
3. A high level review of Capital Maintenance Planning Data Requirements was completed during Feb. Data improvement initiatives will progress to coincide with the development of new CMP methods and tools;
4. An Asset Management Capability Assessment has been carried out within NI Water, involving representation of staff from across the organisation, in Dec 2015. An action plan is being developed;
5. Work is ongoing with the Asset Information team to develop an Application Express (APEX) front end for reporting from the Sewerage Risk Model contained within the Corporate Asset Register;
6. The Trunk Main Risk Model has been completed and a Trunk Main Review Group has been set up to review and analyse the top 20 trunk mains as a first phase. Analysis will then progress to those outside the top 20; the Review Group will meet quarterly;
7. A study has been initiated to determine the best practice approach to the condition grading of strategic mains. A pilot project during the next 6 months will start by collecting condition samples from Trunk Mains (very few samples are taken in course of BAU;
8. Valves on Trunk Mains are being reviewed and prioritised for condition assessment, maintenance and replacement;
9. The Risk and Consequences Methodology and the inspection process for Service Reservoir Condition Assessments was updated last year and is currently being implemented. This methodology includes “piggybacking” onto the SR cleaning programme and setting priorities to address the higher risk SRs early in the programme where possible;
10. Investment Planning has completed the development of the UCD data capture sheet and is now planning the UCD population phase;
11. Asset Performance is working closely with ICT to progress Business Analytics approaches.

A draft project Business Case was produced in February based on the information from the PID and CMP High Level Roadmap, together with estimated costs. However, it became apparent that more detail on the level of resources and costs would be needed to justify the approval of total funding at this stage of the project. The decision was taken to seek early contractor involvement to assist in the further development of the CMP processes with a remit as follows:

1. Review the CMP documentation and the existing capital maintenance applications within NI Water;
2. Advise on the development of the Overall CMP Approach, to ensure delivery of the Key Initiatives from the CMP High Level Roadmap;
3. Support NI Water in the development of the CMP approaches, including the development of business value assessments, business cases and specifications,

sourcing data and data analysis. This will also include a detailed overview of CMP methods in current use within other UK Water Utilities.

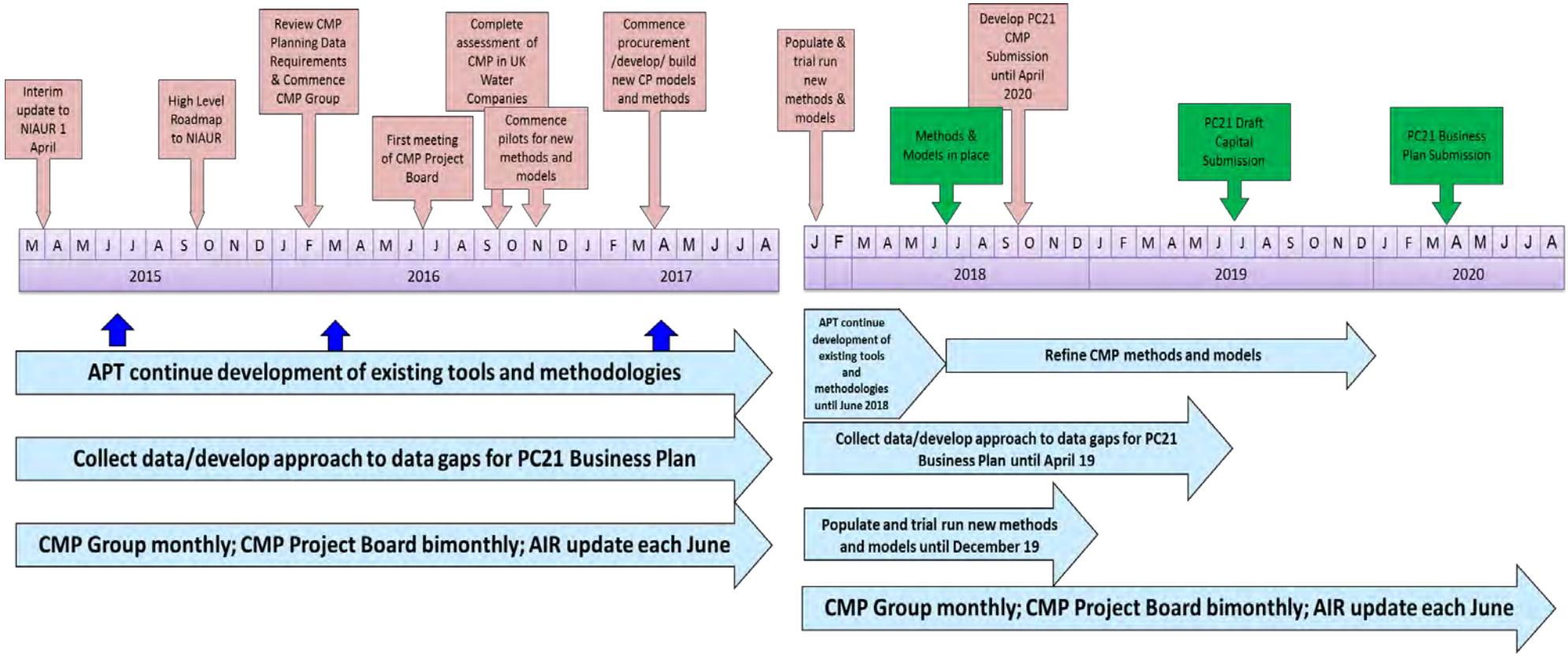
4. The Next Steps

The next steps in the development of NI Water's 'Plan for Asset Maintenance' include:

1. Further development of the CMP methodologies and tools which currently exist within NI Water;
2. A review of the delivery of the CMP project work streams, identified within the CMP High Level Roadmap, as part of the early contractor involvement;
3. Establish detailed budgets and business cases for each of the Key Initiatives;
4. Procure and appoint professional service suppliers to provide further detailed consultancy advice and develop CMP methods and tools in accordance with the project milestones. The following chart depicts the key inputs and milestones as presently understood by NI Water.

The project organisation has been defined and the first Project Board meeting will be held on 30th June 2016. The board will meet on a two monthly basis to review progress, understand risks and endorse the key strategic decisions.

Capital Maintenance Planning - Key Inputs & Milestone Chart



Line 3 - Preservation of Services and Civil Emergency Measures Direction (PSCEMD)

The company will report progress on delivery of PSCEMD enhancements agreed with the Department for Regional Development. The Utility Regulator will seek updates from DRD to confirm that the agreed work has been completed.

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 4 (15/16) for the period to 31st March 2016.

This confirmed that security hardening at the 45 Basic Plus service reservoirs was complete and commissioned into routine operation and security hardening at Killyhevlin WTW was completed as part of PC 13 programme.

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.

Detailed update

Following submission of the original PSCEMD Business Case as part of NI Water's overall PC15 programme proposals in early 2014, the Department contacted NI Water on 21st July 2014, seeking further details on the programme in order to provide accurate and timely advice to NIAUR.

NI Water staff subsequently met with DRD representatives, on a number of occasions, to review the programme and agree the detail and extent of work required for compliance.

On 10th September 2014, the Department wrote to NI Water confirming the work to be undertaken (14 WTWs – 73 SRs comprising, 18 Basic Plus sites and 55 Enhanced sites - 2 Enhanced Wastewater Treatment Works) advising this would be communicated to the Regulator.

Throughout these discussions NI Water staff pointed out that the programme, in terms of assets to be security hardened, would be subject to ongoing review to reflect changes that might take place in the water distribution network or water production facilities, albeit this would have minimal impact on overall numbers.

In February 2015, the Department wrote again to NI Water advising that they had reviewed the previously approved PC15 programme for security hardening and now believed there would be "opportunities to reduce this expenditure without deferring the whole programme of work". NI Water was invited to meet with WPSD staff to identify an appropriate way forward. In the weeks immediately after this letter from DRD, NI Water staff held several meetings with WPSD to review the programme to examine their preference for a phased implementation over a longer period than previously anticipated.

On 25th February 2015 the Department was provided with a revised programme for their consideration and approval: now phased into 3 separate delivery contracts for 54

Enhanced SRs, 14 WTWs into 2 separate delivery contracts and confirmation that the contract for 18 Basic Plus SRs was currently ongoing and would complete in October 2015.

On 2nd December 2015, NI Water wrote to DRD seeking confirmation and comment on the revised programme.

On 2nd March 2016, during the monthly meeting with DRD Shareholder Unit the security hardening programme was discussed and it was agreed that NI Water would provide DRD with a list the proposed works for their approval, prior to internal CIP approval - DRD indicated contentment with this approach.

On 31st March 2016, NI Water wrote to DRD enclosing a programme of security hardening work to be completed during PC15, comprising:

- 13 WTWs – (Camlough WTW, at an estimated cost of £2k, having been removed from the previous list of 14- due to the fact that it is scheduled to be decommissioned)
- 54 SRs – Note: Antiville SR has been removed, from service and that security alarms planned for Killyhevlin CWT will now be subsumed within the major capital refurbishment for that the whole site) revised total 54 – 2 = 52

On 12th April 2016, the Department wrote to NI Water confirming acceptance of the overall security hardening programme.

The changes with respect to the number of sites to be security hardened were always anticipated from the outset to reflect changes in the distribution network and in some cases reappraisal of needs; however, it was understood such changes would be at the margin of the programme and could be advised on an ad-hoc basis.

NI Water confirms that the programme for delivery still remains with all work to be completed within the PC15 period, which was the original timetable agreed with DRD and the PSCEMD Certifier.

The most recent profiling of expenditure indicates that:

- 52 (revised from 54 as noted above) Enhanced SRs - contract awarded in May 2016 with a completion date of August 2017.
- 13 WTWs is currently profiled to start in 18/19 but could be brought forward to 17/18 subject to final agreement on specifications and internal approvals.

Changes to the programme, in terms of numbers of sites to be security hardened, have changed due to the reasons outlined above; however, such changes have been notified to the Department.

Line 4 – iCAT Strategy

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.

Activity completed to date and its outcome

PC15 ICAT delivery programme business case was approved by the Business Improvement Project Board (BIPB) on the 30th November 2015. The project initiation documentation has approved and recruitment is underway to fully staff the delivery team. In advance of the project delivery the Intelligent Service Reservoir (iSR) has been fully tested and proved at 12 sites.

Planned next steps for delivery

The project will enter the on-site delivery phase in July 2016. This will be the start of the delivery of the iCAT solution to 200 sites over the PC15 period at a total cost of £4.5M. The project will consist of 5 phases, the initial phase (16/17 financial year) will focus on installations at 50 sites in the Cookstown / Omagh area at a cost of approximately £1m.

The project will deliver improved resilience through increased overall network storage volume, reservoirs spending less time in low-low level alarm, potentially quicker reaction time in operational incidents through remote 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 and acting as an enabler for Customer Relations Centre (CRC) and Production lines benefit realisation.

The total nett financial savings of the project is estimated at £2.387M over 10 years made up of reductions in overflows, site visits, overtime and truck rolls.

NI Water provided the Utility Regulator with a presentation on 13 October 2016 giving an overview of the PC15 iSR programme. Further information on the calculation of benefits will follow.

Line 5 – Water resource management plans and drought plan

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.

Activity completed to date and its outcome

The Water Resource Management Plans & Drought Plan is currently on-going. There has been some slippage in the programme and the draft plan should be available for consultation in December 2016 with the complete plan published in September 17. The highlight of activities completed to date include the Demand Chapter, Long Term Rainfall Modelling and the identification of unconstrained Options.

The Steering Group, including various external stakeholders, have been involved in all key decisions throughout the process.

Planned next steps for delivery

The project will continue as per the revised programme with key highlights including the completed Drought Plan, Critical Period Plan, further discussions on the Options before Draft Plan completed.

The steering group will continue to be involved in all decisions throughout the process.

Line 6 – Sustainable Economic Level of Leakage

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.

Activity completed to date and its outcome

NI Water have procured an SELL study which commenced in April 2016, has completed its scoping stage and currently in process of collating Company data for analysis.

NI Water have met with the WRMP project team, will align with the proposed 7 resource zone boundaries and understand the WRMP project leakage requirements.

Planned next steps for delivery

The SELL study is currently on target and will be completed by March 2017. The SELL study will include the review of customer supply pipe leakage, household night use and hour-to-day values.
NI Water have met with the WRMP project team and will inform the WRMP upon completion. NI Water plans to undertake a review of SELL in 2018/19 – 2019/20.

Line 7 – Controlled Reservoir Safety

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);*
- *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.

1. Remedial work on Camlough Reservoir

In 2013 NI Water appointed RPS to carry out a condition assessment of Camlough dam. As part of this assessment, RPS appointed URS to inspect the dam, utilising an All Reservoirs Panel Engineer. The review of the dam concluded that it was built according to the accepted standards of the time, but due to the lack of maintenance and changing design standards a significant upgrade would be required to ensure the safety of the dam.

A high water event in November 2013 necessitated emergency bank stabilisation and pumping to lower the water level to ensure the reservoir embankment did not fail. A contract (Intermediate Level Drawdown Pipework) was also completed before the 15/16 winter to reduce the likelihood of pumping over the winter period. This pipe is a permanent part of the refurbished reservoir, and also ensures the water level is easier to manage during the main contract.

A contract (Camlough Impounding Reservoir Refurbishment) has recently been awarded to rehabilitate the dam core and outlet pipework, which commenced in May 2016 and has a completion date of May 2017.

2. 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 Ascent on the 24th July 2015. Although not all parts of the Act have commenced Rivers Agency intend to bring forward further regulations in relation to the act within the next couple of years. Previously NIW worked under the spirit of the Reservoirs Act 1975.

NI Water presently has a total of 48 Impounding Reservoirs, in service and out of service, which are recognised by the act as being ‘controlled reservoirs’. The definition of this term now broadly includes structures and areas which are capable of holding 10,000m3 or more of water above the natural level of any part of the surrounding land. This covers SRs & CWBs, which is an important change from the 1975 act which only covered Impounding Reservoirs.

A project has been raised for the inspections of the 48 Impounding Reservoirs and a contract will be let following the establishment of the new Consultancy Framework due to be in place in Autumn 2016, this has been delayed with a knock on delay to the IR inspections. However, NI Water expects that the inspections will be complete by the end of 2017/18. NI Water cannot presently comment on whether this timing will have

any implications for the completion of maintenance requirements by 2020-21, until the inspections are complete and the extent of maintenance requirements are known.

Although Rivers Agency has a list of SRs and CWBs, belonging to NI Water, both the list and the process of designation between Rivers Agency and NI Water has yet to be agreed. Hence NI Water has not reported any SRs or CWBs as 'controlled reservoirs' for AIR16. The Rivers Agency is presently compiling a report on their audits of privately owned reservoirs, which is to be presented to the NI Assembly within the next 2 months or so. It is expected that this report could be with the Assembly for consideration for 6-18 months, after which legislation should commence. Thereafter it is expected that there will be a period of 6 months for owners to register their reservoirs and for Rivers Agency to issue the designated risk to the owners. It is expected that owners will be given 12 months to provide Section 10 and 12 inspections. Hence, it is too early in the process for NI Water to indicate how or when the SRs and CWTs that the bill now applies to will be addressed.

3. 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.

Not yet applicable

Plans for Delivery of the inspection requirements of the proposed Reservoir Bill for controlled reservoirs

The plans as set out in the PC15 Business Plan submission for the inspection requirements, for the Impounding Reservoirs, and the delivery of any maintenance requirements arising from these inspections are still on target for 2020-21. However, it is to be noted that the extent of the maintenance requirements will not be known until the inspections are carried out. NI Water will advise NIAUR on any material issues identified in the surveys which require immediate attention which cannot be delivered within the estimated PC15 funding.

Line 8– Water mains prioritisation

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.

Activity completed to date and its outcome

The company shall engage 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. Ideally we would have waited for conclusion of CEOG analysis before completing WIIM and building PC15 business plan but this would have meant missing submission deadline for PC15 business plan.

- Gap analysis was conducted after completion of CEOG analysis in order to ascertain extent to which WIIM was aligned to CEOG analysis.
- Gap analysis established that strong alignment existed, with the absence of DG3 from the model acknowledged by NI Water as an area which had to be addressed. Other than DG3, no recalibration of WIIM was required as a result of CEOG.
- Although it had initially been considered that issues around geo-coding historic DG3 data would prevent effective incorporation of DG3 into WIIM, extensive consultation within NI Water established a workable solution to DG3. NI Water CSDD staff were closely involved in bringing DG3 into the WIIM model.
- The UR were 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 delivered to CCNI in September 2014 in order to inform them of progress around WIIM and explain plans regarding incorporation of DG3 into analysis.

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 will provide updates on the implementation of the prioritisation annually throughout PC15.

- The WIIM 2 project is coming to a conclusion. The WIIM 2 methodology incorporates the “Interruption to Supply” requirement

Improvements contained in WIIM2 (from 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 Work package at an earlier stage than WIIM 1.
- DG2 Pumping Schemes will soon include TOTEX costs, as opposed to CAPEX only costs under WIIM1. This has resulted in a significant decrease in promoted pumping scheme count.
- An improved understanding of Water Quality (Fe) issues has resulted in an amended methodology for allocation of incident location to supplying main.

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

NOTE ON SCORING IMPACT: A rough Initial outline analysis of WIIM 2 Schemes to date have shown the split of the overall schemes identified if we had unlimited Budget and resources would be 560km of Structural Schemes and 680km pf WQ schemes a 55:45 split. These percentages however fluctuate as “Cut Off Scores are applied to identify the highest scoring mains to prioritise i.e. if the cut off was 300 WIIM 2 Points then the split might turn out to be 40% WQ and 60% Structural. These are just indicative figures however as the cut off score (based on annual Budget and the geographical bundling required for EP delivery) will also skew the makeup of the WQ/Structural Split.

Impact of the Balance Between WQ and Structural Schemes Due to Scoring matrix and Score Cut Off methodology (To help address Higher Priority Schemes)

Length of schemes (km)		
	Water Quality	Structural
>= 300 Points	110	160
All schemes	680	560

- Note: DG2 Work packages are analysed separately
- See below the current draft of WIIM 2 maximum scores in each category (WIIM 2 Project is not yet completed)

Recent work packages issued to date under the WIIM1 methodology in 2015-2016
During the reporting period 2015-2016 approx. £22m of prioritised interventions were commenced under the WIIM1 methodology with the following WPs being issued in June 2015

- Foffany North and Lisburn South
- Killylane North and South,
- Ballymena Phase 1 and
- Ballymena Phase 2
- Ballywonard Dunore

The following WPs were also commenced later in 2015-2016 under the WIIM 1 methodology

- Forked Bridge Dunmurray,
- Dungonnell,
- Carrickfergus,
- Breda South,
- Dunore Ballygomartin South,
- Dunore Belfast North and Oldpark

There were also a significant number of PC13 legacy schemes progressed in 2015-2016 which arose from the Zonal Study Methodology.

Note: Further WIIM 1 Work packages were issued in April 2016 (outside the remit of this report)
Note: No WIIM 2 Work packages have been issued to date as the WIIM 2 project is only just finishing up

Also see line 2 response which references Water Mains Rehab programme.

Planned next steps for delivery

The company shall maintain the WIIM prioritisation process in order to continually develop the rehabilitation programme for PC15 delivery.

Line 9 - Sustainable Catchment Management (SCaMP)

NI Water is currently developing Catchment Management Studies for each of its active water catchments and will follow this with catchment plans for 'mothballed' impounding reservoirs. These plans will give the detail on how the catchment land will be managed going forward to give maximum 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, turbidity and suspended solids 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 Catchment Management Studies is 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 will provide a basis for the preparation of business plans for catchment management in support of drinking water

source protection and, in part, for meeting other WFD and corporate obligations for PC15 and beyond.

The Catchment Management Studies are being undertaken on a prioritised basis. The prioritisation rationale involves 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 CPEO, Algae Blooms, Colour/Turbidity, TOC, Pesticides)
- 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: Tourism, Livestock Agriculture, Arable Agriculture, Forestry, Residential Dwellings, Industrial, Hydrocarbons, Rubbish / Fly tipping, 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: 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.

Programme for delivery of Catchment Management Studies

During PC15 NI Water will deliver:

- *22 catchment plans (live catchments) to be delivered in first 3 years of PC15.*
- *23 catchment plans (unused catchments) to be delivered in years four to six.*

NI Water is on track to meet the delivery of the catchment plans as detailed in the programme below:

Category	Priority	Water Treatment Work Name	Catchment Management Study	Target Delivery Date	Comments
Operational WTW's	1	Killylane	2013-14	31/03/14	Completed
Operational WTW's	2	Dorisland	2013-14	31/03/14	Completed
Operational WTW's	3	Clay Lake	2013-14	31/03/14	Completed
Operational WTW's	4	Derg	2014-15	31/03/15	Completed
Operational WTW's	5	Lough Braden	2014-15	31/03/15	Completed
Operational WTW's	6	Caugh Hill	2014-15	31/03/15	Completed
Operational WTW's	7	Carmoney	2014-15	31/03/15	Completed
Operational WTW's	8	Seagahan	2014-15	31/03/15	Completed
Operational WTW's	9	Altnahinch	2015-16	31/03/16	Completed
Operational WTW's	10	Drumaroad (inc Silent Valley, Annalong & Lough Island Reavey)	2015-16	31/03/16	Completed
Operational WTW's	11	Fofanny	2015-16	31/03/16	Completed
Operational WTW's	12	Dunore Point	2016-17	31/03/17	In Progress
Operational WTW's	13	Castor Bay	2016-17	31/03/17	In Progress
Operational WTW's	14	Moyola	2016-17	31/03/17	In Progress
Operational WTW's	15	Ballinrees	2016-17	31/03/17	In Progress
Operational WTW's	16	Lough Macrory	2016-17	31/03/17	In Progress
Operational WTW's	17	Lough Fea	2016-17	31/03/17	In Progress
Operational WTW's	18	Glenhordial	2016-17	31/03/17	In Progress
Operational WTW's	19	Carron Hill	2017/18	31/03/18	Planned
Operational WTW's	20	Rathlin	2017/18	31/03/18	Planned
Operational WTW's	21	Dungonnell	2017/18	31/03/18	Planned
Operational WTW's	22	Killyhevlin	2017/18	31/03/18	Planned
Operational WTW's	23	Belleek	2017/18	31/03/18	Planned
Abandoned WTW's	24	Altmore (High)	2018-19	31/03/19	Planned
Abandoned WTW's	25	Altmore (Low)	2018-19	31/03/19	Planned
Abandoned WTW's	26	Ballintemple IR	2018-19	31/03/19	Planned
Abandoned WTW's	27	Ballydoolagh (IR)	2018-19	31/03/19	Planned
Abandoned WTW's	28	Ballysallagh Lower	2018-19	31/03/19	Planned
Abandoned WTW's	29	Ballysallagh Upper	2018-19	31/03/19	Planned
Abandoned WTW's	30	Ballyversall	2018-19	31/03/19	Planned
Abandoned WTW's	31	Boomers Reservoir	2018-19	31/03/19	Planned
Abandoned WTW's	32	Church Road	2019-20	31/03/20	Planned
Abandoned WTW's	33	Conlig Lower (IR)	2019-20	31/03/20	Planned
Abandoned WTW's	34	Conlig Upper	2019-20	31/03/20	Planned
Abandoned WTW's	35	Craigahulliar	2019-20	31/03/20	Planned
Abandoned WTW's	36	Creightons Green (IR)	2019-20	31/03/20	Planned
Abandoned WTW's	37	Dunalis	2019-20	31/03/20	Planned
Abandoned WTW's	38	Killea (WTW)	2019-20	31/03/20	Planned
Abandoned WTW's	39	Knockbreckan	2019-20	31/03/20	Planned
Abandoned WTW's	40	Leathemstown	2020-21	31/03/21	Planned
Abandoned WTW's	41	Lough Cowey	2020-21	31/03/21	Planned

Category	Priority	Water Treatment Work Name	Catchment Management Study	Target Delivery Date	Comments
Abandoned WTW's	42	Lough Money	2020-21	31/03/21	Planned
Abandoned WTW's	43	Portavoe IR	2020-21	31/03/21	Planned
Abandoned WTW's	44	Quolie (North)	2020-21	31/03/21	Planned
Abandoned WTW's	45	Quolie (South)	2020-21	31/03/21	Planned
Abandoned WTW's	46	Stoneyford Reservoir	2020-21	31/03/21	Planned

Benefits of Catchment Management

NI Water manages 8,615 hectares of land. NI Water has embraced and adopted Sustainable Catchment Area Management Planning (SCaMP) and is seeking to build on the foundations of this put down in PC10 and PC13. Through the SCAMP NI approach NI Water seeks to:

- Maximise the ecosystem services gained from its land holdings
- Meet its obligations under environmental legislation
- Improve operational efficiency through innovative projects
- Improve raw water consistency and quality

The benefits of the SCaMP project will be realised in the long-term, but the Catchment Management Studies completed to date have recommended a number of key outputs or recommendations, which are now being implemented in the form of the SCaMP projects and resultant benefits listed below:

Benefit 1 - NI Water will, over time, have improved raw water quality arriving at its Water Treatment Works.

Example Project - There have been high levels of the pesticide MCPA at nine raw water sources – Ballinrees, Carran Hill, Clay Lake, Seagahan, Derg, Strule, Killyhevlin, Belleek and Dorisland WTW's. This has the risk of water quality exceedances, DWI Enforcement action and increased operational and capital expenditure for NI Water.

This issue has been dealt with by NI Water through active engagement with the Water Catchment Partnership (WCP), by proactively working together with a range of stakeholders 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. The aim of the WCP is to deliver one message incorporating the ethos from all organisations to effectively tackle the problem of pesticides in the water environment, particularly in Drinking Water catchment areas.

A farm liaison officer was employed by NI Water, as a pilot in summer 2015 for a 3-month period (July – Sept) to specifically target Derg catchment area. The work of the farm liaison officer included doing door-to-door farm engagement visits to raise awareness and educate farmers in correct procedures and best practice when using and disposing of chemicals and pesticides. During this pilot project approx. 1200 engagement visits were carried out. Following the success of the pilot project it was decided to repeat the exercise for 5-month period in 2016 (May – Sept). During 2016 the target catchments were Clay Lake, Seagahan and Strule catchments, which have also been shown to be catchments of risk from use of MCPA.

The Farm Engagement Liaison Officer carried out the following duties:

- Communicated with householders and farmers to raise awareness and provide best practice guidance on grassland pesticide use. Built relationships with key stakeholders within the community & the WCP.
- Door-to-door farm engagement visits to raise awareness and provide best practice guidance on grassland pesticide use in the farming community. The main priority for this work is the Clay Lake, Seagahan and Strule catchment areas, but also involves some work in other areas of NI.
- Carried out engagement visits to all the farms in Seagahan catchment area – 310 farms
- Carried out engagement visits to all the farms in Clay Lake catchment area – 230 farms
- So far carried out 600+ engagement visits to farms in Strule catchment area
- Visited 80 livestock marts, pesticide suppliers and garden centres across NI to distribute pesticide information posters and best practice leaflets.
- Targeted farm general merchants who sell pesticide products
- All B&Q and Homebase stores visited to distribute best practice leaflets to householders.
- Organised a farm rush control event held for farmers in Killeter community centre on 5th July, in liaison with CAFRE, to give farmers advice when using pesticides. This was a very successful event in the heart of the Derg catchment with 50 farmers in attendance
- Rush control event carried out at Crom Estate, Co Fermanagh on 20/09/16 in liaison with CAFRE and UFU. Almost 100 farmers were in attendance.
- WCP stand at Balmoral, Omagh, Enniskillen and Clogher Valley Shows to engage with farmers to get the message across about best practice when using pesticides.

This trial was very worthwhile and there are many individual examples of where farmers were helped with best practice and given good advice on dilution rates for pesticides. Overall there was a very positive response with some excellent results in helping farmers with rush control advice, best practice advice, etc. While this is very difficult to quantify statistically, it undoubtedly will have helped change practices and the objective of having less MCPA pollution in watercourses used for abstraction.

Following the engagement work of the Water Catchment Partnership and the farm liaison officer in 2015 and 2016, the raw water MCPA residuals in a number of catchments are showing a slight decreasing trend for 2016. The MCPA levels and trends will be continue to be monitored over a number of years to ensure the reducing trends continue and enable evaluation of the benefits of this proactive work over time.

Benefit 2 - NI Water will, over time, reduce the risks of raw water quality incidents effecting WTW output capability.

Example Project 1 - 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. In order to minimise risk to water quality guidelines have been agreed between NIW and Forestry Service in order to protect the raw water quality at each catchment. 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, particularly at Lough Bradan WTW. This improvement will be particularly evident during times of peak flows and high rainfall events.

Example Project 2 – A pilot project is being developed at Lough Bradan WTW to monitor quality at each of the individual intakes, then install online quality monitors and automatically control flows to the WTW, maximising use of technology to ensure that the best possible water quality is received at the WTW intake point. Improving the raw water quality in the water supply network and monitoring water quality at each abstraction point will allow the best quality water to be abstracted and will assist in reducing treatment costs.

Benefit 3 - NI Water will, over time, see an improvement in the reliability of water quantity from its upland sources.

Example Project - Garron Plateau Blanket Bog Restoration Project. The largest expanse of intact blanket bog in Northern Ireland is found at the Garron Plateau and its value has been recognised both nationally and internationally. This area, 2000 hectares, is owned by NI Water and is in the catchment for Dungonnell WTW's. The Blanket Bog has been monitored as part of an ASSI Condition Assessment and found to be in unfavourable condition. There are two main reasons for this:

- Overgrazing and trampling by livestock have resulted in exposure of bare peat.
- The site was damaged during the 1960's and 1970's when drainage ditches were dug through the bog.

The drainage ditches also caused a lowering of the water table, drying out the bog and damaging the natural vegetation. This gave rise to exposed peat which then became susceptible to erosion and resulted in the supply of poor quality raw water to Dungonnell Reservoir and increased costs during the water treatment process to remove colouration from the peat-stained water.

In order to reverse the damage, a management plan for the 2000 hectares of the Garron Plateau ASSI, owned by NI Water was completed, involving RSPB, NIEA and NI Water. The objective was to restoring the blanket bog to favourable condition.

We have now delivered the plan, firstly by working with tenant farmers to reduce grazing pressure, getting tenancy agreements with farmers revised and stocking density for sheep reduced to a level that will allow the natural bog vegetation to recover. Secondly, a contractor has been employed to blocking drains to raise the water table, by creating peat dams, timber, stone and plastic sheet dams. This will result in the raising of the water table and the "re-wetting" of the bog to encourage the re-establishment of natural bog vegetation.

The creation of a series of peat dams will reduce water velocity in the drains and allow more settlement time, thus reducing runoff and improving raw water quality. This will result in operational cost savings at the treatment works as the requirement for chemical treatment to remove colour from the raw water will be reduced. Reduced energy requirements for treating water will contribute to a reduction in our carbon footprint and greenhouse gas emissions. Blocking drains will also re-establish natural hydrological conditions and enhance biodiversity allowing colonisation by peat-forming Sphagnum moss and lead to a healthy, functioning bog. Preservation of the bog features that support a wide variety of plant and animal species will contribute to our aims to conserve biodiversity.

Any improvement in raw water quality will be long term. Raw Water quality has been monitored for all the main quality parameters over a number of years and will continue to be monitored to verify any improvement in quality from the restoration work. An earth observation study has been completed to assess the condition of the bog and moisture

and this will be repeated in a few years' time to assess bog condition improvements over time. It is envisaged that the work undertaken at Dungonnell will serve as a demonstration site for best practice and a model for future biodiversity projects in Northern Ireland.

Benefit 4 - NI water will work toward meeting its environmental obligations in its catchments.

Example Project - There is an annual plan to control invasive species, rhododendron and cotoneaster, in the Mournes catchment landholding to ensure designated land is managed and environmental obligations are met. Work is currently underway to digitally map this work and monitor the progress in controlling these invasive species.

Benefit 5 - NI Water will work with stakeholders to improve the overall condition of its catchments.

The Eastern Mournes Wildfire project is carried out to reduce the risk of wildfires damaging wildlife habitats and adversely affecting raw water quality from the catchment. This project was carried out with a range of stakeholders, e.g. NIFRS, NIEA, Mourne Heritage Trust, UFU, DAERA, etc. Work is currently underway to digitally map the areas affected by wildfires and monitor areas where deliberate actions have been undertaken to control wildfires.

Benefit 6 - 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.

Example Project – Work is ongoing in liaison with the Woodland Trust to plant riparian strips along watercourses to enhance habitats, resulting in enhanced biodiversity and improved raw water quality. This improves raw water quality through buffer zones to protect from pesticide pollution, bankside erosion and livestock encroachment/excretion in the waterway. This improvement will be particularly evident during times of peak flows and high rainfall events. One example is the riparian planting project at the Glenedra River where NI Water, The Woodland Trust and The Loughs Agency co-operated to complete a riparian tree planting project. NI Water abstract water from the Glenedra River, where water quality can frequently be poor due to bankside erosion and instability of the river. In order to improve water quality for abstraction, wildlife habitats and aquatic life, a 3.89 ha site was planted with native broadleaf trees along the banks of the river. Trees planted along river banks can provide many water management benefits, acting as a physical barrier, preventing pesticides drift from reaching watercourses and tree roots help stabilise river banks and create structural complexity in the water habitat. There is a resultant reduction in the water discolouration and sediment coming into Water Treatment Works. The cost of this type of project is small to NI Water as the other partners involved contribute significantly through internal and external funding sources.

The following work is also planned as part of the SCAMP project:

1. Mourne Wildfire Containment - The Silent Valley drinking water catchment area and surrounding areas of the Mournes were subject to wildfires which damaged between 8-10 square kilometres of upland heath in the Mournes during April/May 2011. NI Water, in conjunction with Mourne Heritage Trust (MHT), NIEA and NI Fire and Rescue Service (NIFRS), commissioned a report by Wildfire Advisory Services. This paves the way for a focused and innovative approach to managing wildfire outbreaks in the wider Eastern Mournes area, considering practical wildfire management and emergency response within

the drinking water catchment. In order to achieve the objectives, work is required to action the recommendations from the Wildfire Containment Report. This report has been adopted in agreement with NIEA, NIFRS, MHT and NIW. NIW are committed to proceeding with implementation as part of this partnership. In order to achieve objectives, work was done on a controlled burn area in March 2015. It is proposed to continue to carry out the remainder of the recommendations of this report in the PC15 period.

2. Mourne Invasive Species Control - The expansion of Rhododendron and Cotoneaster is of concern to upland heath land management for a number of reasons. There is a legal obligation for NIW 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.

3. Mournes Heathland Management - NI Water have developed a successful working relationship with Mourne Heritage Trust (MHT) and work together to mutual benefit in managing the Silent Valley catchment which is owned by NI Water. It is proposed that NI Water carry out some habitat restoration work under the SCAMP project to add value and support the MHT project and to help develop a 'leverage' ethos, whereby NI Water can contribute a relatively small amount, allowing NGO's to attract larger funding sources.

4. Drainage Study at Lough Bradan WTW catchment - The catchment of Lough Bradan Reservoir is covered mainly with coniferous forestry planted on peat bogland. Forestry Service activities of felling and replanting trees have been shown to detrimentally affect raw water quality on an annual basis. It is proposed to carry out a drainage study in the catchment to enable NI Water and Forestry Service to better manage these activities and control water run-off so that any impacts, and hence costs, are minimised for water treatment.

5. Farm Liaison Officer – In summer 2015 a farm liaison officer was employed for 3 months' trial period to conduct door-to-door farm engagement visits in the Derg catchment area and also attend agricultural events/ shows, produce and distribute information leaflets and be involved in farmer training to raise awareness and educate farmers in correct procedures and best practice when using and disposing of chemicals and pesticides. It is planned to repeat this exercise for a 5-month period in 2016 in other priority catchments.

6. The Water Catchment Partnership is a partnership between the Ulster Farmers Union (UFU), Northern Ireland Environment Agency (NIEA), Northern Ireland Water (NIW) and The College of Agriculture, Food & Rural Enterprise (CAFRE). 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. Farm engagement visits were carried out in 2015 in Derg catchment and agricultural events/ shows attended to distribute information leaflets and educate in best practice when using pesticides. It is planned to continue with the production and distribution of literature to enable this important work to continue.

8. There will continue to be significant potential for many of the sustainability initiatives being proposed to gain substantial external funding, thereby considerably increasing the value of the benefits per £NIW. There are a number of external EU funding applications in progress which, if successful, will add considerable value to the overall NIW SCAMP programme.

Line 10 – Minimising the water quality risk from lead pipes

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.

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 analyse and collate information and data obtained onto 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 exceedances and densest clusters
- Desktop exercise to help focus on the areas required for further sampling verification and review
- If the network distribution pipe is considered unsuitable – pass the scheme over to Engineering Procurement Watermains Rehabilitation Team for replacement of the distribution main and the related communications pipes together.
- On site sampling and inspections to further verify priority areas
- Ensure value for money in delivery of this work by clustering work where possible

Prioritisation

The Asset Performance Networks Water 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 were 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 ug/l	x	0.1	1
10 -14.99 ug/l	x	1.0	2
15 - 49.99 ug/l	x	3.0	3
> 50 ug/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, as illustrated in Figure 2 below.

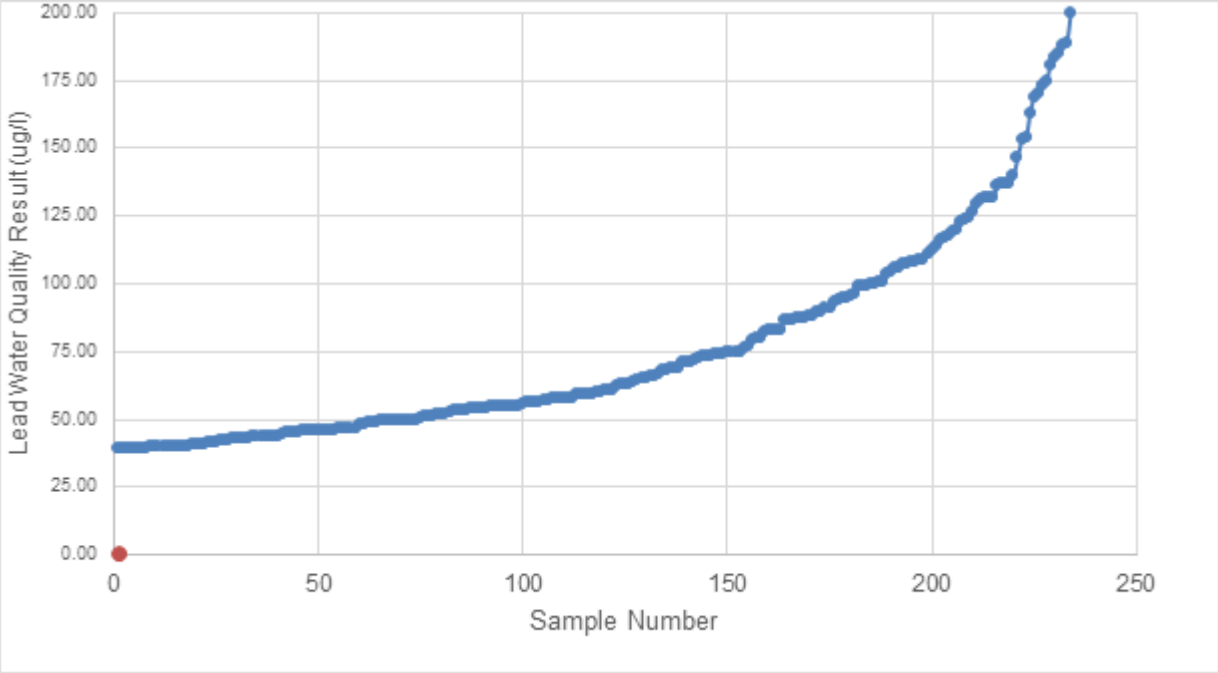


Figure 2: NI Water Lead Water Quality Sample Results – Highest 1%

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 DMA's 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 its 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	**% 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 recently taken place 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.

Although further investigations are required on some apparent anomalies with sampling results, initial outputs would suggest there is limited benefit in replacing private communications pipe unless all internal lead within a property is removed. A final report will be developed for the project and should be available Autumn 16.

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.

Planned next steps for delivery

The company will continue with its Proactive Communications Lead Pipe Replacement Programme at circa £1 million per year.
The company will complete the Final Report on the Pilot Study for "Craigyhill Bungalows".

NIW will commence a review of the future proactive lead pipe replacement strategy and the impact it has on lead reduction at the customer tap.

PC15 Proactive Replacement Programme

	Prioritised Hotspot Location	Works Package Issued to E&P	Date Issued to E&P	Water Quality Survey	Lead Comms Pipes Submitted	Cost @ £500/pipe
YEAR 1	Marina Park	Yes	Feb-15	Jan-15	356	£178,000.00
	Orangefield Crescent	Yes	Jun-15	Jan-15	301	£150,500.00
	Gilnahirk ph1	Yes	Jun-15	Feb-15	437	£218,500.00
	Ulsterville Gardens	Yes	Jun-15	Jan-15	414	£207,000.00
	Ebor Street	Yes	Jun-15	Feb-15	428	£214,000.00
	West Wind Terrace	Yes	PC13 LPRP	PC 13	27	£13,500.00
	Victoria Gardens	Yes	PC13 LPRP	PC 13	16	£8,000.00
	Ransevyn Park	Yes	PC13 LPRP	PC 13	84	£42,000.00
	Derryvolgie Avenue	Yes	PC13 LPRP	PC 13	66	£33,000.00
	Ballycraigy Park	Yes	PC13 LPRP	PC 13	52	£26,000.00
	Victoria Court Donaghadee	Yes	PC13 LPRP	PC 13	79	£39,500.00
TOTAL					**2260**	**£1,130,000.00**
YEAR 2	Roseberry Road (ph 1)	Yes	Sep-15	Feb-15	603	£301,500.00
	Irwin Avenue	Yes	Sep-15	Mar-15	445	£222,500.00
	Morven Park (ph1)	Yes	Mar-16	Feb-15	199	£99,500.00
	Gilnahirk ph2	Yes	Mar-16	Feb-15	434	£217,000.00
	Grand Parade	Yes	Sep-15	Jan-15	412	£206,000.00
TOTAL					**2093**	**£1,046,500.00**
YEAR 3	York Park	No	Mar-16	Dec-15	301	£150,500.00
	Tates Avenue	No	Mar-16	Feb-15	1391	£695,500.00
	Cregagh Road	No	May-16	Feb-16	449	£224,500.00
TOTAL					**2141**	**£1,070,500.00**
YEAR 4	Deramore Avenue	No	Mar-16	Dec-15	684	£342,000.00
	Roseberry Road (ph 2)	No	Mar-16	Feb-15	722	£361,000.00
	Willowholme Drive	No	Mar-16	Mar-15	445	£222,500.00
	Myrtlefield Park	No	Mar-16	Jan-16	204	£102,000.00
	Cranmore Gardens	No	Mar-16	Jan-16	128	£64,000.00
TOTAL					2183	**£1,091,500.00**
YEAR 5	Bramcote Street	No	Mar-16	Mar-15	375	£187,500.00
	Beechmount Crescent	No	Mar-16	Dec-15	722	£361,000.00
	Kirkliston Park	No	Mar-16	Jan-16	419	£209,500.00
	Ravenscroft Avenue	No	Mar-16	Jan-15	493	£246,500.00
	Eastleigh Crescent	No	Mar-16	Jan-16	90	£45,000.00
	Breda Gardens	No	Mar-16	Jan-16	50	£25,000.00
TOTAL					**2149**	**£1,074,500.00**
YEAR 6	Ainsworth Street	No	Mar-16	Jan-16	444	£222,000.00
	Dunlambert Park	No	Mar-16	Mar-15	285	£142,500.00
	Haypark Avenue	No	Mar-16	Dec-15	260	£130,000.00
	Windsor Avenue	No	Mar-16	Feb-15	82	£41,000.00
	Birch Drive	No	Mar-16	Feb-15	210	£105,000.00
	Ormiston Crescent	No	Mar-16	Jan-16	151	£75,500.00
	Wandsworth Parade	No	Mar-16	Jan-16	291	£145,500.00
	Cherryvalley Park	No	Mar-16	Jan-16	335	£167,500.00
	Lynnwood Park	No	Mar-16	Jan-16	39	£19,500.00
	Schomberg Park	No	Mar-16	Jan-16	53	£26,500.00
TOTAL					**2150**	**£1,075,000.00**
				Totals	**12,976**	**£6,488,000.00**

	Prioritised Hotspot Location	Works Package Issued to Asset Performance	Works Package Issued to E&P	Water Quality Survey	Lead Comms Pipes Submitted	Cost @ £500/pipe
YEAR 7	Orpen Drive	Mar-16	No	To be Surveyed	351	£175,500.00
	Ethel Street	Mar-16	No	To be Surveyed	567	£283,500.00
	Balfour Avenue	Mar-16	No	To be Surveyed	385	£192,500.00
	Thomas Street	Mar-16	No	To be Surveyed	316	£158,000.00
	Wellington Park	Mar-16	No	To be Surveyed	115	£57,500.00
	Milfort Avenue	Mar-16	No	To be Surveyed	167	£83,500.00
	Beechland Drive	Mar-16	No	To be Surveyed	221	£110,500.00
TOTAL					**2122**	**£1,061,000.00**
YEAR 8	Castlereagh Street	Mar-16	No	To be Surveyed	99	£49,500.00
	Montgomery Road	Mar-16	No	To be Surveyed	122	£61,000.00
	Castledona Crescent	Mar-16	No	To be Surveyed	479	£239,500.00
	Portallo Street	Mar-16	No	To be Surveyed	433	£216,500.00
	Avoniel Road	Mar-16	No	To be Surveyed	126	£63,000.00
	Braeside Grove	Mar-16	No	To be Surveyed	448	£224,000.00
	Onslow Gardens	Mar-16	No	To be Surveyed	215	£107,500.00
	Ravenhill Park	Mar-16	No	To be Surveyed	109	£54,500.00
	Hillsborough Drive	Mar-16	No	To be Surveyed	62	£31,000.00
TOTAL					**2093**	**£1,046,500.00**
YEAR 9	Kent Avenue	Mar-16	No	To be Surveyed	73	£36,500.00
	Glenbank Drive	Mar-16	No	To be Surveyed	185	£92,500.00
	Glenbryn Drive	Mar-16	No	To be Surveyed	277	£138,500.00
	Joanmount Park	Mar-16	No	To be Surveyed	583	£291,500.00
	Eastleigh Drive	Mar-16	No	To be Surveyed	106	£53,000.00
	Veryan Gardens	Mar-16	No	To be Surveyed	263	£131,500.00
	Thorndale Avenue	Mar-16	No	To be Surveyed	74	£37,000.00
	Crumlin Road	Mar-16	No	To be	177	

				Surveyed		£88,500.00
	Somerton road	Mar-16	No	To be Surveyed	93	£46,500.00
	Kelvin Parade	Mar-16	No	To be Surveyed	170	£85,000.00
TOTAL					**2001**	**£1,000,500.00**
YEAR 10	Knockwood Park	Mar-16	No	To be Surveyed	355	£177,500.00
	Northwick Drive	Mar-16	No	To be Surveyed	818	£409,000.00
	Orangefield Avenue	Mar-16	No	To be Surveyed	654	£327,000.00
	Cyprus Avenue	Mar-16	No	To be Surveyed	95	£47,500.00
	Clonlee Drive	Mar-16	No	To be Surveyed	84	£42,000.00
TOTAL					**2006**	**£1,003,000.00**
YEAR 11	Cherryhill Avenue	Mar-16	No	To be Surveyed	346	£173,000.00
	Cabin Hill Gardens	Mar-16	No	To be Surveyed	210	£105,000.00
	Holywood Road	Mar-16	No	To be Surveyed	368	£184,000.00
	Ardcarn Way	Mar-16	No	To be Surveyed	222	£111,000.00
	Knocktern Gardens	Mar-16	No	To be Surveyed	89	£44,500.00
	Victoria Road	Mar-16	No	To be Surveyed	192	£96,000.00
	Kings Road	Mar-16	No	To be Surveyed	424	£212,000.00
	Strandburn Drive	Mar-16	No	To be Surveyed	196	£98,000.00
	Leven Park	Mar-16	No	To be Surveyed	50	£25,000.00
TOTAL					**2097**	**£1,048,500.00**
YEAR 12	Abbey Ring	Mar-16	No	To be Surveyed	535	£267,500.00
	Church Avenue	Mar-16	No	To be Surveyed	97	£48,500.00
	Clifton Road	Mar-16	No	To be Surveyed	301	£150,500.00
	Lancaster Avenue	Mar-16	No	To be Surveyed	143	£71,500.00
	Bloomfield Road	Mar-16	No	To be Surveyed	612	£306,000.00
	Newtownards Road	Mar-16	No	To be Surveyed	315	£157,500.00
TOTAL					**2003**	**£1,001,500.00**
				Totals	**12,322**	**£6,161,000.00**

Line 11 – Water meter renewal

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.

- 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 >8000m3.
- 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	2020/21	2021/22	
Install Year	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	Total
Meeting Age Criteria	11634	1682	2105	2905	3038	3712	**23426***
Meeting Consumption Criteria							**5633**
Overall Total							**29059**
Proposed Replacement Programme	4843	4843	4843	4843	4843	4843	

*23426 total = 25076 – 1650 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 2015/16 than originally proposed replacing 6920 meters as reported in AIR16.
- The reason for completing more replacements is that NI Water was able to secure better contract rates following the amalgamation of 2 former maintenance contracts used for metering into a single and more competitive meter installation and replacement contract.
- NI Water was also conscious of the 'bow wave' of meters extracted from the corporate billing system matching the age and consumption criteria in 2015/16.
- The numbers of meters detailed above and extracted from the corporate billing system as per the PME criteria are still valid today.
- 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. This status covers 72% of the entire meter stock meeting the age and or consumption criteria.
- During 2015/16 NI Water replaced 6920 meters, this equates to 59% of the meters meeting the age criteria for that year. During 2016/17 NI Water anticipates that it will issue 8200 replacement jobs to the metering contractor, with an anticipated exchange success rate of 90% this should result in the replacement of 7400 meters. This combined with the previous year will result in 14300 meter exchanges equating to 49% of the entire numbers anticipated over the course of PC15.
- 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 will continue to further review its meter data associated with the other water status categories. NI Water will where appropriate issue meter exchange batches to the metering contractor through the remainder of PC15.
- It is however expected that the initial forecasted numbers may reduce somewhat as decisions are taken over the costs and benefits of exchanging certain meter status categories.
- The recent decision to cease the installation of domestic meters also needs to be considered and the impact this will have on older meters re-classified to domestic status. The same is true of domestic meters installed from 2007 onwards with the formation of NI Water and the introduction of the Water and Sewerage Services (Northern Ireland) Order 2006.

Anticipated installation rates are summarised below:

Year	15/16	16/17	17/18		18/19	19/20	20/21	Total
Meters replaced	6920							27584
Estimated meters to be replaced		7380	3321		3321	3321	3321	

- This is based on an estimated success rate of 90% from the total of 29,059.
- There are a number of considerations that need to be decided upon in the mid-term review, not least those meters that are 17 years old but are now associated with domestic properties (approx. 3500) and whether these should be replaced in light of the change in legislation around metering of new domestic dwellings.

Line 12 – Targeting Sewerage 'Hotspots'

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.

Activity completed to date and its outcome

The Hotspot tool is completed and working well. On a monthly bases a report is run for each of the 4 areas giving the top10 problematic sewers within each area. This enables CSDD to prioritise their sewer investigations budget. Asset Performance, in conjunction with CSDD, meet on a regular (monthly) basis to discuss the problematic sewers which have been highlighted by the hot spot tool to identify whether further work is required.

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.

Line 13 – Polluted storm water overflows

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.

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 September 2016 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.
- Further meetings are scheduled between NIEA, NI Water and DfI in October 2016 to determine 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.

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.

Line 14 – Storm water separation

> *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.*

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. This issue has been ongoing since the start of 2016 and is related to a specific scheme currently being delivered by NI Water at Clandeboye School, Green Road, Conlig. 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 put forward 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 which is due in October 2016. 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. Instructions were issued to the contractor over a number of weeks commencing in March 2016 and to date three surveys are still outstanding. In

addition, there were initial issues surrounding access to Stormont Estate, however, these were subsequently resolved with the assistance of Water and Drainage Policy Division DfI. Currently no information relating to the connectivity checks at Stormont Estate has been provided by the contractor. Other sites affected by CCTV Contractor delays are Castle Court Shopping Centre and Mallusk Industrial Estate. The delays are due to issues with a CCTV contractor (which are affecting a range of NI Water projects, not just storm water separation as it is alleged that CCTV crews are being directed to more profitable work with Irish Water).

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 nine projects in 2015/16 and the impermeable area removal has been presented in Table 2.

Table 2 NI Water Capital Works Programme: storm water separation projects delivered in 2015/16 and impermeable area removal (m^2) values.

Sub Programme	Scheme	Impermeable Area Removal m^2
24	Andersonstown Road Belfast Storm Sewer Extension	60
24	Courtney Hill, Newry, Storm Sewer Extension	8,000
24	Parkgate Crescent, Parkgate Parade and Parkgate Gardens	10,500
24	Mersey Street	2,400
24	Old Belfast Road, Bangor - Storm Sewer Extension	1,816
24	Park Parade, Ormeau Embankment, Belfast - Storm Sewer Extension	1,505
24	Princess Way, Portadown - Storm Sewer Extension	1,895
24	Station Road Annaghmore Road Castledawson Storm Sewer Extension	800
24	St Peter's High School Re-Development F&S Sewer	1,584
	Total Impermeable Area Removed, m^2	28,560

NI Water is endeavouring to move the Storm Water Separation Programme forward and feasibility studies for the sites identified in Phase 2 will be commissioned in October 2016. Once completed NI Water will be in a position to provide a more detailed programme of work which will be complemented by other NI Water Capital Works schemes containing storm water separation that arise during PC15.

Line 15 – Strategic drainage study

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.

Activity completed to date and its outcome

Strategic Drainage Area Studies are under way with agreement of NIEA in the catchments to be taken forward. At present NI Water has eight MBV and N&Os underway to meet the required outputs. Expenditure to date is in the region of £650K. 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. The estimate for the overall Belfast DAP is £550k.

NI Water is developing a joint prioritisation list of drainage area studies with NIEA. The prioritisation process is nearing completion and captures NIEA issues in conjunction with

NI Water business requirements. A data-driven approach has been employed to facilitate the integration of both network and wastewater treatment work needs.

NI Water shall provide the Utility Regulator with the DAS prioritisation list which will also be mapped to PC15 LWWP, Bathing Waters and Shellfish Water needs by 30th November.

Planned next steps for delivery

The next step involves completing innovative Risk Based Needs and Options studies for the agreed catchments to enable a programme of work to be taken into the next PC Period i.e. PC21. This is essential as the programme identifies NI Water projects required to address Quality drivers and Base Maintenance issues. NB under the risk based approach NI Water is developing solutions to address New Development in catchments with hydraulic capacity issues/risks.

Line 16 – Sewer flooding report

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.

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 AIR16 summary of register movements is provided in the attached document for the period 1st April 2015 to 31st March 2016. This will be updated by NI Water and provided to the UR by 30th November 2016.

NI Water has exceeded the PC15 Year 1 target of six by delivering seven completed DG5 property removals in 2015/16. The 1 in 10 and 2 in 10 properties cost £230k per property and £273k per property for a 1 in 20 property. 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.

Line 17 - Sustainable Urban Drainage Systems

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.

Activity completed to date and its outcome

NI Water does not have SUDS approval forms we have Art. 161 application forms 'Application for Agreement to Connect Sewers in a New Development' forms. Developer Services did not record adopted SUDS system for 15/16 AIR returns as it was not a requirement. For 16/17 AIR returns we will record the number of Art 161's approved which incorporate SUDS, we will record the number of adopted SUDS systems. We have updated sewer adoption forms to capture this information. Formal recording of SUDS included in adopted sewerage systems began at the start of 2016/17. A complete year's data will be available for AIR17.

In 2015/16, 208 housing sites were adopted, of which at least 10 included SUDS utilising hyrobrake/vortex flow control. In order to verify the exact number of sites with SUDS adopted in 2015/16 all 208 adoption certificates would have to be reviewed manually.

Line 18 – Implementation of the PPC requirements for Odour Management

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.

NIW 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 NIW to agree, progress and monitor the implementation of PPC requirements for Odour Management. This group meets on a quarterly basis to review the following spreadsheet of actions (issued by NIEA in June 2015) which has been agreed and prioritised by the group. NIW has been working closely with NIEA over the past 12 months in the development of feasibility studies and identification of outputs.

The sites, within the spreadsheet, have been prioritised 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,
- then further by the calculated throughputs.

NI Water Odour Modelling Requirements: 2015 updated

Printed: 12/06/15

Odour Modelling Required in 2015/2016 Financial Year - 1st priority
Odour Modelling to be prioritised and completed 2016 onwards - 2nd priority
Odour Modelling to be prioritised and completed after the orange rated sites - 3rd priority
Odour Modelling Not Required

WwTW * priority sites # import sites	OCU	Odour Modelling Completed	Odour Modelling Action Required	Priority
Dungannon (Moygashel) *#	No OCU	No odour modelling completed as part of OMP	Odour Modelling Required	1
New Holland Plant 1 & 2 *#	Yes	No mentioned of an assessment in OMP.	Odour Modelling Required	1
Carrickfergus *	Yes	WYG Odour Dispersal modelling 2005. Did not include thickening. Receptors at boundary.	Odour Modelling Required	1
Whitehouse *	Yes	June 2006 odour modelling carried out by ERG. It is not clear what processes on site where included in this modelling.	Odour Modelling Required	1
Culmore Unit 1&2 #	Yes	August 2005 Entec. This showed that the odour will be greater than 5ou out with the boundary.	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
Ballymena (Tullygarley) #	Yes	OMP mentions an assessment & modelling will be carried out when site is upgraded	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
Antrim #	Yes	OMP details an odour impact assessment undertaken in 2006 by Entec. This details 5ou at the nearest receptor.	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
Dunmurry Old & New OCU #	Yes	February 2011 ERG prior to the upgrade to the works	Odour Modelling Required due to imports, potential age of sludge and odour generation. Needed also to include the new OCU. However, odour abatement should be improved and there are no odour issues reported.	2

WwTW * priority sites # import sites	OCU	Odour Modelling Completed	Odour Modelling Action Required	Priority
Cookstown #	Yes	July 2007, Odour Assessment by Entec. Shows that there are 2.5ous at the nearest receptor and 10 ou at the boundary.	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
Glenstall 1& 2 (Ballymoney) #	Yes	January 2008, Odour Impact Assessment by ADAS. Taken down to 1.5ou. Odour modelling shows that the ou will not be 1.5 at the boundary. Did not appear to take into consideration sludge imports.	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
Limavady #	Yes	No odour modelling completed as part of OMP	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
Downpatrick #	Yes	OMP mentions McAdams (ENTEC) completed an odour assessment in November 2008, in accordance to H4 guidance, but not included with the OMP.	Odour Modelling Required due to imports, potential age of sludge and odour generation.	2
North Coast	Yes	October 2006, ERG **prior to installation of new odour plant,** but was 1.5ou a short distance from the site.	Odour modelling of new plant required, but there are no imports.	3
Enniskillen	Yes	Odour modelling 2005 prior to installation of OCU. OMP details modelling to be completed in accordance with H4 Guidance	Odour Modelling required to include the OCU, but there are no imports.	3
Omagh	No OCU	OMP details no specific odour assessment.	Odour modelling required but there are no imports.	3
Banbridge	Yes	Qualitative assessment of emissions was undertaken by Entec in 2009 as part of PPC application. No odour modelling	Odour modelling required but there are no imports.	3
Larne	Yes	No specific odour assessment provided as part of the OMP.	Odour modelling required but there are no imports.	3
Tandragee	Yes	April 2004 by Entec showed greater than 10ou at the boundary and 5ou at the nearest receptor. OMP details that modifications in 2004 were predicted to decrease odour exposure to below 5ous.	Odour modelling required but there are no imports.	3
Newcastle	Yes	No OMP	Odour modelling required but there are no imports. However, in close proximity to sensitive receptors	3

WwTW * priority sites # import sites	OCU	Odour Modelling Completed	Odour Modelling Action Required	Priority
Ballyclare	Yes	OMP details no specific odour assessment.	Odour modelling of new plant required, but there are no imports.	3
Magherafelt	Yes	June 2010, Odour modelling Entec. Completed to 5ou only	Odour modelling required but there are no imports and a small throughput	3
Waringstown	Yes	An impact assessment was detailed in the OMP, but no specific odour assessment mentioned.	Odour modelling required but there are no imports and a small throughput	3
Sion Mills	No OCU	April 2008 by Entec odour modelled to 5ou only.	Odour modelling required but there are no imports and a small throughput	3
Greenisland	Yes	OMP mentions an assessment & modelling will be carried out after the thickeners are replaced.	Odour modelling required but there are no imports and a small throughput	3
Newry A1 & A2 #	Yes	Yes	1.5ou extend beyond the boundary slightly but **Acceptable**	N/A
Strabane A1, A2, A3 #	Yes	February 2006 Entec completed to 1.5 ou at nearest receptor	1.5ou extend beyond the boundary slightly but **Acceptable**	N/A
Newtownbreda	Yes	Feb 2011 Odour Modelling by ERG	1.5ou extend beyond the boundary slightly but **Acceptable**	N/A
Dromore	No OCU	An Odour Assessment was carried out by Entec 2005. This showed that the odour may be approx. 2.5ou out with the boundary. However, sensitive receptors do not appear to be affected.	>1.5ou extend beyond the boundary slightly but NIEA previously accepted that no OCU was required	N/A
Lisnaskea	Yes	March 2014, odour modelling carried out by AECOM.	Odour Monitoring accepted by NIEA. However, NI Water to check that odour levels are not causing increased complaints	N/A

Plans for Delivery of the PPC requirements for Odour Management

NI Water has initiated a project to address two major outputs agreed by the PPC Compliance Group;

1. *Odour modelling prioritisation*, with reference to the above prioritised spreadsheet, this project will provide odour assessment and modelling for the WWTWs assets contained therein. The list, at present, identifies 24 WWTWs in need of odour appraisal/modelling and the priority in which they are to be completed.

2. *Joint Inspection*; NIW and NIEA will complete a schedule of inspections of the WWTWs assets falling under the regulations. Outputs from the inspections will be collated by NIEA and captured on the PPC Investment spreadsheet. The asset deficiencies identified will be prioritised by the group. These deficiencies could prevent NIW meeting its statutory obligation in respect of the Regulations.

The project will procure the odour assessment and modelling in point 1 above and the WWTW PPC site investment required, predominantly identified as capital base maintenance, associated with the asset deficiencies that are identified using the method described in point 2 above.

The above project will commence to deliver PPC appraisal, odour modelling and assessment during 2016/17 and will continue during the rest of the PC15 period. Civil work required as a result of the latter will commence also in 2016/17, with the main investment from 2017/18 to 2019/20. A proposed high level programme of work and investment has been submitted and approved by CIP in June 2016. The period from June 2015 to June 2016 was required for the development of feasibility studies and identification of outputs, all of which was done in close liaison with NIEA.

Annual Information Return 2016

Section 3

Level of Service Methodologies

Northern Ireland Water

Level of Service Methodology

DG2 - Pressure of Mains Water

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 NIAUR in the Annual Information Return Reporting Requirements 2016: 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]	[redacted]	Ardglass	BT30 [redacted]	Down	Sentry Hill	13.47
185292371	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.97
185292234	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	13.87
185292230	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.12
185290343	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Sentry Hill	13.07
185778557	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.79
185292251	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	13.90
185292239	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.01
185292245	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	13.82
185292368	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.71
185292366	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.86
185292364	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.89
185292362	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.95
185292259	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	14.06
185292258	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	13.82
185292257	30-Sep-12	In Register	[redacted]	[redacted]	Ardglass	BT30 [redacted]	Down	Loughrans Tower	13.89
185207712	31-Aug-12	In Register	[redacted]	[redacted]	Donaghadee	BT21 [redacted]	Down	Portavoe Donaghadee	7.94
185207711	31-Aug-12	In Register	[redacted]	[redacted]	Donaghadee	BT21 [redacted]	Down	Portavoe Donaghadee	8.07
185207710	31-Aug-12	In Register	[redacted]	[redacted]	Donaghadee	BT21 [redacted]	Down	Portavoe Donaghadee	8.44
185207709	31-Aug-12	In Register	[redacted]	[redacted]	Donaghadee	BT21 [redacted]	Down	Portavoe Donaghadee	8.65
185207714	31-Aug-12	In Register	[redacted]	[redacted]	Donaghadee	BT21 [redacted]	Down	Portavoe Donaghadee	7.51
185207715	31-Aug-12	In Register	[redacted]	[redacted]	Donaghadee	BT21 [redacted]	Down	Portavoe Donaghadee	7.43

3. Sources of information

For AIR16 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 2015/16 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 AIR16 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
2.0 Reporting Requirements
3.0 Definitions
4.0 Procedure
5.0 Records
6.0 Reporting
7.0 Void Properties
8.0 'No Water/Low Pressure' Complaints

Appendix A – Roles and Responsibilities
Appendix B – Process Flow Diagram – Unplanned Interruptions
Appendix C – Process Flow Diagram – Planned Interruptions
Appendix D – Pro forma - Interruption Record Sheet
Appendix E – Pointer 2.1 Specification Extracts
Appendix F – CRC Call Scripts for 'No Water/Low Pressure' Complaints
Appendix G – DG3 Interruptions to Supply Register Extract

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 Capital 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

An interruption to supply is defined as the actual loss of water supply to a property, whether planned or unplanned, warned or unwarned.

Supplies may be affected by other factors, for example, lower pressure through the flushing of mains, or restrictions on use. These are also covered under the DG2 and DG4 procedures.

3.2 Start Time Determination

The outage commences when the first customer contacts the contact centre (as per current methodology).

3.3 End Time Determination

The outage is deemed to be fully recovered on the turning of the isolation valve. Although it is acknowledged that, on occasions, there will be a slight lag between the valve operation and all properties having their supply restored, in the majority of cases the opening of the main supplying valve will result in the end of an interruption.

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.

3.4 Duration

The duration is the length of time for which customers are without a continuous supply of water. An interruption starts when water is unavailable from the first cold tap in a property and finishes when the supply to the last property affected by the interruption is restored to the tap.

3.5 Planned Interruption Duration Determination

When calculating the duration of a planned interruption, the Start Time is taken as the time when the valve is turned off and the End Time is taken as the time when the valve is turned on (plus an allowance for mains charging if this is deemed to be necessary). This ensures that reporting is in line with the regulatory definition below:-

'Duration is defined as the length of time for which customers are without a continuous supply of water. **An interruption starts when water is unavailable from the first cold tap in a property and finishes when the supply is restored to the tap.**'

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).

3.6 Event

Event is the term used by NI Water to describe its involvement in an abnormal occurrence in its services to customers.

3.7 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.

3.8 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'.

3.9 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.

3.10 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 which 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.

3.11 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.

3.12 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 functions 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,
- Planned interruptions carried out by Leakage Services,
- Planned interruptions carried out by Engineering Procurement (EP) 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 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 or Leakage Services

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 the Central Incident Management System (CIMS) 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 CIMS event details will be updated accordingly. When the interruption has ended, the CIMS 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 CIMS Planned Interruption Event to be created:

- Cause
- Warning details
- Planned start / finish
- Public narrative
- Incident location / areas affected

The following CIMS 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 EP or Customer Field Services

EP 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 CIMS. Each month, an appropriate member of EP or Customer Field Services will sign off the information to be recorded retrospectively on CIMS. Details of the spreadsheet template can currently be obtained from CSD Services in Capital House.

CIMS planned interruption events relating to the EP Directorate should be created by EP 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 EP staff who will use the details to update the CIMS 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 Unplanned Interruptions carried out by Networks Water or Leakage Services

The event trigger for a CIMS 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 the Networks Water function and information should be recorded using CIMS.

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 CIMS.

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 CIMS 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 CIMS Unplanned Interruption Event to be created:

- Time of first call
- Estimated restoration time
- Public narrative
- Incident location / areas affected

The following CIMS 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.

4.5 Unplanned interruptions carried out by EP or Customer Field Services

CIMS unplanned interruption events relating to the EP Directorate are created by WCC and TCC staff in the same way that other CIMS 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 CIMS 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.

4.6 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 Networks Water. However, the DG3 Register is compiled and held by CSD Services in Capital House.

Interruption records relating to the Networks Water and Leakage Services functions are recorded on CIMS. Interruption records relating to Engineering Procurement and Customer Field Services are also recorded on CIMS but on a retrospective basis. As EP and CFS contractors do not have access to CIMS, their details are initially recorded on an MS Excel spreadsheet template before being entered onto CIMS by NI Water staff.

5.1 Interruption Recording using CIMS

When an event is created on CIMS, the event can be one of the following:

- Unplanned Interruption
- Planned Interruption
- Flooding
- Water Quality

CIMS 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, CIMS can be used to report on all four regulatory categories of interruption.

When all information has been entered onto CIMS, the information is then extracted in the form of a report. A number of reports are available for selection including:

- RPT1151 – Historical DG3 Interruption Records Report,
- RPT1152 – Historical DG3 Interruption Addresses Report,
- RPT1155 – 'Live' DG3 Unplanned Interruption Records Report
- RPT1156 – 'Live' DG3 Planned Interruption Records Report.

When a CIMS 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 Customer Field Manager for review and approval. The record should then be passed to the Area Manager for review and approval, to the DG3 Customer Services Coordinator for review and approval and finally, to the Head of Networks Water for review and approval. If the CFM, AM, DG3 CS Coordinator or HoF 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 / CIMS Reporting / Audit Process (3rd Draft – 21 Oct 14)

Action No.	Action	Date
CIMS Report from the Field		
1	• WC opens a New Event in CIMS when an event trigger is reached. • The CIMS Event is updated by WC throughout the incident with information from Field Staff. • WC Save the event when the incident is closed in the field.	
2	• DG3 CS Coordinator sends the ***Weekly Rapid No Water Complaints Report*** to the FM's on a Monday morning for the previous week.	Every Monday morning.
3	• The weekly ***Rapid No Water Complaints Report***, lists all NIW No Water calls for the week. • FM filters the report for his own area, sorts by date and DMA which then group calls. • The FM opens the CIMS / Reports / ***RPT1151 – 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 CIMS 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 CIMS 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.***	By 1st working day of the new month.

	• Two tabs; o ***Unplanned >6hr Summary*** o ***AIR & KPI Reporting***	
6	• Level 4 uses the above monthly ***Unplanned >6hrs Summary*** Report to identify a number of L4 Monthly Audit checks. • L4 meets with the Customer Field Manager 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 CIMS Events and adjusts as necessary.	1st working day + 1 day
8	• Customer FM discusses the CIMS Events highlighted for audit in action 6. • Adjusts as required.	1st working day + 3 days
9	• Customer FM reports back to Level 4. • L4 approves/saves the Audit Events in the CIMS system.	1st working day + 5 days
Monthly Sign Off		
10	• L4 emails L3 & DG3 CS Coordinator that Monthly Audit checks have been completed.	1st working day + 7 days
11	• DG3 CS Coordinator produces ***DG3 Rapid Comparison Checks*** report. • This Zip file contains an number of reports; o Individual FM folders with DG3 ID Events checks. o Comparison Checks Summary. ▪ Red/Amber/Green against start/finish/No. prop o Properties not recorded on CIMS. ▪ Used to check No. of prop queries.	1st working day + 8 days
12	• L4 discusses above report with Customer FM. • Customer FM discussed above report with FM's. • Customer FM to the Level 4. • L4 reports back to DG3 CS Coordinator.	1st working day + 10 days
13	Level 3 sings off the monthly DG3 Report for the Board.	2nd Tuesday of the new month.

5.2 MS Excel Spreadsheet Template – Contractor Return Sheet

Planned interruptions undertaken by EP 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 EP or Customer Field Services staff and sent to CSD Services for inclusion into the DG3 Register. All pro forma should be stored by EP and Customer Field Services for Audit purposes.

Details of the Contractor Return Sheet can currently be obtained from CSD Services in Capital 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 CIMS 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 CIMS 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 CIMS request which should appear in the dropdown list associated with the DG3 Areas Layer of the Water workspace (see Editing Menu). Back in CIMS, 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 carried out by Leakage Services 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 Leakage Services 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 Leakage Services 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 CIMS 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 EP and Customer Field Services should be sent to CSD Services by the same date.

- When a Field Manager approves a CIMS DG3 record, an e-mail reminder is automatically forwarded to the Customer Field Manager.
- When a CFM approves a CIMS DG3 record, an e-mail reminder is automatically forwarded to the Area Manager.
- When an Area Manager approves a CIMS 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, Head of Networks Water, Head of Networks Leakage and EP L3 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 CIMS event record is created are estimates and that it may be necessary to update the details following the GIS polygon process. The CIMS 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 CIMS 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

CIMS 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 and Customer Field Managers and the release of data by the Head of Function. 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 (CIMS and Contractor Return Sheets) used by the various work streams (Networks Water, Leakage Services, EP and Customer Field Services) and copied to a DG3 Composite Report File held by CSD Services in Capital 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 of interruptions have been captured in accordance to the regulatory guidance. For further information on the development of the DG3 Register, please refer to the Line Methodology for AIR Table 2 Lines 5 to 19.

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 CIMS system to provide up to date information to customers;
- Use ‘Operational Announcements’ functionality to share information;
- Adhere to agreed communication routes.

Work Control Centre (Normal Hours)

- Create CIMS interruption event records and close with either a status of ‘Closed – DG3 Record Required’ or ‘Closed – DG3 Record Not Required’.

Work Planning Units

- 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 the Networks Water function.

Customer Service Delivery Directorate - Leakage Services

- The Area Managers and Field Managers are responsible for the procurement of information for DG3 within the Leakage Services function.

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

Field Technicians (continued)

- 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 CIMS record;
- Sign off DG3 record for submission for approval by Customer Field Manager;
- Update Major Incident records.

Customer Field Managers

- Ensure Field Managers are adhering to the agreed process / timescales;
- Check / query records signed off by Field Managers;
- Sign off DG3 Record for approval by Area Manager.

Area Managers

- Ensure Customer Field Managers are adhering to the agreed process / timescales;
- Check / query records signed off by Customer Field Managers;
- Sign off DG3 Record for approval by Area Manager.

Telemetry Control Centres (Out of Hours)

- Log ‘no water’/‘burst main’ complaints into Work Planning (Ellipse) system;
- Create CIMS 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, Leakage Services, EP and Customer Field Services;
- Checks, audits and queries records signed off by Customer Field Managers;
- Compiles DG3 Interruptions to Supply Register based on data derived from CIMS;
- Signs off CIMS records and DG3 Interruptions to Supply Register for approval by Head of Networks Water;
- Produces KPI reports for Management and AIR for Regulator.

Engineering Procurement (EP) Directorate

- The EP Directorate 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.

EP 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 Networks Water

- Final signoff of amalgamated approved CIMS interruption records on a monthly basis and release of data for reporting purposes.

Regulation & Business Performance Section

- Submit Annual Information Return to NIAUR.

Emergency Planning Team

- Declare Major Incidents on the CIMS system;
- Interrogate reports to provide status updates as incidents develop;
- Complete Upwards Reports based on data provided in CIMS;
- Close Major Incidents on CIMS system.

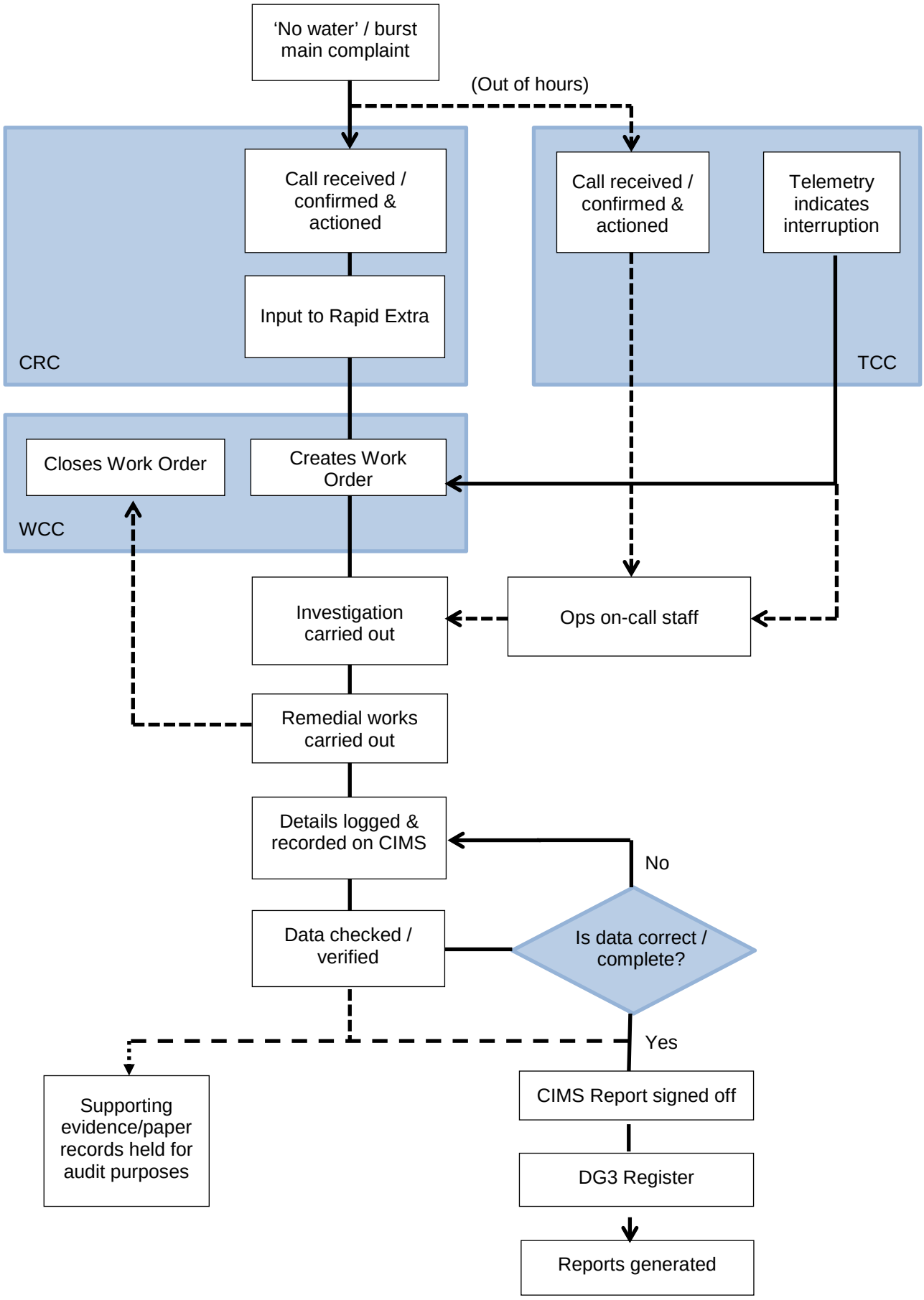
Bronze Team – MIP Only

- 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.

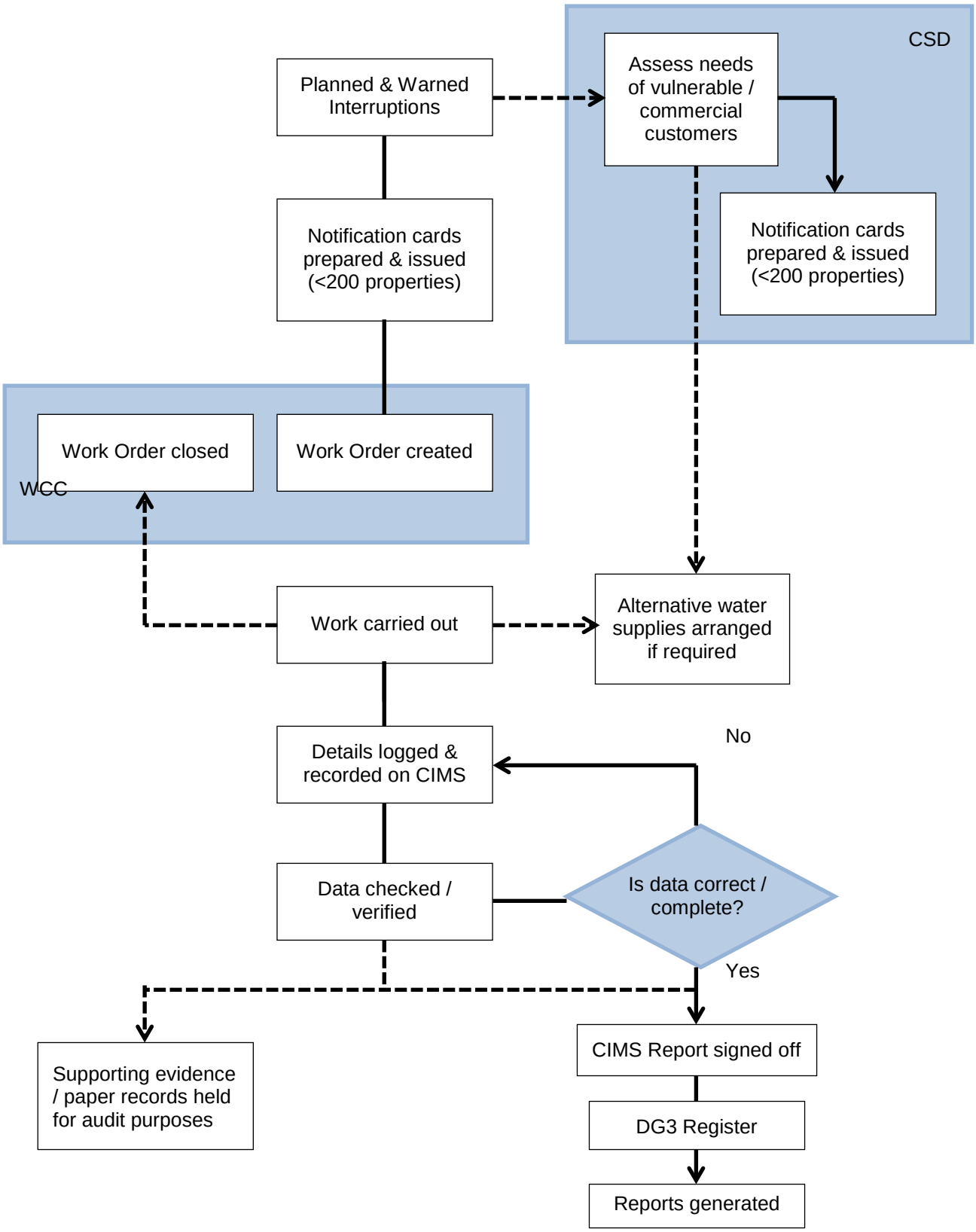
Silver Team

- Interrogate reports to provide status updates as incidents develop.

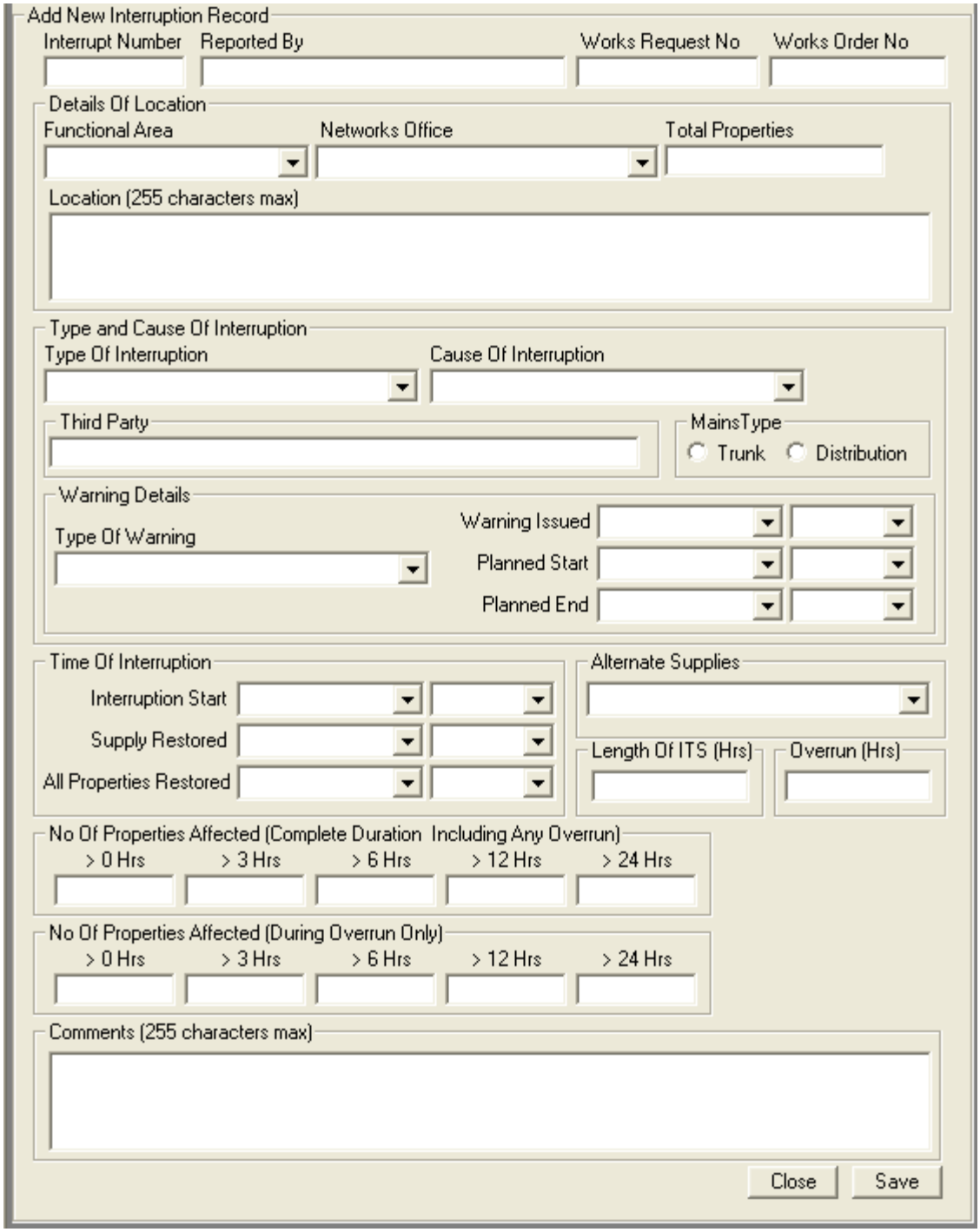
Appendix B – DG3 Process Flow Diagram – Unplanned or Unwarned Interruptions



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

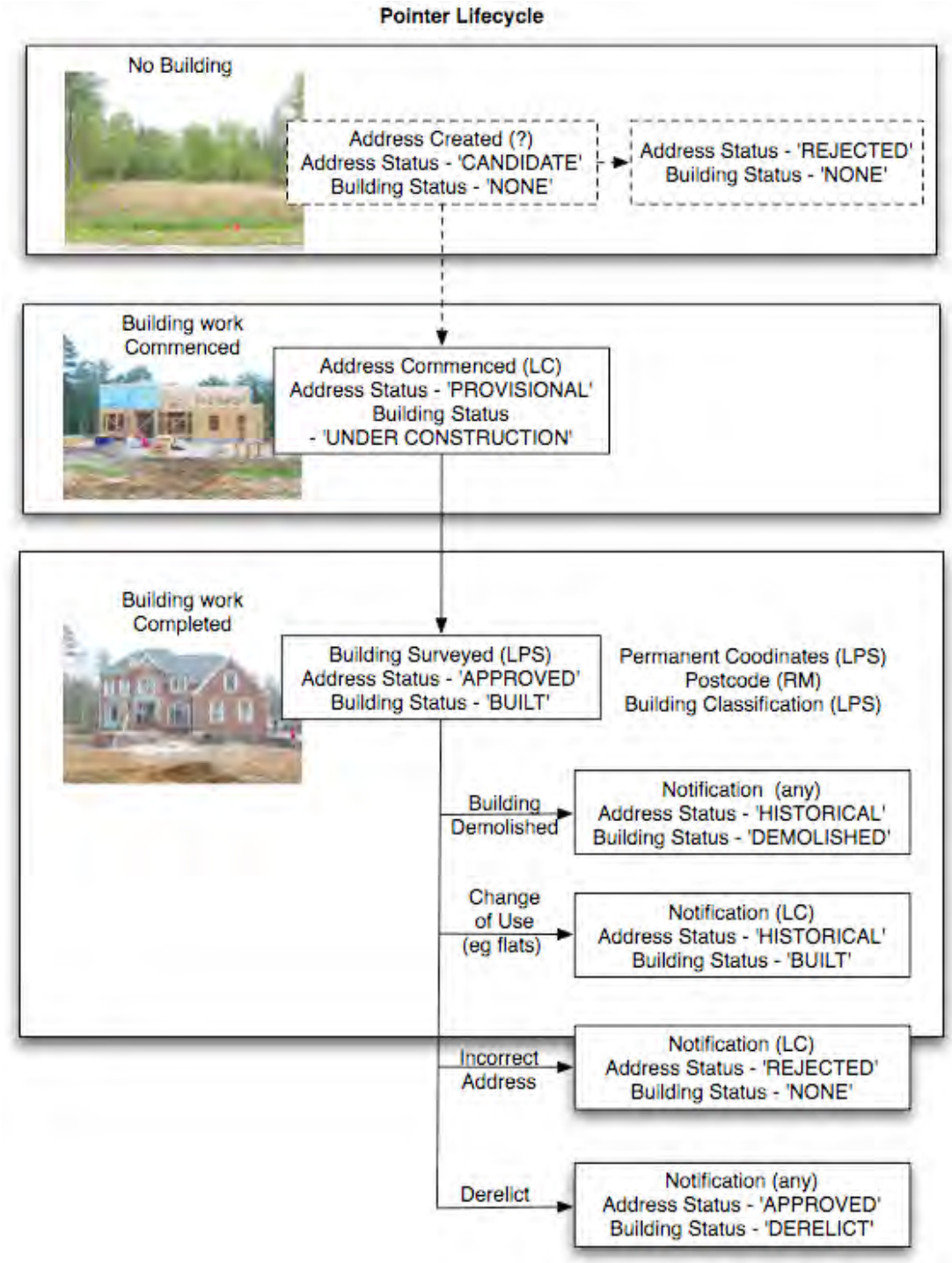
Details

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.

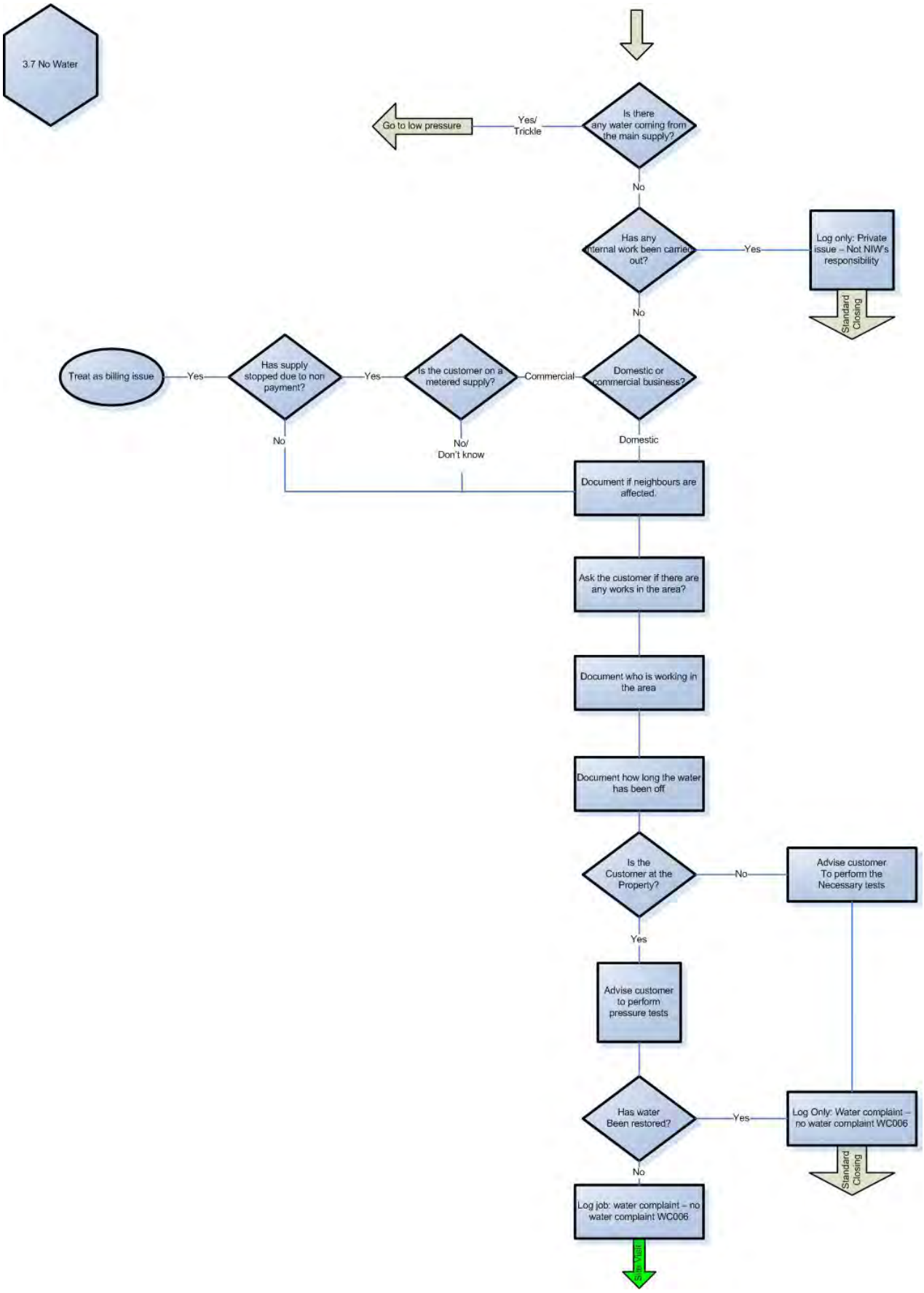
Constraints

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.

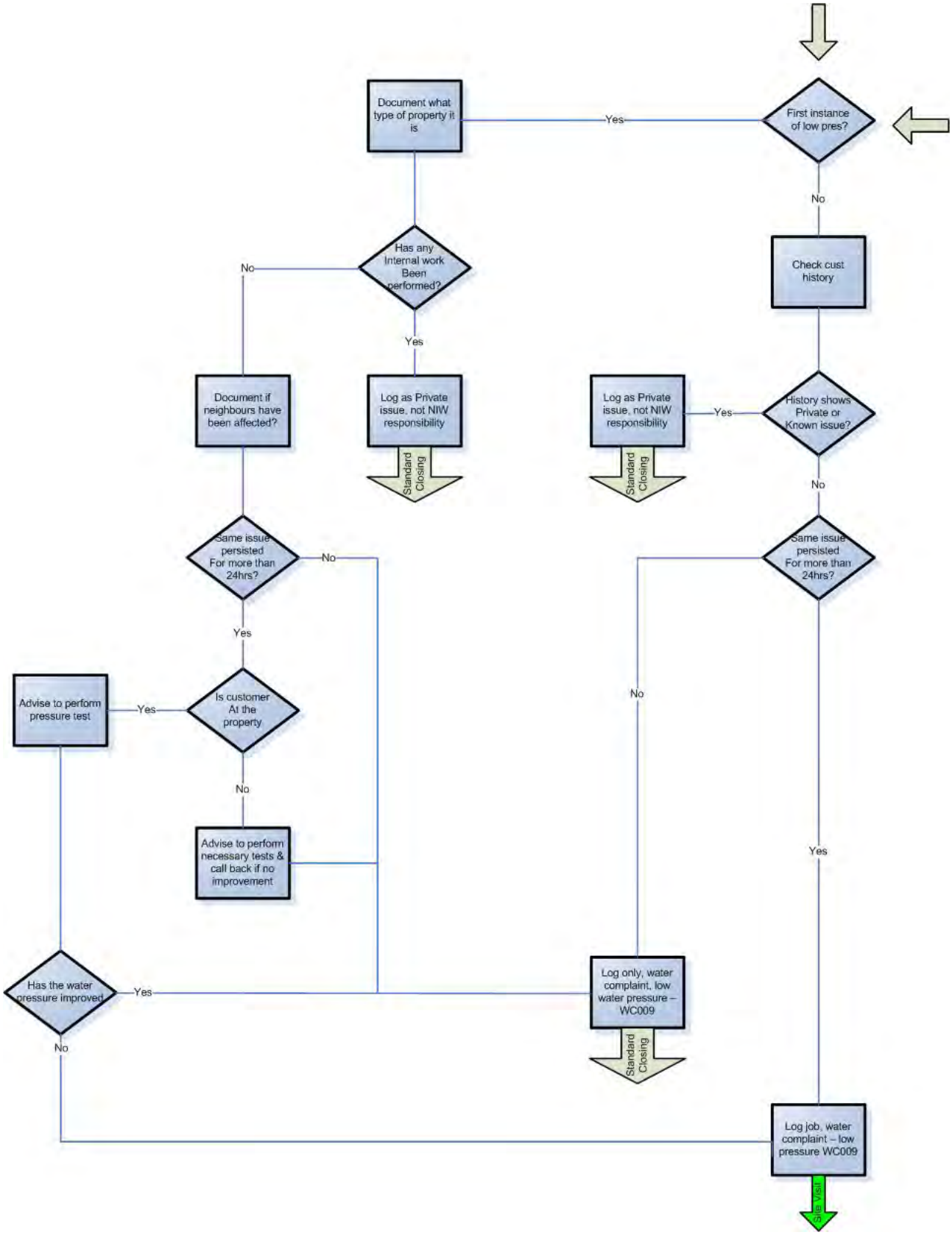
Details

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 – CIMS Report RPT1151)*

LastRun
12/04/2016 00 40

Unplanned, Unwarned Interruptions

More than 3 hrs **No of Properties** **10,840**

EventID	InterruptionId_User Friendly	InterruptionStatus	ManagingFunction	FieldManagerArea	EventCreator	DG3Creator	InterruptionType	WarningDate	WarningType	PlannedStartDateTime	PlannedRestorationDateTime	ActualStartTime	ActualSupplyrestoredDateTime	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Duration Hours Minutes	Location	ThirdPartyCaused Interruption	ThirdParty	InterruptionCause
56006	35262	Registered	Networks Water	NW51B	[redacted]		Unplanned Interruption		N/A			10/03/2016 12 12	10/03/2016 15 20	35	35	0	0	0	3 Hrs 8 Mins	(UPRN 187391925) [redacted] Tirkernaghan, Strabane, Tyrone,	FALSE		Burst Main/Main Repair
55966	35225	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			08/03/2016 10 20	08/03/2016 13 30	36	36	0	0	0	3 Hrs 10 Mins	(UPRN 185557810) [redacted] Rosnashane, Ballymoney, Antrim,	FALSE		Burst Main/Main Repair
56138	35391	Registered	Networks Water	NW03A			Unplanned Interruption		N/A			30/03/2016 10 20	30/03/2016 13 30	11	11	0	0	0	3 Hrs 10 Mins	(UPRN 185903497) [redacted] Magheranville, Milford, Armagh,	FALSE		Replacement Fitting (e.g. SV, FH)
55944	35211	Submitted to Customer Field Manager	Networks Water	NW03A			Unplanned Interruption		N/A			04/03/2016 12 00	04/03/2016 15 15	15	15	0	0	0	3 Hrs 15 Mins	(UPRN 185272298) [redacted] Brackenhill, Lisburn, Antrim,	FALSE		Burst Main/Main Repair
56032	35291	Registered	Networks Water	NW51B			Unplanned Interruption		N/A			13/03/2016 11 24	13/03/2016 14 45	79	79	0	0	0	3 Hrs 21 Mins	(UPRN 187548840) [redacted] Curr, Beragh, Tyrone,	FALSE		Burst Main/Main Repair
55993	35248	Submitted to Customer Field Manager	Networks Water	NW01B			Unplanned Interruption		N/A			09/03/2016 14 45	09/03/2016 18 15	66	66	0	0	0	3 Hrs 30 Mins	(UPRN 185857745) [redacted] Cloghfin, Larne, Antrim,	FALSE		Burst Main/Main Repair
56083	35341	Registered	Networks Water	NW02B			Unplanned Interruption		N/A			22/03/2016 11 00	22/03/2016 14 30	6	6	0	0	0	3 Hrs 30 Mins	(UPRN 185244142) [redacted] Ballykine, Ballynahinch, Down,	FALSE		Burst Main/Main Repair
55913	35184	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			03/03/2016 10 00	03/03/2016 13 30	23	23	0	0	0	3 Hrs 30 Mins	(UPRN 185996760) [redacted] Derryneese, Rosslea, Fermanagh	FALSE		Replacement Fitting (e.g. SV, FH)
56049	35308	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			16/03/2016 10 30	16/03/2016 14 00	27	27	0	0	0	3 Hrs 30 Mins	(UPRN 185540754) [redacted] Drumagully, Castlerock, Londonderry,	FALSE		Replacement Fitting (e.g. SV, FH)
56104	35360	Registered	Networks Water	NW02B			Unplanned Interruption		N/A			23/03/2016 13 30	23/03/2016 17 00	13	13	0	0	0	3 Hrs 30 Mins	(UPRN 185232113) [redacted] Ballymacreelly, Killinchy, Down,	FALSE		Burst Main/Main Repair
56013	35267	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			10/03/2016 17 29	10/03/2016 21 00	1722	1722	0	0	0	3 Hrs 31 Mins	(UPRN 185653444) [redacted] Gortshalgan, Dungannon, Tyrone,	FALSE		Other
55943	35198	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			04/03/2016 13 45	04/03/2016 17 30	19	19	0	0	0	3 Hrs 45 Mins	(UPRN 185528836) [redacted] Ballycrum, Limavady, Londonderry,	FALSE		Burst Main/Main Repair
56054	35314	Registered	Networks Water	NW51A			Planned Interruption			18/03/2016 09 00	18/03/2016 14 00	18/03/2016 09 15	18/03/2016 13 00	41	41	0	0	0	3 Hrs 45 Mins	(UPRN 187556931) [redacted] Shantallow, Londonderry, Londonderry,	FALSE		Burst Main/Main Repair
55920	35187	Submitted to Area Manager	Networks Water	NW52B			Unplanned Interruption		N/A			03/03/2016 08 54	03/03/2016 12 45	75	75	0	0	0	3 Hrs 51 Mins	(UPRN 185772574) [redacted] Lisnanane, Cookstown, Tyrone,	FALSE		Burst Main/Main Repair
55975	35224	Submitted to Customer Field Manager	Networks Water	NW03A			Unplanned Interruption		N/A			08/03/2016 07 28	08/03/2016 11 20	6	6	0	0	0	3 Hrs 52 Mins	(UPRN 185588138) [redacted] Corporation, Armagh, Armagh,	FALSE		Burst Main/Main Repair
56045	35307	Registered	Networks Water	NW01B			Planned Interruption	11/03/2016 08 00	Card drop	15/03/2016 20 00	16/03/2016 00 00	15/03/2016 19 50	15/03/2016 23 45	166	166	0	0	0	3 Hrs 55 Mins	(UPRN 185390362) [redacted] West Division, Carrickfergus, Antrim,	FALSE		New Mains Tie In
56037	35296	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			14/03/2016 12 32	14/03/2016 16 30	86	86	0	0	0	3 Hrs 58 Mins	(UPRN 185667714) [redacted] Augher, Tyrone,	FALSE		Burst Main/Main Repair
56121	35378	Registered	Networks Water	NW03A			Unplanned Interruption		N/A			25/03/2016 10 30	25/03/2016 14 30	197	197	0	0	0	4 Hrs 0 Mins	(UPRN 185337814) [redacted] Lisdrumgullion, Newry, Armagh,	FALSE		Burst Main/Main Repair
56133	35384	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			28/03/2016 09 30	28/03/2016 13 30	51	51	0	0	0	4 Hrs 0 Mins	(UPRN 185473814) [redacted] Drummullan, Moneymore, Londonderry,	FALSE		Burst Main/Main Repair
55960	35218	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			07/03/2016 12 28	07/03/2016 16 30	40	40	0	0	0	4 Hrs 2 Mins	(UPRN 185906710) [redacted] Skreen, Enniskillen, Fermanagh,	FALSE		Burst Main/Main Repair
55981	35247	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			09/03/2016 06 57	09/03/2016 11 00	20	20	0	0	0	4 Hrs 3 Mins	(UPRN 185640941) [redacted] Ballymackilroy, Seskilgreen, Tyrone,	FALSE		Burst Main/Main Repair
56070	35332	Submitted to Area Manager	Networks Water	NW53A			Unplanned Interruption		N/A			21/03/2016 07 26	21/03/2016 11 30	132	132	0	0	0	4 Hrs 4 Mins	(UPRN 185719796) [redacted] Milltate, Irvinestown, Fermanagh,	FALSE		Burst Main/Main Repair
56084	35343	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			22/03/2016 10 45	22/03/2016 15 00	78	78	0	0	0	4 Hrs 15 Mins	(UPRN 185782632) [redacted] Crossdernot, Pomeroy, Tyrone,	FALSE		Burst Main/Main Repair
56047	35306	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			15/03/2016 17 43	15/03/2016 22 00	49	49	0	0	0	4 Hrs 17 Mins	(UPRN 185688415) [redacted] Gortfinbar, Carrickmore, Tyrone,	FALSE		Burst Main/Main Repair
56064	35321	Registered	Networks Water	NW51B			Unplanned Interruption		N/A			19/03/2016 12 34	19/03/2016 17 00	767	767	0	0	0	4 Hrs 26 Mins	(UPRN 185688930) [redacted] Mullanmore, Carrickmore, Tyrone,	FALSE		
55959	35217	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			07/03/2016 12 00	07/03/2016 16 30	26	26	0	0	0	4 Hrs 30 Mins	(UPRN 185689355) [redacted] Sixmilecross, Tyrone,	FALSE		Burst Main/Main Repair
56093	35350	Submitted to Area Manager	Networks Water	NW52B			Unplanned Interruption		N/A			22/03/2016 18 00	22/03/2016 22 30	1348	1348	0	0	0	4 Hrs 30 Mins	(UPRN 185656466) [redacted] Mullaghanagh, Dungannon, Tyrone,	FALSE		Burst Main/Main Repair
56110	35365	Registered	Networks Water	NW53A			Unplanned Interruption		N/A			24/03/2016 10 30	24/03/2016 15 00	13	13	0	0	0	4 Hrs 30 Mins	(UPRN 187341471) [redacted] Leany, Dungannon, Tyrone,	FALSE		Replacement Fitting (e.g. SV, FH)
56141	35392	Submitted to Customer Field Manager	Networks Water	NW01A			Unplanned Interruption		N/A			30/03/2016 13 00	30/03/2016 17 30	2	2	0	0	0	4 Hrs 30 Mins	(UPRN 185046133) [redacted] Ballymaconaghy, Castlereagh, Down,	FALSE		Burst Main/Main Repair
56142	35402	Submitted to Customer Field Manager	Networks Water	NW01A			Unplanned Interruption		N/A			30/03/2016 13 00	30/03/2016 17 30	5	5	0	0	0	4 Hrs 30 Mins	(UPRN 185046132) [redacted] Ballymaconaghy, Castlereagh, Down,	FALSE		Burst Main/Main Repair
56132	35386	Registered	Networks Water	NW01B			Unplanned Interruption		N/A			28/03/2016 07 54	28/03/2016 12 30	1579	1579	0	0	0	4 Hrs 36 Mins	(UPRN 185121508) [redacted] Town Parks, Belfast, Antrim,	FALSE		Burst Main/Main Repair
56031	35292	Registered	Networks Water	NW53A			Unplanned Interruption		N/A			13/03/2016 09 21	13/03/2016 14 00	88	88	0	0	0	4 Hrs 39 Mins	(UPRN 185660824) [redacted] Tonystick, Enniskillen, Fermanagh,	FALSE		Burst Main/Main Repair
56005	35268	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			10/03/2016 13 10	10/03/2016 17 50	64	64	0	0	0	4 Hrs 40 Mins	(UPRN 185653413) [redacted] Cornamucklagh, Dungannon, Tyrone,	FALSE		Pump Equipment Failure
56069	35327	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			21/03/2016 07 20	21/03/2016 12 00	21	21	0	0	0	4 Hrs 40 Mins	(UPRN 187523629) [redacted] Tattymorris, Newtownbutler, Fermanagh,	FALSE		Burst Main/Main Repair
55933	35195	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			04/03/2016 09 00	04/03/2016 13 42	45	45	0	0	0	4 Hrs 42 Mins	(UPRN 187123402) [redacted] Bridgetown, Castlederg, Tyrone,	FALSE		Burst Main/Main Repair
55982	35240	Registered	Networks Water	NW52A			Unplanned Interruption		N/A			09/03/2016 08 42	09/03/2016 13 24	142	142	0	0	0	4 Hrs 42 Mins	(UPRN 185400538) [redacted] Ballyclare, Ballyclare, Antrim,	FALSE		Burst Main/Main Repair
55981	35163	Submitted to Area Manager	Networks Water	NW03A			Unplanned Interruption		N/A			01/03/2016 12 00	01/03/2016 16 45	27	27	0	0	0	4 Hrs 45 Mins	(UPRN 185598449) [redacted] Ballymore, Tandragee, Armagh,	FALSE		Burst Main/Main Repair
55923	35191	Registered	Networks Water	NW01A			Unplanned Interruption		N/A			03/03/2016 14 31	03/03/2016 19 20	8	8	0	0	0	4 Hrs 49 Mins	(UPRN 185057074) [redacted] Galwally, Belfast, Down,	FALSE		Burst Main/Main Repair
56053	35313	Registered	Networks Water	NW52A			Unplanned Interruption		N/A			17/03/2016 12 30	17/03/2016 17 20	7	7	0	0	0	4 Hrs 50 Mins	(UPRN 185845432) [redacted] Turnarobert, Armoy, Antrim,	FALSE		Other
56061	35319	Submitted to Customer Field Manager	Networks Water	NW03A			Unplanned Interruption		N/A			18/03/2016 12 21	18/03/2016 17 15	12	12	0	0	0	4 Hrs 54 Mins	(UPRN 185589373) [redacted] Corporation, Armagh, Armagh,	FALSE		Burst Main/Main Repair
55888	35165	Submitted to Customer Field Manager	Networks Water	NW01B			Unplanned Interruption		N/A			01/03/2016 15 00	01/03/2016 20 00	140	140	0	0	0	5 Hrs 0 Mins	(UPRN 185126367) [redacted] Ballygomartin, Belfast, Antrim,	FALSE		Replacement Fitting (e.g. SV, FH)
56067	35322	Submitted to Customer Field Manager	Networks Water	NW03B			Unplanned Interruption		N/A			20/03/2016 12 00	20/03/2016 17 00	851	851	0	0	0	5 Hrs 0 Mins	(UPRN 185999944) [redacted] Ballycross, Banbridge, Down	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Customer Field Manager	Networks Water	NW52B			Unplanned Interruption		N/A			01/03/2016 07 23	01/03/2016 12 30	68	68	0	0	0	5 Hrs 7 Mins	(UPRN 185655978) [redacted] Lisduff, Benburb, Tyrone,	FALSE		Burst Main/Main Repair
55938	35200	Submitted to Area Manager	Networks Water	NW52A			Unplanned Interruption		N/A			04/03/2016 10 52	04/03/2016 16 00	296	296	0	0	0	5 Hrs 8 Mins	(UPRN 185455554) [redacted] Kinbally, Broughshane, Antrim,	TRUE	[redacted]	Other
55953	35214	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			07/03/2016 07 00	07/03/2016 12 10	76	76	0	0	0	5 Hrs 10 Mins	(UPRN 185697149) [redacted] Meenascallagh, Cookstown, Tyrone,	FALSE		Burst Main/Main Repair
55980	35241	Submitted to Area Manager	Networks Water	NW51B			Unplanned Interruption		N/A			09/03/2016 07 28	09/03/2016 12 45	398	398	0	0	0	5 Hrs 17 Mins	(UPRN 185687835) [redacted] Leaghan, Sixmilecross, Tyrone,	FALSE		Burst Main/Main Repair
56153	35403	Registered	Networks Water	NW02B			Unplanned Interruption		N/A			31/03/2016 21 42	01/04/2016 03 00	0	0	0	0	0	5 Hrs 18 Mins	(UPRN 185244142) [redacted] Ballykine, Ballynahinch, Down,	FALSE		Burst Main/Main Repair
56027	35286	Registered	Networks Water	NW02B			Unplanned Interruption		N/A			12/03/2016 10 12	12/03/2016 15 40	16	16	0	0	0	5 Hrs 28 Mins	(UPRN 185209518) [redacted] Herdstown, Donaghadee, Down,	FALSE		Burst Main/Main Repair
56052	35312	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			16/03/2016 16 47	16/03/2016 22 15	40	40	0	0	0	5 Hrs 28 Mins	(UPRN 185478731) [redacted] Crew, Maghera, Londonderry,	FALSE		Burst Main/Main Repair
55922	35189	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			03/03/2016 11 31	03/03/2016 17 00	97	97	0	0	0	5 Hrs 29 Mins	(UPRN 185782936) [redacted] Ballynapottoge, Ballygawley, Tyrone,	FALSE		Burst Main/Main Repair
55967	35230	Submitted to Customer Field Manager	Networks Water	NW52B			Unplanned Interruption		N/A			08/03/2016 08 56	08/03/2016 14 30	38	38	0	0	0	5 Hrs 34 Mins	(UPRN 185466411) [redacted] Coolshinny, Magherafelt, Londonderry	FALSE		Burst Main/Main Repair
55940	35201	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			04/03/2016 10 19	04/03/2016 16 00	53	53	0	0	0	5 Hrs 41 Mins	(UPRN 185642709) [redacted] Gortaclady, Pomeroy, Tyrone,	FALSE		Burst Main/Main Repair
55941	35199	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			04/03/2016 12 05	04/03/2016 17 50	151	151	0	0	0	5 Hrs 45 Mins	(UPRN 185790854) [redacted] , Lismalore, Brookeborough, Fermanagh,	FALSE		Burst Main/Main Repair
56119	35380	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			25/03/2016 09 15	25/03/2016 15 00	5	5	0	0	0	5 Hrs 45 Mins	(UPRN 187176678) [redacted] Coolkeeragh, Londonderry, Londonderry,	FALSE		Burst Main/Main Repair
56149	35399	Submitted to Area Manager	Networks Water	NW52A			Unplanned Interruption		N/A			31/03/2016 09 00	31/03/2016 14 45	41	41	0	0	0	5 Hrs 45 Mins	(UPRN 187345310) [redacted] Ballealy South, Randalstown, Antrim,	FALSE		Burst Main/Main Repair
55875	35166	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			01/03/2016 14 06	01/03/2016 20 00	93	93	0	0	0	5 Hrs 54 Mins	(UPRN 185688966) [redacted] , Altdrumman, Loughmacrory, Tyrone,	FALSE		Burst Main/Main Repair
56082	35345	Submitted to Customer Field Manager	Networks Water	NW01A			Unplanned Interruption		N/A			22/03/2016 10 20	22/03/2016 17 00	16	16	16	0	0	6 Hrs 40 Mins	(UPRN 185161945) [redacted] Poleglass, Dunmurry, Antrim,	FALSE		Burst Main/Main Repair
56094	35351	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			22/03/2016 19 15	23/03/2016 02 00	91	91	91	0	0	6 Hrs 45 Mins	(UPRN 187375243) [redacted] Ballynagilly, Cookstown, Tyrone,	FALSE		Electricity Supply Failure
55901	35174	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			02/03/2016 15 30	02/03/2016 22 30	646	646	646	0	0	7 Hrs 0 Mins	(UPRN 187418342) [redacted] , Culnaman, Kilrea, Londonderry,	FALSE		Burst Main/Main Repair
55902	35173	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			02/03/2016 08 00	02/03/2016 15 28	65	65	65	0	0	7 Hrs 28 Mins	(UPRN 185681539) [redacted] Oxtown, Mountfield, Tyrone,	FALSE		Burst Main/Main Repair
56044	35303	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			15/03/2016 09 15	15/03/2016 17 15	40	40	40	0	0	8 Hrs 0 Mins	(UPRN 185529146) [redacted] Killybready, Limavady, Londonderry,	FALSE		Electricity Supply Failure
56029	35293	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			13/03/2016 08 04	13/03/2016 16 30	66	66	66	0	0	8 Hrs 26 Mins	(UPRN 186014935) [redacted] , Holly-Hill, Strabane, Tyrone,	FALSE		Burst Main/Main Repair
56135	35387	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			28/03/2016 15 55	29/03/2016 00 30	291	291	291	0	0	8 Hrs 35 Mins	(UPRN 185674966) [redacted] Killymore, Newtownstewart, Tyrone,	FALSE		Burst Main/Main Repair
56106	35372	Submitted to Customer Field Manager	Networks Water	NW03A			Unplanned Interruption		N/A			23/03/2016 11 34	24/03/2016 02 00	6	6	6	2	0	14 Hrs 26 Mins	(UPRN 185584425) [redacted] , Dunlarg, Keady, Armagh	FALSE		Other
55952	35207	Submitted to Customer Field Manager	Networks Water	NW02B			Unplanned Interruption		N/A			05/03/2016 14 50	05/03/2016 23 50	1	1	1	0	0	9 Hrs 0 Mins	(UPRN 185224300) [redacted] , Ballyalton, Newtownards, Down,	FALSE		Burst Main/Main Repair
56132	35386	Registered	Networks Water	NW01B			Unplanned Interruption		N/A			28/03/2016 07 54	28/03/2016 17 00	60	60	60	0	0	9 Hrs 6 Mins	(UPRN 185121508) [redacted] Town Parks, Belfast, Antrim,	FALSE		Burst Main/Main Repair
55981	35247	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			09/03/2016 06 57	09/03/2016 16 30	8	8	8	0	0	9 Hrs 33 Mins	(UPRN 185640941) [redacted] , Ballymackilroy, Seskilgreen, Tyrone,	FALSE		Burst Main/Main Repair
56132	35386	Registered	Networks Water	NW01B			Unplanned Interruption		N/A			28/03/2016 07 54	28/03/2016 17 45	40	40	40	0	0	9 Hrs 51 Mins	(UPRN 185121508) [redacted] , Town Parks, Belfast, Antrim,	FALSE		Burst Main/Main Repair

Unplanned, Unwarned Interruptions

More than 6 hrs **No of Properties** **1,330**

EventID	InterruptionId_User Friendly	InterruptionStatus	ManagingFunction	FieldManagerArea	EventCreator	DG3Creator	InterruptionType	WarningDate	WarningType	PlannedStartDateTime	PlannedRestorationDateTime	ActualStartTime	ActualSupplyrestoredDateTime	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	Duration Hours Minutes	Location	ThirdPartyCaused Interruption	ThirdParty	InterruptionCause
56082	35345	Submitted to Customer Field Manager	Networks Water	NW01A	[redacted]		Unplanned Interruption		N/A			22/03/2016 10 20	22/03/2016 17 00	16	16	16	0	0	6 Hrs 40 Mins	(UPRN 185161945) [redacted] Poleglass, Dunmurry, Antrim	FALSE		Burst Main/Main Repair
56094	35351	Registered	Networks Water	NW52B			Unplanned Interruption		N/A			22/03/2016 19 15	23/03/2016 02 00	91	91	91	0	0	6 Hrs 45 Mins	(UPRN 187375243) [redacted] Ballynagilly, Cookstown, Tyrone	FALSE		Electricity Supply Failure
55901	35174	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			02/03/2016 15 30	02/03/2016 22 30	646	646	646	0	0	7 Hrs 0 Mins	(UPRN 187418342) [redacted] , Culnaman, Kilrea, Londonderry,	FALSE		Burst Main/Main Repair
55902	35173	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			02/03/2016 08 00	02/03/2016 15 28	65	65	65	0	0	7 Hrs 28 Mins	(UPRN 185681539) [redacted] Oxtown, Mountfield, Tyrone,	FALSE		Burst Main/Main Repair
56044	35303	Submitted to Customer Field Manager	Networks Water	NW51A			Unplanned Interruption		N/A			15/03/2016 09 15	15/03/2016 17 15	40	40	40	0	0	8 Hrs 0 Mins	(UPRN 185529146) [redacted] Killybready, Limavady, Londonderry,	FALSE		Electricity Supply Failure
56029	35293	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			13/03/2016 08 04	13/03/2016 16 30	66	66	66	0	0	8 Hrs 26 Mins	(UPRN 186014935) [redacted] , Holly-Hill, Strabane, Tyrone,	FALSE		Burst Main/Main Repair
56135	35387	Submitted to Customer Field Manager	Networks Water	NW51B			Unplanned Interruption		N/A			28/03/2016 15 55	29/03/2016 00 30	291	291	291	0	0	8 Hrs 35 Mins	(UPRN 185674966) [redacted] Killymore, Newtownstewart, Tyrone,	FALSE		Burst Main/Main Repair
56106	35372	Submitted to Customer Field Manager	Networks Water	NW03A			Unplanned Interruption		N/A			23/03/2016 11 34	24/03/2016 02 00	6	6	6	2	0	14 Hrs 26 Mins	(UPRN 185584425) [redacted] , Dunlarg, Keady, Armagh	FALSE		Other
55952	35207	Submitted to Customer Field Manager	Networks Water	NW02B			Unplanned Interruption		N/A			05/03/2016 14 50	05/03/2016 23 50	1	1	1	0	0	9 Hrs 0 Mins	(UPRN 185224300) [redacted] , Ballyalton, Newtownards, Down,	FALSE		Burst Main/Main Repair
56132	35386	Registered	Networks Water	NW01B			Unplanned Interruption		N/A			28/03/2016 07 54	28/03/2016 17 00	60	60	60	0	0	9 Hrs 6 Mins	(UPRN 185121508) [redacted] Town Parks, Belfast, Antrim,	FALSE		Burst Main/Main Repair
55981	35247	Submitted to Customer Field Manager	Networks Water	NW53A			Unplanned Interruption		N/A			09/03/2016 06 57	09/03/2016 16 30	8	8	8	0	0	9 Hrs 33 Mins	(UPRN 185640941) [redacted] , Ballymackilroy, Seskilgreen, Tyrone,	FALSE		Burst Main/Main Repair
56132	35386	Registered	Networks Water	NW01B			Unplanned Interruption		N/A			28/03/2016 07 54	28/03/2016 17 45	40	40	40	0	0	9 Hrs 51 Mins	(UPRN 185121508) [redacted] , Town Parks, Belfast, Antrim,	FALSE		Burst Main/Main Repair

Unplanned, Unwarned Interruptions

More than 12 hrs **No of Properties** **0**

Unplanned, Unwarned Interruptions

More than 24 hrs **No of Properties** **0**

Appendix G – DG3 Register Extract *(Planned & Warned Interruption, Third Party Interruption & Overrun Events – CIMS Report RPT1151)*

Planned and Warned Interruptions

More than 3 hrs **No of Properties** **764**

EventID	InterruptionId_User Friendly	InterruptionStatus	ManagingFunction	FieldManagerArea	EventCreator	DG3Creator	InterruptionType	WarningDate	WarningType	PlannedStartDateTime	PlannedRestorationDateTime	ActualStartTime	ActualSupplyrestoredDateTime	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	DurationHours Minutes	Location	ThirdPartyCaused Interruption	ThirdParty	InterruptionCause
56080	35339	Registered	Networks Water	NW52A	[redacted]		Planned Interruption	18/03/2016 09 00	Card drop	22/03/2016 09 00	22/03/2016 16 00	22/03/2016 09 20	22/03/2016 12 45	270	270	0	0	0	3 Hrs 25 Mins	(UPRN 185424987) [redacted], Rathenraw, Antrim, Antrim, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)
56137	35388	Submitted to Customer Field Manager	Networks Water	NW01A			Planned Interruption	25/03/2016 09 00	Card drop	29/03/2016 09 00	29/03/2016 16 00	29/03/2016 09 30	29/03/2016 13 00	5	5	0	0	0	3 Hrs 30 Mins	(UPRN 185751484) [redacted], Ballymacarret Intake, Belfast, Down [redacted]	FALSE		Install New Fitting (e.g. SV, FH)
56139	35390	Registered	Networks Water	NW02B			Planned Interruption	25/03/2016 09 00	Card drop	30/03/2016 09 00	30/03/2016 16 00	30/03/2016 10 50	30/03/2016 14 20	17	17	0	0	0	3 Hrs 30 Mins	(UPRN 185209515) [redacted], Herdstown, Donaghadee, Down [redacted]	FALSE		Burst Main/Main Repair
55936	35197	Submitted to Customer Field Manager	Networks Water	NW03B			Planned Interruption	01/03/2016 12 00	Card drop	04/03/2016 09 00	04/03/2016 16 00	04/03/2016 11 45	04/03/2016 15 30	11	11	0	0	0	3 Hrs 45 Mins	(UPRN 185782301) [redacted], Clonachullion, Newcastle, Down [redacted]	FALSE		Install New Fitting (e.g. SV, FH)
56095	35358	Submitted to Customer Field Manager	Networks Water	NW03A			Planned Interruption	21/03/2016 09 00	Card drop	23/03/2016 09 00	23/03/2016 16 00	23/03/2016 10 25	23/03/2016 14 15	51	51	0	0	0	3 Hrs 50 Mins	(UPRN 185939324) [redacted], Dunlarg, Keady, Armagh, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)
56075	35334	Submitted to Customer Field Manager	Networks Water	NW02B			Planned Interruption	14/03/2016 10 00	Card drop	21/03/2016 09 00	21/03/2016 16 00	21/03/2016 11 00	21/03/2016 14 55	3	3	0	0	0	3 Hrs 55 Mins	(UPRN 185241924) [redacted], Tonaghmore, Saintfield, Down, [redacted]	FALSE		Burst Main/Main Repair
56002	35258	Registered	Networks Water	NW01A			Planned Interruption	07/03/2016 17 00	Card drop	10/03/2016 09 00	10/03/2016 16 00	10/03/2016 11 00	10/03/2016 15 00	101	101	0	0	0	4 Hrs 0 Mins	(UPRN 185163304) [redacted], Dunmurry, Dunmurry, Antrim [redacted]	FALSE		New Mains Tie In
56014	35273	Submitted to Area Manager	Networks Water	NW52B			Planned Interruption	08/03/2016 09 00	Card drop	11/03/2016 09 00	11/03/2016 13 30	11/03/2016 09 00	11/03/2016 13 00	33	33	0	0	0	4 Hrs 0 Mins	(UPRN 185470165) [redacted], Lisnamorrow, Magherafelt, Londonderry, [redacted]	FALSE		Burst Main/Main Repair
56026	35285	Submitted to Customer Field Manager	Networks Water	NW03A			Planned Interruption	09/03/2016 13 00	Card drop	11/03/2016 22 00	12/03/2016 04 00	11/03/2016 22 00	12/03/2016 02 15	74	74	0	0	0	4 Hrs 15 Mins	(UPRN 185575581) [redacted], Corporation, Armagh, Armagh, [redacted]	FALSE		New Mains Tie In
56022	35290	Registered	Networks Water	NW01A			Planned Interruption	08/03/2016 08 00	Card drop	13/03/2016 09 00	13/03/2016 15 00	13/03/2016 09 00	13/03/2016 13 23	34	34	0	0	0	4 Hrs 23 Mins	(UPRN 185014341) [redacted], Strandtown, Belfast, Down [redacted]	FALSE		Burst Main/Main Repair
55914	35185	Registered	Networks Water	NW02B			Planned Interruption	29/02/2016 11 00	Card drop	03/03/2016 09 00	03/03/2016 16 00	03/03/2016 10 20	03/03/2016 14 45	14	14	0	0	0	4 Hrs 25 Mins	(UPRN 185241951) [redacted], Lisbane, Saintfield, Down [redacted]	FALSE		Burst Main/Main Repair
56000	35260	Submitted to Customer Field Manager	Networks Water	NW03A			Planned Interruption	08/03/2016 09 00	Card drop	10/03/2016 10 00	10/03/2016 16 00	10/03/2016 10 30	10/03/2016 15 10	46	46	0	0	0	4 Hrs 40 Mins	(UPRN 185620609) [redacted], Knocknashane, Lurgan, Armagh, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)
55865	35170	Submitted to Customer Field Manager	Networks Water	NW53A			Planned Interruption	26/02/2016 09 00	Card drop	01/03/2016 09 00	01/03/2016 16 00	01/03/2016 10 00	01/03/2016 14 45	79	79	0	0	0	4 Hrs 45 Mins	(UPRN 185874031) [redacted], Annaghalough, Kesh, Tyrone, [redacted]	FALSE		Planned Restrictions
55908	35177	Registered	Networks Water	NW02B			Planned Interruption	26/02/2016 14 30	Card drop	02/03/2016 09 00	02/03/2016 16 00	02/03/2016 11 00	02/03/2016 15 55	26	26	0	0	0	4 Hrs 55 Mins	(UPRN 187348224) [redacted], Crossgar, Dromore, Down, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)

Planned and Warned Interruptions

More than 6 hrs **No of Properties** **0**

Planned and Warned Interruptions

More than 12 hrs **No of Properties** **0**

Planned and Warned Interruptions

More than 24 hrs **No of Properties** **0**

Interruptions caused by third parties

More than 3 hrs **No of Properties** **64**

EventID	InterruptionId_User Friendly	InterruptionStatus	ManagingFunction	FieldManagerArea	EventCreator	DG3Creator	InterruptionType	WarningDate	WarningType	PlannedStartDateTime	PlannedRestorationDateTime	ActualStartTime	ActualSupplyrestoredDateTime	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	DurationHours Minutes	Location	ThirdPartyCaused Interruption	ThirdParty	InterruptionCause
55931	35192	Submitted to Customer Field Manager	Networks Water	NW01B	[redacted]		Unplanned Interruption		N/A			03/03/2016 16 00	03/03/2016 20 10	54	54	0	0	0	4 Hrs 10 Mins	(UPRN 187286874) [redacted], Malone Upper, Belfast, Antrim, [redacted]	TRUE	[redacted]	Burst Main/Main Repair
56079	35336	Registered	Networks Water	NW03B			Unplanned Interruption		N/A			21/03/2016 15 07	21/03/2016 21 05	10	10	0	0	0	5 Hrs 58 Mins	(UPRN 185331093) [redacted], Mullartown, Annalong, Down [redacted]	TRUE	[redacted]	Burst Main/Main Repair

Interruptions caused by third parties

More than 6 hrs **No of Properties** **0**

Interruptions caused by third parties

More than 12 hrs **No of Properties** **0**

Interruptions caused by third parties

More than 24 hrs **No of Properties** **0**

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 3 hrs **No of Properties** **135**

EventID	InterruptionId_User Friendly	InterruptionStatus	ManagingFunction	FieldManagerArea	EventCreator	DG3Creator	InterruptionType	WarningDate	WarningType	PlannedStartDateTime	PlannedRestorationDateTime	ActualStartTime	ActualSupplyrestoredDateTime	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	DurationHours Minutes	Location	ThirdPartyCaused Interruption	ThirdParty	InterruptionCause
55998	35256	Submitted to Area Manager	Networks Water	NW52B	[redacted]		Planned Interruption	07/03/2016 10 00	Card drop	10/03/2016 09 30	10/03/2016 14 00	10/03/2016 09 30	10/03/2016 14 04	117	117	0	0	0	4 Hrs 34 Mins	(UPRN 185819910) [redacted], Drumard, Tamlaght O'Crilly, Londonderry, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)
55958	35226	Registered	Networks Water	NW01A			Planned Interruption	03/03/2016 14 00	Card drop	07/03/2016 15 00	07/03/2016 17 00	07/03/2016 15 00	07/03/2016 19 45	11	11	0	0	0	4 Hrs 45 Mins	(UPRN 185029366) [redacted], Tullycarnet, Belfast, Down [redacted]	FALSE		New Mains Tie In
55930	35233	Submitted to Customer Field Manager	Networks Water	NW01B			Planned Interruption	04/03/2016 00 00	Card drop	08/03/2016 09 00	08/03/2016 17 00	08/03/2016 10 00	08/03/2016 19 00	7	7	7	0	0	9 Hrs 0 Mins	(UPRN 185366069) [redacted], Drumnadrough, Newtownabbey, Antrim, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 6 hrs **No of Properties** **7**

EventID	InterruptionId_User Friendly	InterruptionStatus	ManagingFunction	FieldManagerArea	EventCreator	DG3Creator	InterruptionType	WarningDate	WarningType	PlannedStartDateTime	PlannedRestorationDateTime	ActualStartTime	ActualSupplyrestoredDateTime	Number of Properties Affected	Number of Properties Affected 3	Number of Properties Affected 6	Number of Properties Affected 12	Number of Properties Affected 24	DurationHours Minutes	Location	ThirdPartyCaused Interruption	ThirdParty	InterruptionCause
55930	35233	Submitted to Customer Field Manager	Networks Water	NW01B	[redacted]		Planned Interruption	04/03/2016 00 00	Card drop	08/03/2016 09 00	08/03/2016 17 00	08/03/2016 10 00	08/03/2016 19 00	7	7	7	0	0	9 Hrs 0 Mins	(UPRN 185366069) [redacted], Drumnadrough, Newtownabbey, Antrim, [redacted]	FALSE		Install New Fitting (e.g. SV, FH)

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 12 hrs **No of Properties** **0**

Unplanned Interruptions (Overruns of Planned Interruptions)

More than 24 hrs **No of Properties** **0**

Appendix G – DG3 Register Extract *(Unplanned Interruption Property Records – CIMS Report RPT1155)*

LastRun
11/04/2016 13 38

EventId	Interruption Id User Friendly	InterruptionStatus	ManagingFunction	Field Manager Area	EventCreator	DG3Creator	InterruptionName	Duration Hours	Duration Minutes	Duration Seconds	ActualStartDateTime	Estimated Restoration Date Time	Repair Commenced Start Date Time	Actual Supply Restored Date Time	Water Sampler Contacted Date Time	Estimated All Properties Restored Date Time	PRIMARY_THORFARE	BUILDING_NUMBER	TOWN	POSTCODE	Affected Area Property Count Residential	Affected Area Property Count Non Residential	Affected Area Property Count Unknown	Total Affected Properties Count	Location	Third Party Caused Interruption	ThirdParty	Description
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	169	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	171	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	173	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	173A	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	173C	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	173D	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	175	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	177	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	179	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	183	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	187	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	193	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	195	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	199	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	200	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	201	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	203	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	204	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	207	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	207A	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	210	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	220	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	224	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	229	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	235	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	237	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	239	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	241	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	10	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	14	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	16	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	18	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	20	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	30	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	34	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	36	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	1	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	10	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	12	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	12A	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	14	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	14A	Dungannon	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	16	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	16A	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	17	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	18	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	19	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	20	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	20A	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	23	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	27	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	29	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	31	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	32	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	32A	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	34	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	34A	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	34B	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	36	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	40	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	40A	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	42	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	45	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	5	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redacted]	FALSE		Burst Main/Main Repair
55863	35149	Submitted to Area Manager	Networks Water	NW52B	[redacted]	[redacted]	Unplanned Interruption	5	7	0	01/03/2016 07 23	01/03/2016 14 00	01/03/2016 10 30	01/03/2016 12 30	01/03/2016 13 00	01/03/2016 14 05	[redacted]	6	Benburb	[redacted]	54	1	13	68	(UPRN 185655978) [redacted], Lisduff, Benburb, Tyrone, [redac

Appendix G – DG3 Register Extract *(Planned Interruption Property Records – CIMS Report RPT1156)*

LastRun
06/04/2016 16:13

EventId	Interruption Id User Friendly	InterruptionStatus	ManagingFunction	Field Manager Area	EventCreator	DG3Creator	InterruptionName	Warning Type	Warning Date Time	Duration Hours	Duration Minutes	Planned Start Date Time	Planned Restoration Date Time	Estimated Actual Start Date Time	Actual Supply Restored Date Time	Water Sampler Contacted Date Time	PRIMARY_THORFARE	BUILDING_NUMBER	TOWN	POSTCODE	Affected Area Property Count Residential	Affected Area Property Count Non Residential	Affected Area Property Count Unknown	Total Affected Properties Count	Location	Third Party Caused Interruption	Third Party	Description
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		100	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		105	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		105A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		106	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		106A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		106B	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		108	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		109	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		110	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		118	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		121	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		125	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		125A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		128	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		128A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		129	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		130	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		132	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		133	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		133A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		134A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		135	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		137	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		138	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		139	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		140	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		140A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		142	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		146	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		147	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		148	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		149	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		155	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		157	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		158	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		159	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		159A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		160	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		162	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		17	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		170	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		21	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		22	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		23	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		25	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		26	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		29	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		31	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		35	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		37	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		37A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		39	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		42	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		43	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		45	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		49	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		518	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		55	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		56	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		60	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		62	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		64	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		66	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		68	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		7	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		84	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		85	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		86	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		87	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		88	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		89A	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		9	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		90	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00	01/03/2016 10:00	01/03/2016 14:45	01/03/2016 14:45		93	Drumquin		64	0	15	79	(UPRN: 185874031) , Annaghalough, Kesh, Tyrone,	FALSE		Planned Restrictions
55865	35170	Submitted to Area Manager	Networks Water	NW53A			Planned Interruption	Card drop	26/02/2016 09:00	4	45	01/03/2016 09:00	01/03/2016 16:00

Northern Ireland Water

Level of Service Methodology

DG5 Internal Flooding

Contents

1. Introduction
2. DG5 Flooding Incidents – Internal
3. DG5 Properties at Risk of Flooding – Internal

Appendix A – NI WATER DG5 Internal Flooding Register Methodology

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 16:

- 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 AIR16.

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 2015 to March 2016 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 AIR16, 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.

Continuing investigation of Flooding incidents on the 1 in 20 register

It is recognised that a significant number of properties on the 1 in 20 Register are in the Register because of historic (pre-2008) incidents – and that, as a consequence – their inclusion within the register has a lower level of confidence.
All such properties are subject to ongoing assessment and appraisal by current Engineering Procurement projects. It is anticipated that all of these appraisals will be completed within year 16/17.

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 two 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	

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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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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

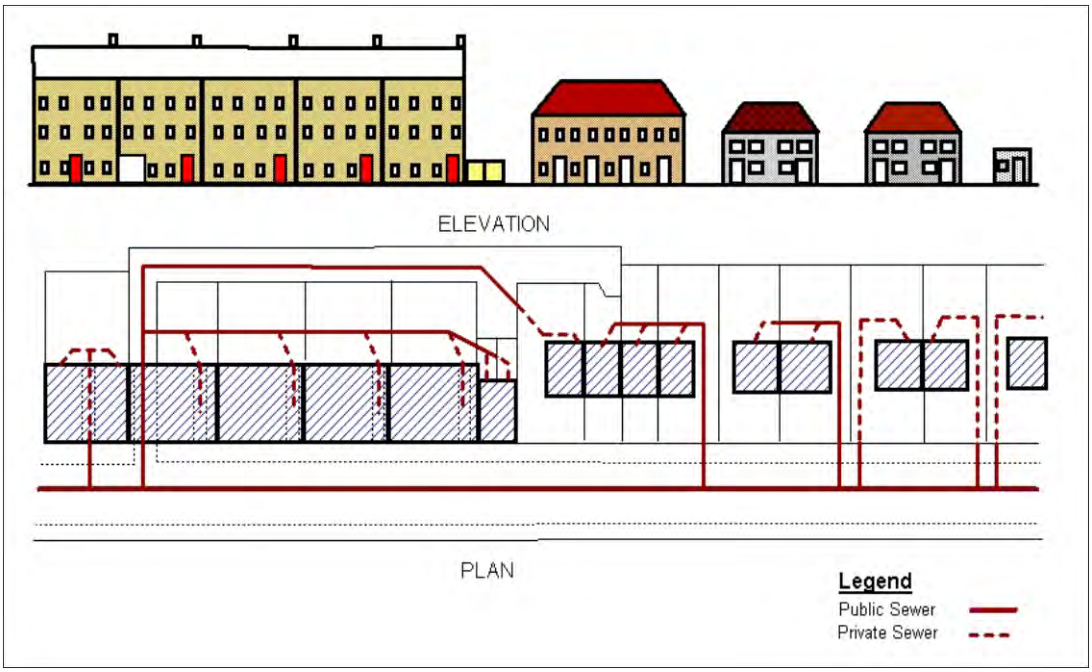
The following definitions are to be applied when recording and reporting properties and incidents held on NI Water's DG5 Internal Flooding Register.

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.

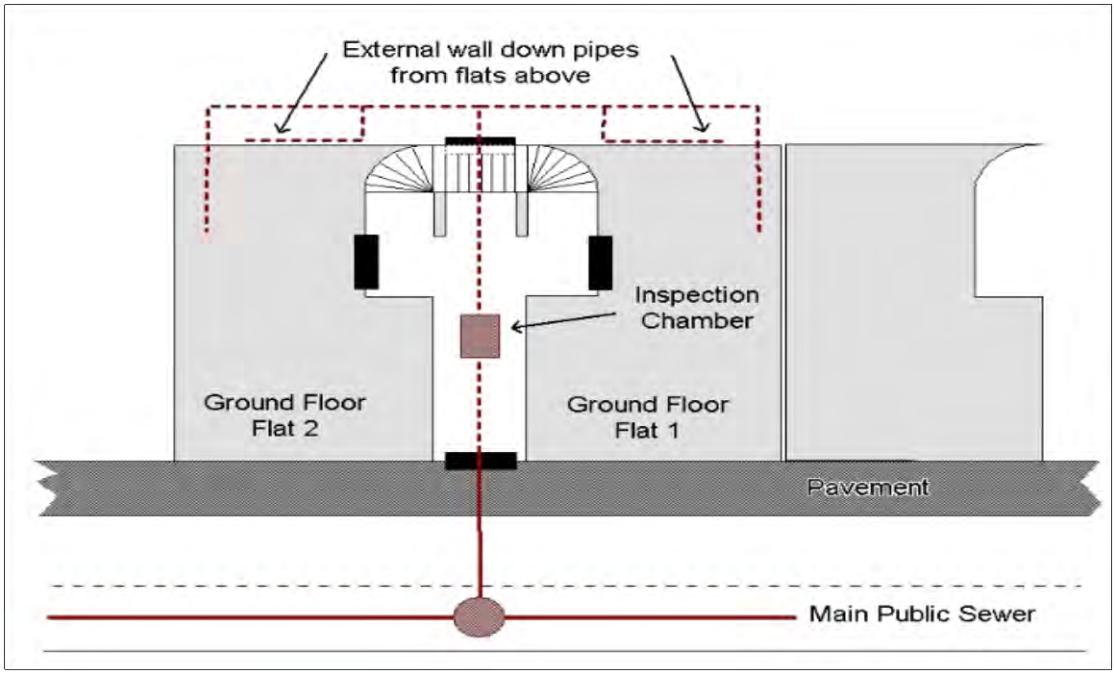
11.1.4 Basement Flooding

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:

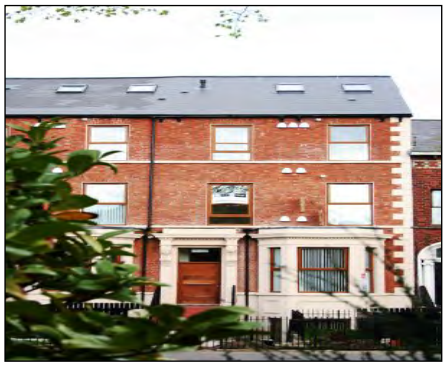
- Buildings that are normally occupied and used for residential, commercial, public, business or industrial purposes are included. This also includes garages that form an integral part of the property and are classed as part of the building even if the main purpose is storage.
- Buildings whose prime 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.

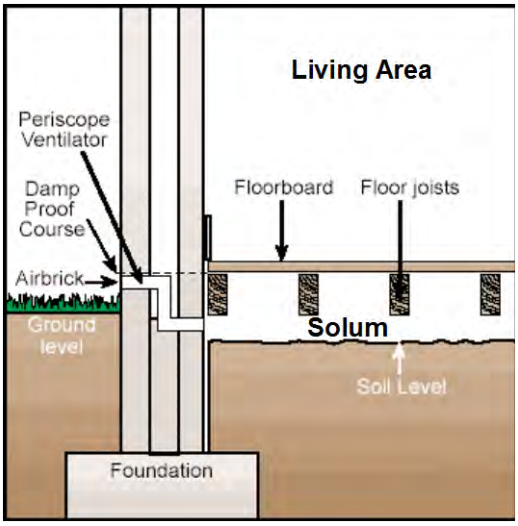
A permanent solution is defined as one that permanently addresses the cause of the hydraulic overload. Permanent works would enable a property to be removed from the DG5 Internal Flooding Register.

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

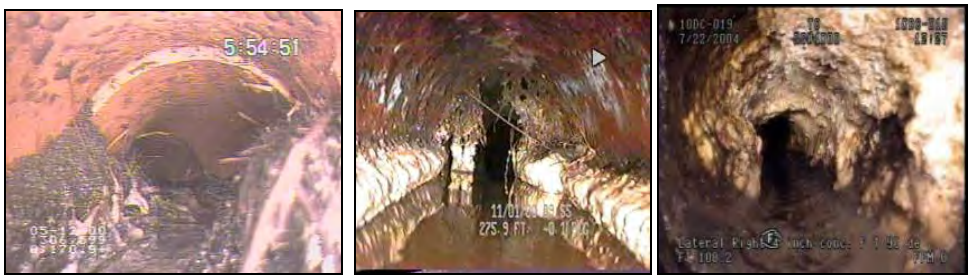
'Other Causes' are related to localised deficiencies and transient characteristics of the network. The main causes are:

- 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, Engineering and Procurement (EP) 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 ☒

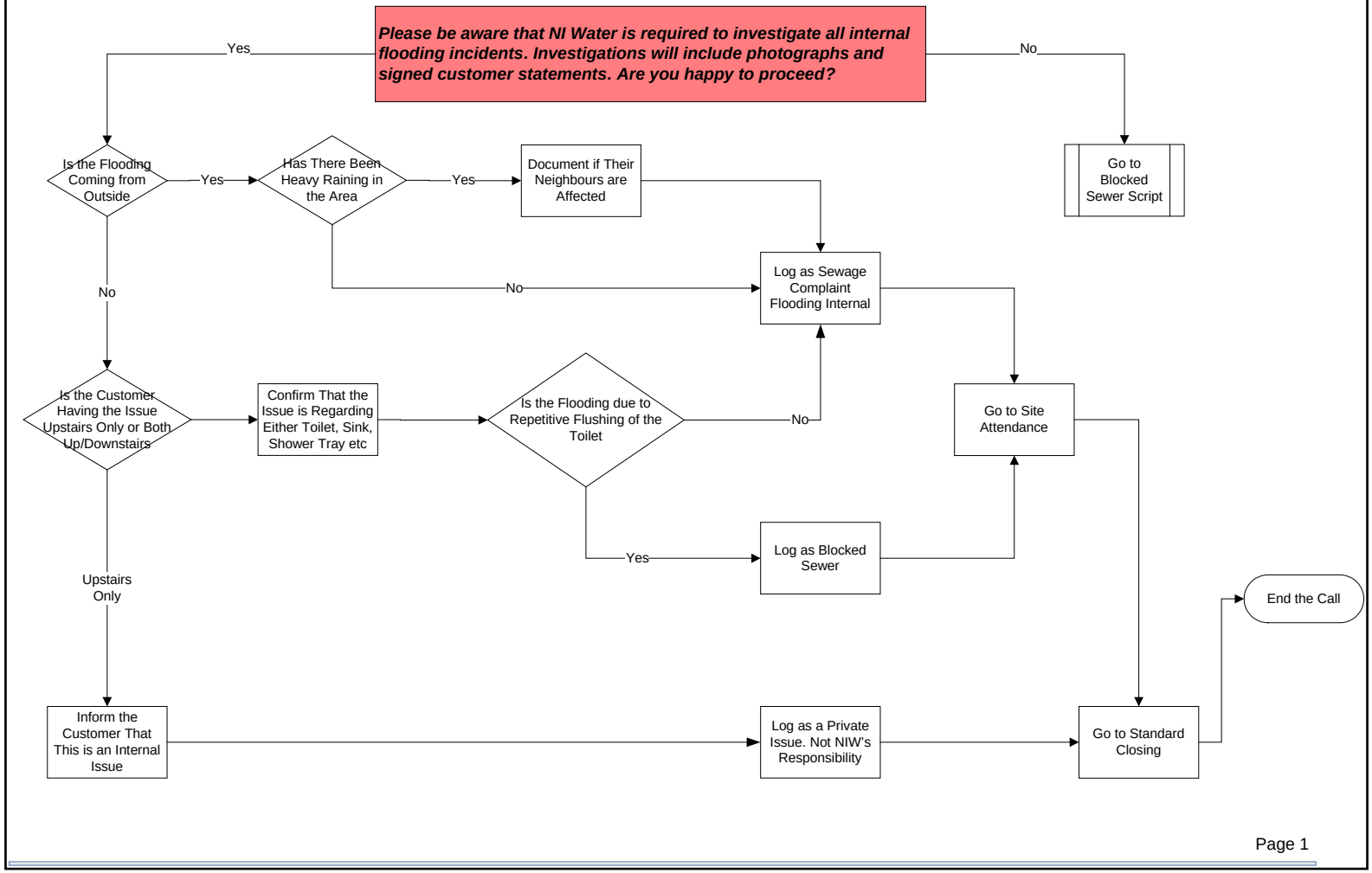
Comments: Especially for Flooded jobs or Follow on jobs

PHOTO FOR FLOODED JOBS:

Appendix 4– **Call Centre DG5 Caller Script**

INTERNAL FLOODING EGAIN SCRIPT

WEDNESDAY, MARCH 07, 2012



Page 1

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 Account Services 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 Account Services 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 60 of the 308 open DG6 contacts were checked to see if they had a holding letter issued on or before working day 5 and 100% of the 60 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.

NIW Contract Office 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 NIW Account Services 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 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 NIW Account Services Contact Team who takes ownership for resolution and closure of the contact. The Contacts 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

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 2015/16

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 contacts and complaints are dealt with in-house by NIW Customer Services. The Accounts Services (AS) Customer Support Team within this department scan, log & index documentation whilst the AS Complaints & Exec Mail Team case-manage and respond to DG7 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 the Account Services department;
- documentation sifted into DG6, DG7 and non-reportable categories;
- documentation date stamped, scanned, logged & indexed by AS Customer Support Team;
- CMS contact raised to AS Complaints & Exec Mail Team inboxes in RapidXtra (Customer Billing & Contact Management System) and case raised in Savvion (BPM solution);
- contacts allocated to AS Complaints & Exec Mail Team members;
- AS Complaints & Exec Mail Team member assesses, investigates and case-manages 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 Account Services. 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 the AS Customer Support Team.

The reported response times for all written complaints are derived from the Rapid 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 NIAUR 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

This process falls under the remit of NIW Internal Audit (IA). A “Customer Contacts and Complaints Handling” audit was undertaken during 2015/16. This resulted in a number of recommendations from Internal Audit in respect to complaint handling including:

- reminding staff that sensitive or urgent complaints should be appropriately escalated and prioritised for resolution;
- measuring the time taken to seek action/input from around the business from the point of complaint allocation;
- reminding staff of the need to ensure the customer has received a full response addressing all their concerns before the complaint is closed; &
- ensuring that appropriate focus was being given to the standard of content used in holding responses.

NIW MI & Data Team carry out monthly sampling to quality check that contacts are being logged correctly within the Rapid system. The checks include validation that the contact is a DG7, confirmation that the CMS codes are correct, that the date of closure is correct and that the response issued is substantive. Any areas of concern are then fed back to the relevant teams who provide a written response with agreed actions.

Each complaint also undergoes a series of quality assurance checks. The first is carried out by the AS Complaints & Exec Mail Team member who has the item allocated to them. They check that the item has been:

- correctly categorised as DG7;
- coded using an appropriate CMS code; and
- logged to the correct account(s).

The AS Complaints & Exec Mail Team member verifies that the information received from within the business is suitable to use in response to the complaint before the response 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 code; 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, thus ensuring security and minimising administration.

Each complaint received is scanned using the Kodak i620 scanner. At the end of each "batch" of correspondence scanned, a batch number is allocated. The images can then be seen by staff on their PC and indexing can begin. During indexing the following details are input by the operator:

- property and/or customer reference;
- date of receipt;
- CMS group;
- CMS description;
- document type and;
- operator id.

It is at the indexing stage that the scanned items are categorised, thus allowing the description to be input above.

Changes in system during the report year

New scanning hardware and software (Kofax) was deployed in October 2015.

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 Director General's 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 (Rapid).

NIW endeavours to answer 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 his/her complaint will be taken if it cannot be done immediately e.g. capital works scheduled for completion months sometime 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 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.

Assumptions

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 scanned, logged and indexed on the next working day. The date of receipt recorded will match the actual date of receipt.

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 defined as a response to a written complaint which advises the customer that NIW 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 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 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.

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 15/16.

System-based report data was used to derive the number of holding responses issued between 01/04/15 and 31/03/16.

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 285 DG7 contacts which were received in 15/16. Therefore, it can be concluded that one or more holding response was issued in relation to 12.56% of the DG7 contacts received during 15/16.

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 Routestar/Temetra, for transfer to Rapid. The Temetra system was introduced on 26th August 2014 to replace Routestar.

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 that are identified as either 'Customer read' or 'Customer web reading'

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 Routestar between April and 25th August, and from Rapid to the Temetra system for 26th August onwards.

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 Routestar/Temetra, which is subsequently updated upon the meter being read.

The data transfer from Routestar/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.

Sewerage only customers, if not TE customers, are charged on an unmeasured basis.

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. 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:

"Thank you for calling Waterline. Calls are recorded and may be used for quality assurance and training purposes. Please select from one of the following options. For Developer Services or New Connections please press 1, to report a problem with the water supply or sewerage please press 2, for septic tank desludging please press 3, for all other enquiries please press 4 and to hear these options again please press 5."

Auto Attendant sub menu: "For New Connections please press 1. For the Developer Service team and you know their name, please press 2."

Auto Attendant

Auto attendant is a new functionality that allows callers who wish to speak to a member of the Developer Services Customer Team and know their name to go directly to their desk phone without the need to talk to an agent within the CRC. This is achieved by selecting option 1 on the top menu of the IVR. This will bring them to the sub menu – "For New Connections please press 1. For the Developer Service team and you know their name, please press 2." If the individual is not available then the call will be redirected back to the CRC to be serviced.

High Volume Call Answering (HVCA) System

The HVCA 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 HVCA 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 HVCA 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 HVCA 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 HVCA 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.

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 NIW MI Data Team on a monthly basis using the MI reports from both HVCA and Call Media systems.

Reporting of Telephone Complaints

NIW MI 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

NIW MI 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 HVCA 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 HVCA 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 HVCA 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 HVCA system in situations where calls exceed the volume of agents available in the CRC.

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 (HVCA), 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.

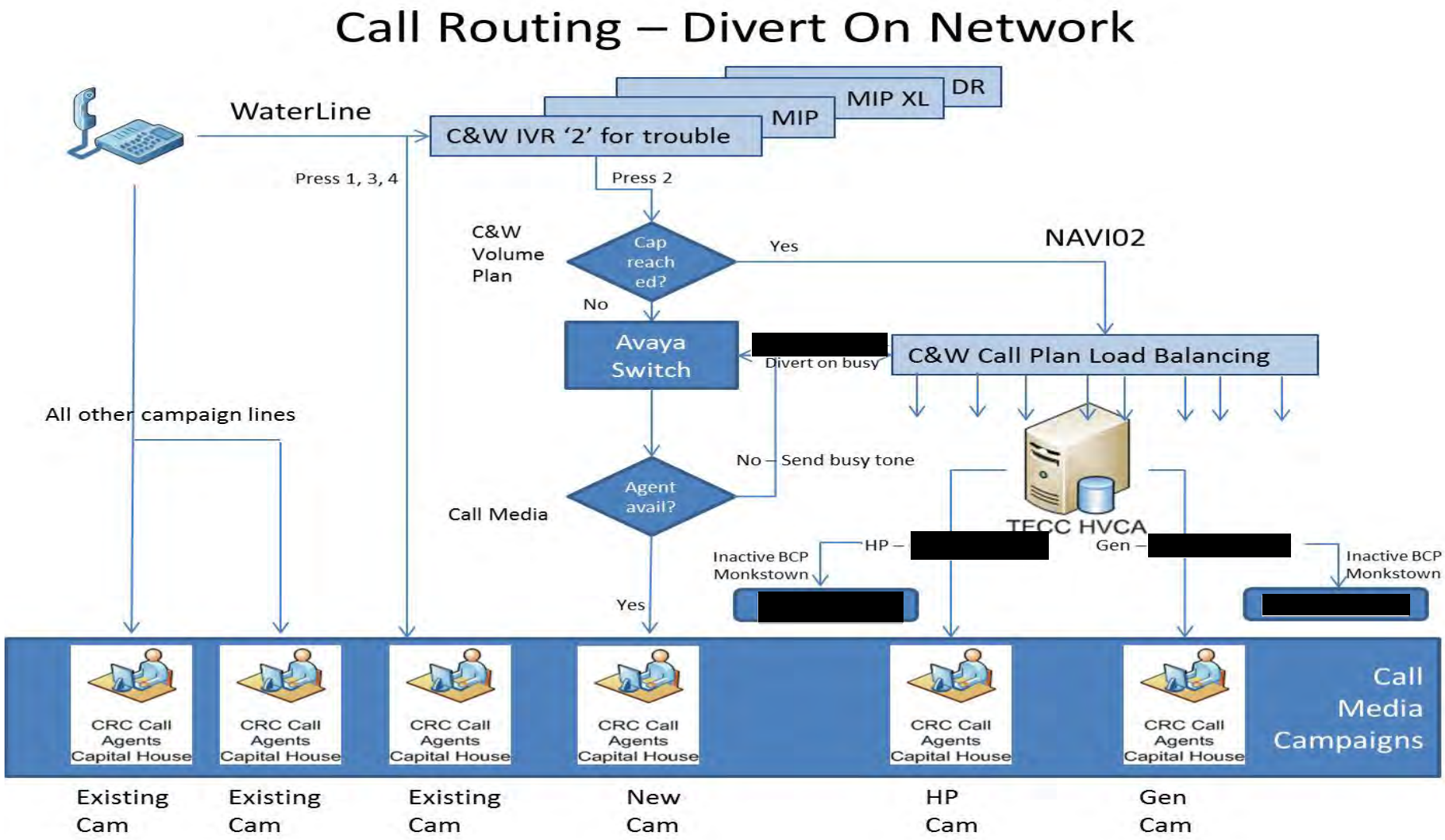
Text Relay Service is a third-party service whereby the customer rings a Text Relay operator, who in turn contacts the Customer Relations Centre via the normal customer line (Waterline/Leakline/Billing, etc.) on behalf of the customer. This is recorded as a call received on the appropriate line.

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
[redacted]
Divert on busy
C&W Call Plan Load Balancing
All other campaign lines
No – Send busy tone
Agent avail?
Call Media
TECC HVCA
Inactive BCP Monkstown
HP – [redacted]
Gen – [redacted]
Inactive BCP Monkstown
[redacted]
[redacted]
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

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Section 4

Customer Research Appendix

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Customer Research Appendix

Customer Satisfaction

One of the fundamental measures concerning the level of service received by customers is customer satisfaction. NI Water measures customer satisfaction through three different surveys.

- OPA, where Question 18 is used
- SIM, where Question 60 is used
- Omnibus, where we are able to measure satisfaction for a silent majority (those customers who have not contacted NI Water)

For regulatory reporting purposes in 2015/16 only the satisfaction score from OPA, Question 18 is used.

This measure concerns the service received when telephoning NI Water. A customer satisfaction survey (Quality of Call Handling) is used to establish performance against this measure.

Customers' satisfaction with regards to call handling is assessed by McCallum Layton, an independent market research company. McCallum Layton carry out quarterly surveys (Waves) of customers who have called the Company for any reason. The score for the answer to survey question 18 ("*Overall, how satisfied were you with how your call was handled 1-5?*") is the call handling satisfaction score.

The primary objective is to provide a measurement of customer satisfaction in telephone call handling, by water industry companies.

The resultant data is required to be statistically robust based on the sample received to allow comparison both between companies each year, and for each company on a year on year basis.

Methodology

For each water company taking part, a target was set of 100 telephone interviews with customers who had contacted the water company in the previous week, for each Wave of the survey, equating to 400 per Water Company per year.

Overall Northern Ireland Water (NIW) achieved 400 interviews in total – Q1 was 100 interviews, Q2 100 interviews, Q3 100 interviews and Q4 100 interviews.

All surveys were administered using a Computer Aided Telephone Interviewing (CATI) unit. Each survey was undertaken by multiple interviewers to prevent any possibility of interviewer bias.

Sampling

Sample Provision

NIW is required to record all incoming calls to the contact centre for the seven days in question, irrespective of how calls were handled.

McCallum Layton will issue an email on the Monday after the designated 'un-notified' week requesting the previous week's data. The data set should include 'Resolved and Unresolved' contacts only (from telephone and written channels) in relation to both billing and operational areas.

This data is then supplied to McCallum Layton and is password protected for data protection purposes. Data is provided based on an Excel spreadsheet containing the following fields:

- Telephone Number;
- Date of contact (date call made to NIW);

In addition to the sample, an Audit sheet was completed which detailed the total number of calls received; number of records excluded from the sample and any factors the company felt may have affected their performance during the sampling period.

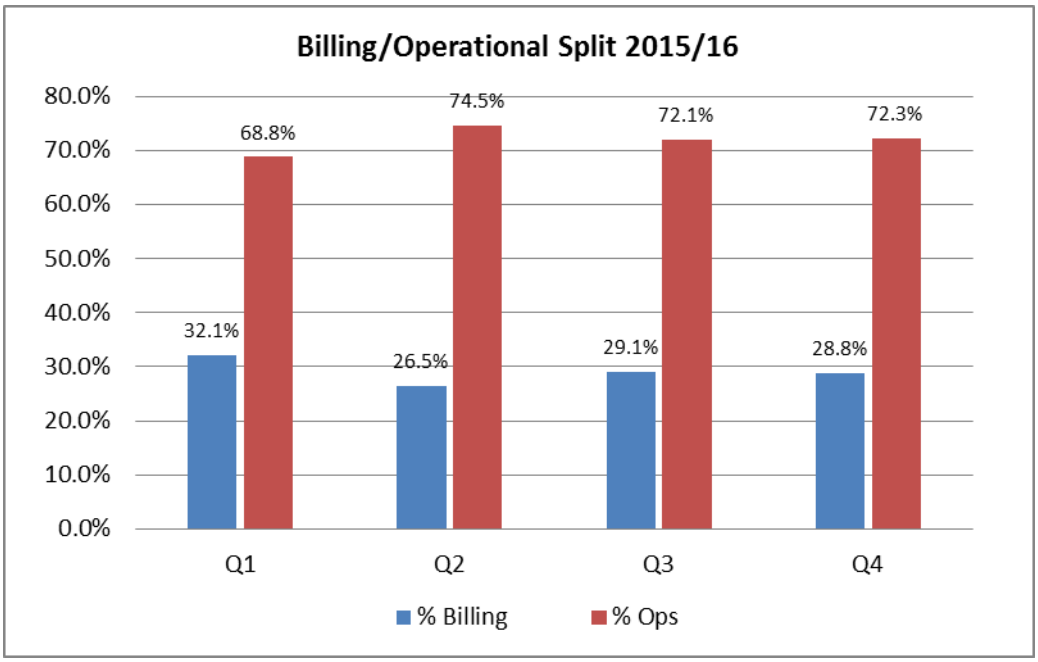
Sample Management

Upon receipt of the sample, McCallum Layton applied the following sample management procedures for each water company:-

- **Removal of non-useable records –** e.g. overseas telephone numbers, records with no telephone numbers, visually incorrect telephone numbers; and
- **De–duplication –** removal of any customer record which appears in the supplied sample more than once and of customers which have been included in any previous waves that year to ensure no customer is approached to participate in the survey more than once per annum.

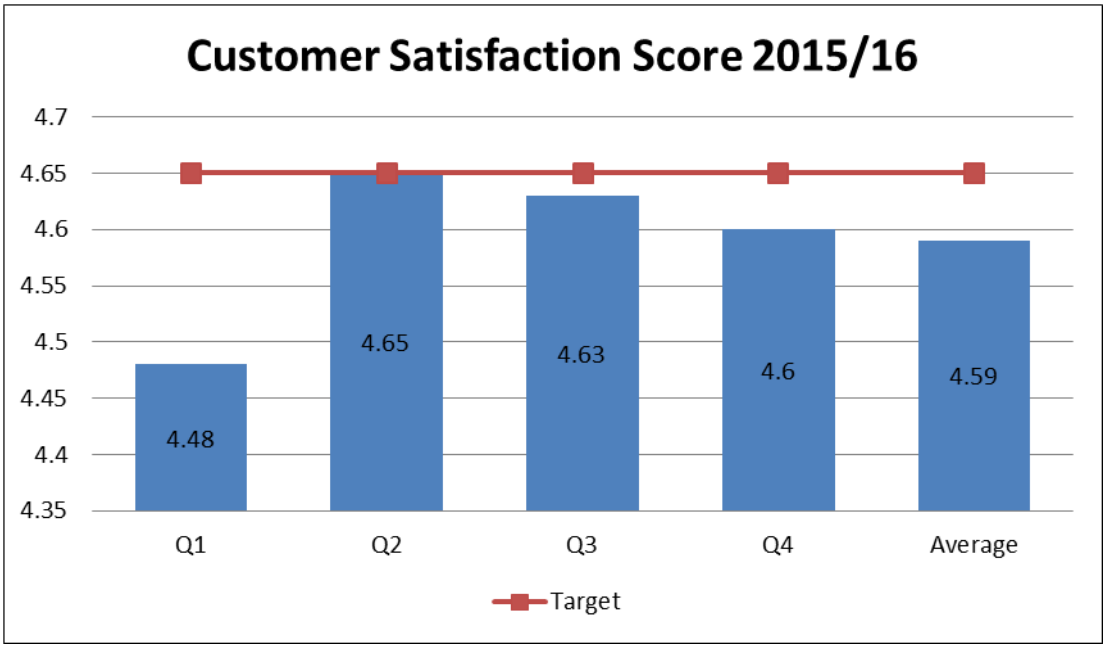
Given that NIW is not billing domestic customers (unlike other UK water companies), it is important to establish the proportion of calls received by day and query type to ascertain the quotas needed to ensure a representational spread of interviews was achieved.

The following table shows the NIW percentage split for billing and operations, per quarter.



Overall Performance Assessment

NIW achieved an overall score of 4.59/5.0 for the reporting year 15/16 against a target of 4.65 which was set prior to PC15 (covering the period April 2015 – March 2021)



The satisfaction score of 4.59 is the average of the four quarters as shown in the bar chart above.

From 2010 NIW were not ranked against the English and Welsh water companies as they moved away from OPA to the SIM and CES methods. The Regulator requested that NIW were to remain with the OPA Customer Satisfaction Methodology.

From the graph below is shows the annual score increasing in the first 3 years from 2007 to 2010. The satisfaction score increased from 4.23 to 4.6. The next 3 years of reporting showed a slight decrease.

In 13/14 and 14/15 the satisfaction score increased to 4.65. This year 15-16 has shown a slight decrease with a score of 4.59. However in 15/16 the methodology changed from notified to un-notified, therefore there was no prior warning of the survey or affected customer contacts.

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 has been working extensively on providing an improved customer experience. Under the auspices of the Customer Engagement Oversight Group (CEOG), Customer Services 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.