



# **Annual Information Return 2009**

## **Public Domain Version**

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# **Annual Information Return 2009**

## **Section 1**

### **Board's Overview**

### **Board's Statement on AIR09 Reliability**

In respect of the preparation of the 2009 Annual Information Return (AIR09), NI Water's Board is required by NIAUR to prepare a statement on the compilation of the AIR09, explaining how it has satisfied itself as to the accuracy and completeness of the information provided.

The directors consider that AIR09 provides a true and fair view of the state of affairs of NI Water for the financial year 2008/09. In preparing AIR09, the directors confirm, subject to any departure and explanation described in the commentary, that:

- suitable accounting policies have been selected and applied consistently;
- judgements and estimates made have been 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 NI Water's directors have elected to prepare the financial statements.

The directors are responsible for keeping proper accounting records that 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 (Northern Ireland) Order 1986.

The directors of NI Water confirm that, to the best of their knowledge:

- there is no relevant information of which the Auditor/Reporter is unaware;
- all steps have been taken in order to ensure that all relevant information has been made available to the Auditor/Reporter, and;
- all steps have been taken in compliance with the Companies (NI) Order 2005.

### **Processes and Internal Systems of Control**

An AIR09 project board was formed in November 2008 and met regularly until July 2009. Responsibility for the population of AIR tables and the completion of commentaries was delegated to the relevant business functions. The Regulation and Business Performance function were responsible for coordinating and collating the completed tables and for submitting the return to the Utility Regulator.

To ensure reporting consistency for AIR09 (and subsequent years), the NI Water AIR09 project board developed written "Line Methodologies" for every line of all AIR tables. Line methodologies have been written by those responsible for the information collection, reviewed and endorsed by the relevant head of function, and approved by the responsible director.

In addition, every item of data provided in the AIR09 tables had a designated author, reviewer and approver. In all cases, the approver was an appropriate

senior manager.

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 AIR09 tables and guidance on 01 April 2009. Audits were undertaken by the External Auditor in May and June and by the Reporter in June and July. Feedback from the Reporter and Auditor was used to redraft the tables and commentaries.

The NI Water Internal Audit function reviewed the AIR submission process and considered data assurance issues via end-to-end process reviews of risk prioritised tables by reference to AIR 08 (detailed below).

Challenge, in respect of data assurance, was provided by regular consideration at the Executive Team, Audit Committee and Board Meetings in May, June and July 2009.

AIR09 financial tables were approved by the Audit Committee and the complete AIR09 submission was endorsed by the Executive Team and Board in July 2009.

### **Assurance**

It is essential that NI Water ensure that all of the systems and processes that are required to populate the tables contained in the AIR are adequate, appropriate and are in line with the guidance issued by the Utility Regulator. NI Water has a duty to ensure that there are robust and effective controls in operation that will help ensure that the Utility Regulator is provided with accurate information. The processes employed in the completion of AIR09 have been enhanced following a review of the AIR08 process by NI Water's Internal Audit function.

In December 2008 NI Water's Internal Audit function focused on gaining assurance on the existence and operation of robust control environments over the collation, validation and approval of information populated in the AIR tables submitted to the Utility Regulator.

The Internal Audit and Regulation functions performed a high level risk assessment exercise to prioritise the tables included within the AIR. The risk assessment process took cognisance of:

- the confidence grades assigned for AIR08;
- the issues raised by the Reporter on his detailed review of AIR08;
- the issues raised by the external Auditor in their management letter on the 2008 Financial Statements; and
- relevant issues raised by internal audit on reviews performed as part of the 2007/08 Internal Audit Plan.

On completion of the risk assessment process each table was assigned a risk grading. Internal Audit elected that all non-financial tables in the AIR should

as a minimum be categorised as medium risk. End-to-end process reviews focusing on how relevant data is collated, verified and reviewed from data source to end figures entered in the AIR tables were performed by NI Water Internal Audit or the outsourced internal audit provider (Ernst & Young) for all tables identified as either high or medium risk by reference to the process used to populate AIR08.

The scope of this review included:

- End-to-end process reviews;
- Identification of key risks in the process;
- Assessment of the design effectiveness of existing controls;
- Review of methodology documents;
- Testing of controls and operating effectiveness conclusions;
- Identification of control gaps / control operating deficiencies;
- Suggestion of improvements to enhance the control environment; and
- Confidence grading reviews.

A follow up review will be undertaken by Internal Audit following the submission of AIR09 to independently confirm whether the agreed actions have been implemented by management.

### **Board Involvement**

In summary, the involvement of the NI Water Board in the completion of AIR09 included:

- Reviewing monthly company business performance analysis;
- Receiving a presentation from both the Reporter and the Auditor (through the Audit Committee) in June and July;
- Receiving presentations from the Regulation Manager on progress in compiling AIR09;
- Receiving assurance and audit reports relating to the information in AIR09;
- Reviewing, commenting upon and approving the AIR09 Board Overview document while having access to the full return;
- Reference back to NI Water's Executive Team and Senior Management Team to verify corporate information;
- Non-Executive Directors received regular reports on progress and reviewed, challenged, commented and influenced the content of AIR09.

The following activities were undertaken to meet the reporting requirements of AIR09:

- Development of systems and controls to populate AIR09 and other regulatory reporting requirements. This includes the ongoing development of methodologies to report against regulatory measures in conjunction with NIAUR.



- Projects associated with the One Programme, such as the Management Information, Information Communications Technology (ICT) and Asset Management projects.
- Establishment of a Regulation Management Group under the chairmanship of the acting chief executive to review regulatory matters across NI Water.
- The three year internal audit plan - covering a number of systems used to generate regulatory information. This includes reviews of the AIR tables. Recommendations arising from these reviews will improve the systems and controls. Further work should be considered in relation to gaining additional assurance around the systems used to generate the regulatory data.

The above developments are subjected to monitoring and review by the Executive Team, Board Sub-Committees and the Board as part of the NI Water governance framework.

The following measures help to ensure that AIR09 complies with the Utility Regulator's guidance and provides some assurance in respect of material assumptions and judgements included in the AIR09 commentaries:

- Clear accountability at Director level for the ownership of all elements of AIR09. NI Water has established an accountability trail from the information providers to the line owners through to Heads of Function and Directors.
- Briefings on the importance of the AIR09 process which have been disseminated through the AIR09 project board to all staff involved in the data collection process.
- Every data point in AIR09 has a designated provider, owner and Head of Function.
- Every non-financial data point provider produces a written methodology documenting the method used for the derivation of the data reported;
- Every financial data point is prepared and reviewed by separate individuals and reconciled to the chart of accounts.
- Every financial data point is reviewed against the NIAUR guidance by a separate individual to the preparer and reviewer. This includes undertaking cross checks of tables to ensure consistency.
- Before each data point is submitted for AIR09 it is reviewed and approved by Heads of Function and Directors in the data provider's business area.
- NI Water facilitates access to allow the Reporter and the Auditor access to all relevant information required to enable them to discharge their duties.
- The Board receives regular presentations during the course of the year on key performance indicators; regulatory performance and key issues for the Annual Information Return.
- The Reporter makes a presentation to the Board near the conclusion of the AIR09 process. Both the Reporter and the Auditor present to the Audit Committee near the conclusion of the AIR09 process.

- Directors directly challenge the production and content of AIR09 to satisfy themselves that their duties are fulfilled.
- In any case of uncertainty regarding data, commentary or methodology, NI Water seeks advice and clarification from the Utility Regulator, the Reporter and the Auditor as appropriate.

In conclusion, the NI Water 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 AIR09.

**Chris Mellor**  
Chairman, Northern Ireland Water

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE A - WATER SERVICE - KEY OUTPUTS AND SERVICE DELIVERY

DESCRIPTION			UNITS	DP	BASE YEAR SBP 2006-07	REPORT YEAR 2007-08	REPORT YEAR 2008-09
<b>A SERVICE AND PERFORMANCE</b>							
1	DG2 Percentage of properties receiving low water pressure	%	2		N/C	1.29	0.72
2	DG3 Overall performance score	nr	2		1.39	1.43	1.41
3	DG4 % population - hosepipe restrictions	%	1		0	0.0	0.0
4	DG4 % population - drought orders	%	1		0	0.0	0.0
5	DG6 Percentage dealt with within 5 working days	%	1		73.13	95.0	98.6
6	DG7 Percentage dealt with within 10 working days	%	1		91.48	90.5	98.1
7	DG8 Bills for metered customers - performance	%	1		83.16	71.8	93.3
8	DG9 Percentage of calls abandoned	%	1		9.1	1.0	1.1
9	DG9 Percentage of calls receiving the engaged tone	%	1		0.05	0.0	0.0
10	Water ESL (1) enter description (including units)					N/C	N/C
11	Water ESL (2) enter description (including units)					N/C	N/C
<b>B DRINKING WATER QUALITY OUTPUTS</b>							
12	% mean zonal compliance with drinking water Regulations	%	2		99.34	99.30	99.49
13	% mean zonal compliance with PCV for iron at the tap	%	2		N/C	98.29	98.24
14	Water treatment works improvements	nr	0		N/C	0	3
14A	Water treatment works improvements (PPP)	nr	0		N/C	0	4
15	Distribution mains renovated for quality	km	2		N/C	N/C	0
16	Distribution mains cleaned for quality	km	2		N/C	0	96.41
<b>C ENVIRONMENTAL WATER OUTPUTS</b>							
17	Environmental impact - number of investigations	nr	0		N/C	N/C	N/C
18	Environmental impact - number of options appraisals	nr	0		N/C	0	N/C
19	Other environmental improvements	nr	0		N/C	0	N/C
<b>D SERVICEABILITY</b>							
20	Mains bursts per 1,000 km	nr	0		195	139	141
21	Water treatment work coliform non-compliance	%	2		N/C	0.12	0.08
22	Water Infrastructure	text			N/C	These lines can not be usefully completed as NI Water are developing systems to accurately record historic servicability trends	These lines can not be usefully completed as NI Water are developing systems to accurately record historic servicability trends
23	Water non-infrastructure	text			N/C		
<b>E DEFINED OUTPUTS FOR MAINTAINING BASE SERVICES</b>							
24	Water infrastructure (1)				The SBP did not contain specific base maintenance outputs. As indicated in Table 32, IRE for 2007-08 was £24.4m net and MNI was £42.7m gross.	Description	
25	Water infrastructure (2)					None	
26	Water non-infrastructure (1)					None	
27	Water non-infrastructure (2)					None	

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL RETURN - BOARD'S OVERVIEW**

**TABLE B - SEWERAGE SERVICE - KEY OUTPUTS AND SERVICE DELIVERY - WATER SERVICE**

DESCRIPTION			UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09
<b>A SERVICE PERFORMANCE</b>							
<b>Sewer flooding- internal</b>							
1	2 in 10 risk at end of year	nr	0	N/C	80	80	
2	1 in 10 risk at end of year	nr	0	N/C	0	745	
3	1 in 20 risk at end of year	nr	0	N/C	0	0	
4	Properties flooded in the year (overloaded sewers)	nr	0	N/C	195	3	
5	Properties flooded in the year (other causes)	nr	0	N/C	366	23	
<b>Sewer flooding- external</b>							
6	Areas flooded externally in the year (overloaded sewers)	nr	0	N/C	899	1792	
7	Areas flooded externally in the year (other causes)	nr	0	N/C	4,283	7968	
<b>B QUALITY &amp; ENVIRONMENTAL COMPLIANCE - NIW</b>							
8	% of sewage treatment works discharges non-compliant (WO consents)	%	1	N/C	12.4	10.0	
9	% of sewage treatment works discharges non-compliant (UWWTD consents)	%	1	N/C	14.0	8.0	
10	% of total p.e. served by sewage treatment works in breach of WO consent (LUT)	%	1	N/C	18.5	10.3	
11	% of total p.e. served by sewage treatment works in breach of UWWTD consent (LUT)	%	1	N/C	10.6	10.6	
12	% of intermittent discharges satisfactory	%	2	61.99	67.97	93.89	
13	Percentage unsatisfactory sludge disposal	%	2	0	0.00	0.00	
<b>B1 QUALITY &amp; ENVIRONMENTAL COMPLIANCE - PPP</b>							
8a	% of sewage treatment works discharges non-compliant (WO consents)	%	1		These lines cannot usefully completed this year as only 1 PPP site is in operation for 2007/8	0.0	
9a	% of sewage treatment works discharges non-compliant (UWWTD consents)	%	1			0.0	
10a	% of total p.e. served by sewage treatment works in breach of WO consent (LUT)	%	1			0.0	
11a	% of total p.e. served by sewage treatment works in breach of UWWTD consent (LUT)	%	1			0.0	
12a	% of intermittent discharges satisfactory	%	2			0.00	
13a	Percentage unsatisfactory sludge disposal	%	2		0	0.00	
<b>B2 QUALITY &amp; ENVIRONMENTAL COMPLIANCE - TOTAL</b>							
8b	% of sewage treatment works discharges non-compliant (WO consents)	%	1			9.9	
9b	% of sewage treatment works discharges non-compliant (UWWTD consents)	%	1			7.8	
10b	% of total p.e. served by sewage treatment works in breach of WO consent (LUT)	%	1			9.4	
11b	% of total p.e. served by sewage treatment works in breach of UWWTD consent (LUT)	%	1			9.4	
12b	% of intermittent discharges satisfactory	%	2			93.89	
13b	Percentage unsatisfactory sludge disposal	%	2			0.00	
<b>C QUALITY AND ENVIRONMENTAL ACTIVITIES AND OUTPUTS</b>							
14	Unsatisfactory intermittent discharges dealt with	nr	0	N/C	N/C	27	
15	First time sewerage schemes - properties	prop	0	N/C	N/C	N/C	
16	Sewage treatment works improved	nr	0	N/C	16	44	
17	Additional sewage sludge arising from new quality obligations since April 2005	ttds	1	3.1	1.5	0.0	
18	Total sewage sludge produced (inc. PPP)	ttds	1	38	38.4	38.0	
19	Number of investigations completed related to the quality programme	nr	0	N/C	N/C	N/C	
<b>D SERVICEABILITY TO CUSTOMERS</b>							
20	Sewer collapses per 1,000 km	nr	1	86.4	47.3	96.3	
21	Nr of pollution incidents at CSOs and foul sewers (categories 1, 2 and 3)	nr	0	N/C	230	199	
22	Percentage of sewage treatment works discharges failing numeric consents	%	2	N/C	12.40	11.20	
23	Sewerage infrastructure	text		N/C	These lines can not be usefully completed as NI Water are developing systems to accurately record	These lines can not be usefully completed as NI Water are developing systems to accurately record	
24	Sewerage non- infrastructure	text		N/C			
<b>E DEFINED OUTPUTS FOR MAINTAINING BASE SERVICES</b>							
25	Sewerage infrastructure (1)			Description The SBP did not contain specific base maintenance outputs. As indicated in Table 32, IRE for 2007-08 was £24.4m net and MNI was £42.7m gross.		Description	
26	Sewerage infrastructure (2)					None	
27	Sewerage non-infrastructure (1)					None	
28	Sewerage non-infrastructure (2)					None	

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL RETURN - BOARD'S OVERVIEW

### TABLE C - EXPENDITURE & FINANCIAL PERFORMANCE MEASURES

DESCRIPTION		UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09
<b>A TOTAL EXPENDITURE</b>						
1	Total operating expenditure - water service (excl. PPP)	£m	3	N/C	95.358	98.499
1a	Total operating expenditure (PPP) - water service	£m	3	N/C		
2	Total capital expenditure (excl. adopted and nil cost assets)	£m	3	N/C	80.389	206.859
3	Total operating expenditure - sewerage service (excl. PPP)	£m	3	N/C	88.395	109.092
3a	Total operating expenditure (PPP) - sewerage service	£m	3	N/C		
4	Total capital expenditure (excluding adopted and nil cost assets)	£m	3	N/C	173.896	186.296
<b>B CURRENT COST ACCOUNTS - PROFIT &amp; LOSS</b>						
5	Total Turnover	£m	3	N/C	294.057	327.395
6	Current cost operating costs (including CCD & IRC)	£m	3	N/C	-278.250	-315.427
7	Current cost operating profit	£m	3	N/C	17.077	11.626
<b>C CAPITAL BASE &amp; POST TAX RETURN</b>						
8	Capital Value Year - End (outturn)	£m	3	N/C	9848.14	1194.686
9	Total net debt	£m	3	N/C	250.717	435.006
10a	Post tax return on capital	%	2	N/C	1.88	1.06
10b	Pre tax return on capital	%	2	N/C	N/C	1.06
<b>D KEY FINANCIAL INDICATORS</b>						
11	Cash interest cover (funds from operations; gross interest)	ratio	2	N/C	12.26	5.75
12	Adjusted cash interest cover (funds from operation less capital charges; gross interest)	ratio	2	N/C	2.17	0.77
13	Adjusted cash interest cover (funds from operation less capital maintenance; gross interest)	ratio	2	N/C	5.12	1.62
14	Funds from operations: debt	ratio	2	N/C	0.43	0.24
15	Retained cash flow: debt	ratio	2	N/C	0.54	0.18
16	Gearing: D/RCV	%	2	N/C	24.89	33.30

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

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**TABLE D - WATER SERVICE: KEY SUPPORTING INFORMATION**

DESCRIPTION	UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09
<b>A OPERATING EXPENDITURE/PROPERTY ANALYSIS</b>					
1 Base service - operating expenditure/property served	£/prop	2	N/C	128.35	130.39
2 Enhanced service - additional operating expenditure/property served	£/prop	2	N/C	0.00	0.00
3 Improving and maintaining supply demand balance – additional operating expenditure/property	£/prop	2	N/C	0.00	0.00
4 Quality enhancements - additional operating expenditure/property served	£/prop	2	N/C	0.00	0.07
5 New outputs/obligations – additional operating expenditure/property served	£/prop	2	N/C	0.00	0.00
6 Water service - total operating expenditure/property served	£/prop	2	N/C	128.35	130.46
<b>B CAPITAL EXPENDITURE/PROPERTY ANALYSIS</b>					
7 Base service - capital maintenance expenditure/property served (infra and non-infra)	£/prop	2	N/C	52.70	75.67
8 Enhanced service - additional capital expenditure/property served	£/prop	2	N/C	7.99	43.86
9 Improving and maintaining supply/demand balance - additional capital expenditure/property served	£/prop	2	N/C	21.04	83.46
10 Quality enhancements - additional capital expenditure/property served	£/prop	2	N/C	21.16	65.22
11 New outputs/obligations – additional capital expenditure/property served	£/prop	2	N/C	0.00	0.00
12 Water service - total capital expenditure/property served	£/prop	2	N/C	102.89	268.22
<b>C CAPITAL WORKS ACTIVITY</b>					
13 Number of existing water treatment works refurbished for maintenance (excl.. PPP)	nr	0	26	0	
13a Number of existing water treatment works refurbished for maintenance (PPP)	nr	0		0	
14 Capacity of refurbished water treatment works for maintenance (excl. PPP)	MI/d	3	0.000	0.000	
14a Capacity of refurbished water treatment works for maintenance (PPP)	MI/d	3		0.000	
15 Mains relined	km	2	10.05	0.00	0.00
16 Mains renewed	km	2	239.87	136.00	288.62
17 Total mains relined & renewed	km	2	249.92	136.00	288.62
<b>D WATER BALANCE</b>					
18 Distribution input (inc. PPP)	MI/d	2	619.32	614.45	632.71
19 Total leakage	MI/d	2	168.75	156.52	180.93
20 Total water savings achieved/assumed	MI/d	2	N/C	0.00	0.02
21 Water delivered	MI/d	2	788.07	498.10	496.50
22 Security of supply index (planned levels of service)	nr	2	N/C	-26.00	42.00
23 Security of supply index (reference levels of service)	nr	2	N/C	-26.00	42.00
<b>E METERING</b>					
24 Number of household meters renewed	nr	0	0	0	
25 Meter optants installed	nr	0	0	0	0
26 Selective meters - installed	nr	0	0	0	0
27 Percentage of households metered	%	1	4.5	4.6	0.0
<b>F OTHER KEY SUPPORTING INFORMATION</b>					
28 Statutory GSS - Total number of GSS events: water and sewerage service	nr	0		N/C	N/C
29 Customers on the special assistance register	nr	0	N/C	N/C	N/C
30 Total revenue outstanding < 48 months as % of annual forecast revenue	%	2	N/C	N/C	N/C
31 Average connected properties - water (excluding void properties)	000	0	780	743	755

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL RETURN - BOARD'S OVERVIEW**

**TABLE E - SEWERAGE SERVICE: KEY SUPPORTING INFORMATION**

DESCRIPTION		UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09
<b>A OPERATING EXPENDITURE / PROPERTY ANALYSIS</b>						
1	Base service - operating expenditure/property served	£/prop	2	N/C	139.71	172.33
2	Enhanced service - additional operating expenditure/property served	£/prop	2	N/C	0.00	0.07
3	Supply/demand balance - additional operating expenditure/property served	£/prop	2	N/C	0.95	0.78
4	Quality enhancements - additional operating expenditure/property served	£/prop	2	N/C	0.15	1.65
5	New outputs/obligations - additional operating expenditure	£/prop	2	N/C	0.00	0.00
6	Sewerage service - Total operating expenditure/property served	£/prop	2	N/C	140.81	174.83
<b>B CAPITAL EXPENDITURE/PROPERTY ANALYSIS</b>						
7	Base service - Capital expenditure/property served (infrastructure and non-infrastructure)	£/prop	2	N/C	46.98	55.19
8	Enhanced service - additional capital expenditure/property served	£/prop	2	N/C	79.16	45.21
9	Supply/demand balance - additional capital expenditure/property served	£/prop	2	N/C	70.14	67.80
10	Quality enhancements - additional capital expenditure/property served	£/prop	2	N/C	78.73	127.27
11	New outputs/obligations - additional capital expenditure	£/prop	2	N/C	0.00	0.00
12	Sewerage service - Total capital expenditure/property served	£/prop	2	N/C	275.01	295.47
<b>C CAPITAL WORKS ACTIVITY</b>						
13	Sewers renovated	km	2	4.33	2.96	3.90
14	Sewers replaced	km	2	N/C	12.52	8.24
15	Total sewers renovated and replaced	km	2	N/C	15.48	12.14
16	Number of sewage treatment works refurbished for maintenance (excl. PPP)	nr	0	16	72	
16a	Number of sewage treatment works refurbished for maintenance (PPP)	nr	0		N/C	
17	P.e. of refurbished sewage treatment works for maintenance (excl. PPP)	000	0	352	542	
17a	P.e. of refurbished sewage treatment works for maintenance (PPP)	000	0		N/C	
<b>D SEWER FLOODING ACTIVITY</b>						
18	Internal property flooding solved by company action	nr	0	N/C	N/C	N/C
19	External only flooding problems solved by company action	nr	0	N/C	N/C	N/C
20	External linked problems solved by company action	nr	0	N/C	N/C	N/C
21	Reduction in internal flooding due to other causes	nr	0	N/C	N/C	N/C
22	Internal property flooding benefiting from mitigation	nr	0	N/C	N/C	N/C
23	External property/area flooding benefiting from mitigation	nr	0	N/C	N/C	N/C
<b>E OTHER KEY SUPPORTING INFORMATION</b>						
24	Volume waste water returned	MI/d	2	407.45	382.57	347.82
25	Average connected properties - sewerage (excluding void properties)	000	0	664.37	628	624

## **Chapter 1**

### **Key Outputs and Service Delivery**

#### **Tables A and B**

Drinking water compliance, at the customer tap, showed a marked improvement on the previous year with a 2008 outturn of 99.49% Mean Zonal Compliance (MZC). Work continued throughout 2008 to minimise chlorine levels and residence times in distribution. The Alpha PPP works were commissioned during 2008 and will contribute to improvement of the MZC figure during 2009. The improved treatment processes will mean that adverse weather conditions and deteriorating raw water quality will have less of an impact on drinking water quality than in previous years.

NI Water operated approximately 50 sources which comprised upland impounding reservoirs, boreholes, rivers and loughs. NI Water, through its Water Resource Strategy, has planned to ensure that demand for drinking water is met for the period up to 2030. The Water Resource Strategy / Water Resource Management Plan implementation continues and emphasises the need to rationalise existing uneconomic water sources and concentrate on the sources that can meet our needs cost effectively and reliably.

#### **Water Quality**

In 2004 the Water Supply (Water Quality) Regulations (NI) 2002 came into force. These regulations implement the EC Drinking Water Directive (Council Directive 98/83/EC on the quality of water intended for human consumption). They fully incorporate, and go beyond, the requirement of the Directive and introduce tighter quality standards, particularly for lead and other health related parameters. They allow a time-limited, authorised departure from the regulatory limit or certain parameters, provided that there is a planned programme of work at the Water Treatment Works to improve the water quality, and provided that there are no adverse health implications arising from the departure. NI Water continued to meet the obligations placed upon it to comply with regulatory standards and heightened demands due to increased customer expectation. Investing in the extension and upgrading of water treatment works remains a top priority.

#### **Wastewater**

We have recently embarked on a major capital investment programme to improve wastewater treatment facilities and increase levels of compliance. Although this will take a number of years to implement, we are already seeing improvement achieving a level of 92% compliance with the Urban Waste Water Treatment Regulations in 2008. The impact of the capital works programme is also reflected in improved compliance with the Water Order Consents issued by the NIEA. In 2008 NI Water achieved its best ever performance with 88% of the larger Wastewater Treatment Works compliant with consent conditions and over 90% of the population equivalent served by compliant works. Completion of further new Wastewater Treatment Works in the ongoing capital investment programme will lead to increased compliance with Water Order Consents.

In addition to investing in major Wastewater Treatment Works, NI Water



commenced a programme to address the underinvestment in small rural Wastewater Treatment Works.

### **EC Bathing Waters**

During 2008 the NIEA monitored 24 identified bathing waters (under the European Bathing Water Directive) throughout the bathing season. The Directive contains two standards on the quality of bathing water: a mandatory standard; and a more stringent guideline standard. In 2008, 23 of the 24 identified bathing waters in Northern Ireland met the mandatory standard, and 10 met the higher guideline standards.

### **Customer Billing and Contact**

During 2008/09 NI Water commissioned CCNI to carry out independent research of consumer views. This research showed that 82% of consumers are satisfied with services provided by NI Water. We will be working in conjunction with CCNI and other stakeholders to improve on this level of customer satisfaction in the coming year.

The quarterly independent market research introduced in 2007/08 continued to be carried out on our behalf. We significantly improved the Customer Satisfaction Score from ranking 24/24 with a score of 4.23 in 2007/08, to a ranking 12/24 with a score of 4.64 by Quarter 4 of 2008/09. In 2008/09 we exceeded our target for percentage of written complaints responded to in 10 days by achieving 98.44% against an increased target of 97%. In 2009/10 we will be focusing on addressing the root cause of complaints, with the aim of reducing the number of complaints received and improving our overall customer service.

Systems have been developed and implemented to improve the quality of information delivered to our customers at first point of contact and this will be extended in 2009/10. Our Internet site has been improved to make it more user-friendly. It now incorporates a Frequently Asked Questions section and an easy to use 'Contact Us' link.

During 2007/08 NI Water experienced particular challenges around the delivery of our Septic Tank desludging service. We worked closely with our partners to resolve the issues and meet the required level of service. In 2008/09 the problems were eradicated and we delivered this service to 98% of our customers within the 12 day SLA. In 2009/10 NI Water will strive to further improve this level of service.

### **Non-Domestic Charges**

Following the phasing in (at 50%) of new unmeasured charges (based on Net Annual Valuation) and measured sewerage charges in April 2008, measured sewerage charges will be charged in full from 1 April 2009. However, as a result of the decision to defer domestic charges during 2009/10, a new domestic allowance of 190m<sup>3</sup> for eligible sewerage customers has been introduced. Unmeasured water and sewerage charges will continue to be billed at 50% of the full charge. The charges are published in the company's Scheme of Charges.

### **Account Management**

In the course of developing relationships with non-domestic customers and the business community, NI Water is reviewing its Account Management Strategy. Alongside the existing Key Account service for large customers, we are aware of the need to focus more attention on small/medium enterprises, particularly in the current economic climate. During 09/10, we will assess the potential for Account Management development in the course of reviewing the NIW Business Operating Model.

### **Metering programme**

We have continued a programme of installing meters on new properties with first time connections to the water supply system in 2008/09. The proportion of non-domestic properties which are metered has increased to 78%.

In 2009/10 NI Water will continue the metering of new build properties and first time connections, in accordance with existing legislation, even though meters installed on domestic premises will not currently generate a charge or bills.

### **Codes of Practice**

#### **Priority Services Codes of Practice**

In January 2009 NI Water launched its 'Priority Services' Codes of Practice. This initiative delivers a range of extra services for customers that have a disability, are elderly, have a serious medical condition or need extra help for any other reason. The company now holds a register of all customers who would like to be classified as 'Priority' and benefit from extra services.

### **Customer water supply issues and sewer flooding**

Water supply and sewer flooding remain key areas of focus. NI Water played a major role in responding to severe flooding which affected a large number of areas throughout Northern Ireland in August 2008. NI Water dealt with a small though significant number of supply interruptions in 2008/09 involving above average numbers of properties and restoration times. The Company instigated its Major Incident Plan Procedures in response to these incidents. NI Water has continued to develop three systems during 2008/09 to collect reliable data on inadequate water pressure, interruptions to water supply and sewer flooding.

### **DG2 Register of Properties Receiving Pressure/Flow below Reference Level**

The objective for 2008/09 was to continue with the development of the DG2 Register to take account of areas where watermain rehabilitation had occurred and by carrying out a substantive pressure logging programme. The number of properties on the DG2 register at 31 March 2008 was 10,321 and, as a result of the work undertaken in 2008/09, the number of properties on the register at 31 March 2009 has been reduced to 5,770.

### **DG3 Register of Properties Affected by Supply Interruptions**

The performance against our 2008/09 KPI on the percentage of connected properties experiencing interruptions in excess of 6 hours has shown improvement and achieved the year end targets. The 12 and 24 hour year end targets have been exceeded, mainly as a result of an unplanned interruption at Rasharkin in July 2008, a difficult mains repair to a bridge crossing on the Ballyhill Road and the much publicised trunk main burst at Portaferry in March 2009. A further series of unplanned interruptions in August 2008 brought on by the exceptional rainfall and subsequent ground movement, has also impacted heavily on yearly performance against these targets.

### **DG5 Annual Flooding Summary and Register of Properties at Risk of Sewer Flooding**

The Company is continuing to develop its DG5 Register using historical flooding information. The register is becoming embedded in the business and will be a key determinant for the focus of future capital expenditure. Further work to accelerate DG5 is planned.

### **Customer contact**

NI Water dealt with a large number of customer calls in 2008/09 arising from a number of factors including the severe flooding in August 2008. On the weekend of this flooding ten times the volume of expected calls were received.

### **Health and Safety**

The recommendations from the 2007/08 Royal Society for the Prevention of Accidents ("RoSPA") Health and Safety Capability Report were substantially completed and subjected to Internal Audit procedures by March 2009. NI Water has now been accredited by IOSH to deliver, in-house, the RoSPA recommended training for all employees and this process is now on-going. Additionally, NI Water has been accredited by HSENI to run and award certified First Aid at Work courses to staff and contractors.

A strategic action plan has been developed to deliver against NI Water "Zero Accident Ambition". The new Health and Safety Manual, Policies and Procedures have assisted in reducing further the accident frequency rate within the Company, with the H&S Key Performance Indicator target showing a 12% reduction against a target of 6%.

New targets have been set for 2009/10 in line with Regulatory Reporting requirements and for the PC10 period which equate to, at least, a 7% year-on-year reduction in workplace accidents. The 2009/10 KPI target is set at not more than 12 RIDDOR accidents. These targets support the NI Water "Zero Lost Days Accident Ambition". A near-miss reporting target has also been agreed for NI Water for 2009/10 and the lessons learned from near misses will also continue to assist NI Water to reduce accidents in the workplace through positive pro-active action.

NI Water was awarded the "RoSPA 2009 Silver Award for Occupational Health and Safety" after examination in 10 Key Performance areas by the

Awards Adjudication Panel. This award recognises NI Water's commitment to raising the standards of health and safety management performance, involving the workforce and improving Health and Safety skills and awareness at all levels within the organisation.

## Carbon Accounting

The DRD's Draft Environmental & Social Guidance for Water and Sewerage Services (2010-13) requires NI Water to establish an appropriately indexed carbon cost to be included in the assessment of all significant capital projects from PC13 onwards.

NI Water currently does not have a fully formulated strategy in place for managing carbon emissions. However, we have proposed projects in PC10, such as wind power, which will assist with carbon efficiencies.

NI Water has set targets for the use of energy from renewable sources as follows:

Year	Percentage of power from renewable sources
2007/08	8%
2008/09	9%
2009/10	10%
2010/11	11%
2011/12	12%
2012/13	13%
2013/14	14%
2014/15	15%

In 2008/09, approximately 11.3% of NI Water's total power usage came from renewable sources (well above the target level) – of which 5.5 GWh was sourced through self-generation and 26 GWh was purchased.

The following tables summarise NI Water's equivalent carbon emissions in 2008/09.

	Description	Unit	Value	Conf. Grade
1	Annual operational emissions according to the CRC	tonnes of CO <sub>2</sub> equivalent emissions	152,787	B2
2	Annual operational emissions according to the Defra GHG guidelines	tonnes of CO <sub>2</sub> equivalent emissions	176,033	B3
3	Operational GHG emissions per Ml of treated water	kg of CO <sub>2</sub> equivalent emissions per Ml	329.34 (CRC) 344.61 (DEFRA)	n/a
4	Operational GHG emissions per Ml of sewage treated	kg of CO <sub>2</sub> equivalent emissions per Ml	588.48 (CRC) 724.70 (DEFRA)	n/a

<b>SUMMARY OF ALL EMISSIONS</b>	<b>CRC (kg CO<sub>2</sub>)</b>	<b>Defra (kg CO<sub>2</sub> eqs)</b>
Sum of drinking water treatment and pumping emissions	76,058,048	79,584,914
Sum of sewage treatment and pumping emission and sludge treatment, recycling and disposal emissions	74,316,691	91,520,028
Sum of all emissions (drinking water, sewage, sludge, administration and transport)	152,787,957	176,033,236
Volume of drinking water supplied (MI)	230,939	230,939
Volume of wastewater treated (MI)	126,286	126,286
Emissions from drinking water treatment and pumping per MI of drinking water treated	329.34	344.61
Emissions from sewage treatment and pumping and sludge treatment, recycling and disposal per MI of sewage treated	588.48	724.7

## **Chapter 2**

### **Financial Performance Measures**

#### **Table C**

The financial information in our Statutory Accounts has been prepared in accordance with UK Generally Accepted Accounting Practice ("UK GAAP"), and the Regulatory Accounts in accordance with UK GAAP modified by the Regulatory Accounting Guidelines (RAG). In the process of applying the Company's accounting policies, the Company is required to make certain judgments, estimates and assumptions that it believes are reasonable based on the information available. The more significant judgments, key assumptions and sources of information are provided below.

#### **Financial results (from Statutory Accounts)**

Turnover was £331.6m for the year to 31 March 2009 (31 March 2008 £297.7m). Included in turnover was £267.5m (2008; £253.4m) in subsidies from the Department for Regional Development ("DRD") - the remainder being measured and unmeasured charges and miscellaneous income. The subsidy covered the full domestic charge and the Northern Ireland Executive has decided that this arrangement will also remain in place during 2009/10. The final decision on domestic charging for 2010/11 and beyond has not yet been taken by the Northern Ireland Executive.

Profit on ordinary activities before interest for the year was £69.4m. Operating costs in 2008/09 of £262.2m were impacted by a number of factors including inflationary pressures on power costs and the extensive Business Improvement Programme. The tax charge for the year was £13.8m. The effective tax rate for the year to 31 March 2009 was 28.0% (2007/08; 27.7%). A dividend of £35m was declared, approved and is due to be paid in August 2009. In 2007/08 because the dividend of £34m was approved before year-end it was included in the financial statements for that year although not paid until May 2008.

Net assets increased by 5.4% to £730.9m. The main movements in the balance sheet items were increases in fixed assets of £341.4m relating to our commitment to investment in the Capital Works Programme offset by increases in net debt. The Company net debt figure was £433.2m at 31 March 2009 (£249.6m at 31 March 2008). Gearing increased from 30.7% to 38.5% reflecting the draw down of loans under the Unsecured Loan notes 2027 Instrument.

#### **Cash flows and debt**

Operating activities generated a net cash inflow of £134.1m (2008: £143.4m). Net cash outflows of £20.4m (2008: £7.4m) related to returns on investment and servicing of finance. This is composed of interest costs of £18.0m (2008: £9.6m) and interest receivable of £1.8m (2008: £2.2m), interest element of finance lease payment £4.2m (2008: £0m). Net investing activities used £263m (2008: £234.8m). Dividends paid during the year totalled £34.0m in respect of the previous financial year. In order to meet the requirements of the above net outflow there was an increase in the financing requirement over the year. Net debt at 31 March 2009 was £433.2m (2008: £249.6m).

The increase in net debt was financed through an increase in net financial liabilities due after one year. The Company's 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 Interbank Offer Rates ("LIBOR").

### Regulatory Capital Value

NI Water's closing RCV for 2008/09 was £1,194.7m. The table below shows the RCV roll forward from the 2007/08 closing balance.

	2008/09 £'000	2007/08 £'000
<b>Revised opening balance at 1 April 2008</b>	<b>999,725</b>	830,137
Capital expenditure*	238,138	226,797
Infrastructure renewals expenditure	44,058	25,973
Infrastructure renewals charge	(34,272)	(35,668)
Grants and contributions	(5,747)	(1,076)
Depreciation	(47,216)	(61,349)
<b>Closing RCV</b>	<b>1,194,686</b>	984,814
<b>Average RCV</b>	<b>1,097,206</b>	907,476
<b>Opening RCV</b>		
At 1 April 2008	984,814	800,000
<i><b>adjust 2007-2008 RCV for application of broad equivalence**</b></i>	<b>18,696</b>	-
Revised opening balance at 1 April 2008	<b>1,003,510</b>	800,000
Indexed for 2008-09	(3,785)	30,137
<b>Opening RCV</b>	<b>999,725</b>	830,137

The table above shows the RCV used in setting the revenue caps for the period 2007 to 2010. The differences from the actual capital expenditure and depreciation will not affect revenue limits in the current period. Capital efficiencies will be taken into account in the calculation for the next Price Control period commencing in 2010 (PC10).

\* Capital expenditure excludes £111.962m relating to the Alpha PPP project. This is in line with the assumptions used for the RCV calculation within the PC10 submission to NIAUR.

\*\* An adjustment has been made to the opening RCV at 1 April 2008 to incorporate the use of the regulatory principle of 'broad equivalence'. Broad equivalence limits the level of current cost depreciation (CCD) that is deducted within the RCV calculation to the amount of expenditure during the year on the base maintenance for non infrastructure assets. This principle was not applied in the 2007-2008 regulatory accounts and the adjustment of £18,696k gives an opening balance of £1,003.5k which would have been the closing RCV at 31 March 2008 if broad equivalence had been adopted. The application of this principle affects the RCV only and does not impact on the CCD charged to the Profit and Loss Account.

### Weighted Average Cost of Capital

NI Water has calculated its weighted average cost of capital for the SBP period to be 5.15%. This is based on a weighted average of our nominal cost of debt (5.25%) and the return we pay to our shareholder (5.1%). The calculation is based on SBP projections of net debt and Regulated Capital Value (RCV) and is laid out below.

This WACC has been agreed with DRD for the SBP period and is currently used as a discount rate in business case analysis. The return on RCV earned in 2008/09 was 6.67%. This is higher than the WACC calculated above as it includes an additional 'cash' or 'financeability' element.

#### Calculation of Weighted Average Cost of Capital (WACC) SBP Period April 2007 - March 2010

	Opening 2007/08	Closing 2009/10	Average
Net Debt	150	696.2	423.1
Regulatory Capital Value (RCV)	800	1414.6	1107.3
Net Debt / RCV	18.8%	49.2%	34.0%
Return on debt	5.25%	for SBP period	
Return on equity	5.10%	for SBP period	
Net debt	Used to determine return on debt		
Regulatory Capital Value (RCV)	Used to determine return on equity (dividend)		
Proposed WACC for SBP period	(0.34 x 5.25%) + ((1-0.34) x 5.1%)		
Result	5.15%		

### PPP Contracts

#### Project Alpha:

Project Alpha is a Public Private Partnership (PPP) between NI Water and Dalriada Water Limited (a joint venture company incorporating AECOM Design Build, Kelda Water Services and Farrans Construction).

The project objectives are to provide new water treatment facilities and infrastructure to achieve EU drinking water quality compliance and to operate the facilities for the balance of 25 years delivering bulk potable water to NI Water at 10 delivery points in their distribution network.

The project achieved financial close in May 2006 and service commencement in December 2008. Of all UK PFI/PPP Water projects, Project Alpha has been the fastest to achieve financial close and the fastest to service commencement. The 25 year Design, Build, Finance, Operate (DBFO) project includes major upgrade work on four existing water treatment works with a total capacity of 400Ml/d and the construction of three new link mains totalling 65km at a combined capital cost of £110m.



The facilities will provide NI Water with potable water to the most stringent quality and testing standards in Europe to serve almost 50% of Northern Ireland's population (approximately 850,000) until the year 2031. The four water treatment works are located at Dunore Point, Antrim (180 MI/d), Castor Bay, Craigavon (147 MI/d), Ballinrees, Coleraine (50MI/d) and Moyola, Magherafelt (19 MI/d).

- The nominal value of the contract is £507m, typically £18m p.a. plus RPIX at Water Resource Strategy (WRS) demand levels

#### Project Omega:

Project Omega is a Public Private Partnership (PPP) between NI Water and Glen Water Limited (a joint venture company incorporating Veolia Water and Laing O'Rourke).

The project objectives are to provide new and upgraded wastewater treatment facilities at 9 catchments to achieve EU and Northern Ireland wastewater discharge compliance and to operate the facilities for the balance of 25 years. In addition, the project includes for the investment in infrastructure to provide an outlet for 100% of NI Water's wastewater treatment sludges.

The project achieved financial close in March 2007 and service commencement of the last of the facilities contracted for no later than June 2010. The 25 year Design, Build Finance and Operate (DBFO) contract provides a first time compliant wastewater solution for the Bangor/Donaghadee/Millisle area, a rationalisation of three existing works serving the Lurgan/Portadown/Craigavon areas, and upgrades of existing works at Armagh, Richhill and Newtownards.

Along with the construction of a second stream to the existing sludge incinerator at Duncrue Street, Belfast, the project represents a combined capital investment in excess of £122m in Northern Ireland's wastewater/sludge infrastructure. The nominal value of the contract is £640m, typically £23m p.a. plus RPIX at modelled volumes.

#### Kinnegar Wastewater Treatment Works:

Kinnegar wastewater treatment works is a Private Finance Initiative project with Coastal Clearwater Ltd. The objective was to provide an upgraded wastewater treatment facility at Kinnegar, Co. Down, serving the catchment of East Belfast and Holywood.

The Contract reached financial close in April 1999, as a 25 year Design Build Finance and Operate (DBFO) contract for compliant wastewater treatment services for population equivalent of approximately 84,000. The nominal value of the contract is approximately £60m over the 25 years of service.

### **Treasury Policies and Objectives**

Funding and treasury risk management functions are managed centrally by the Treasury function within the Finance and Regulation Directorate of NI Water.

During the year Treasury policies for NI Water were adopted by the Board. The Treasury policy provided for the establishment of the NI Water Treasury Forum. The Forum operates as an advisory body to the Board and the Executive team. It performs a review and oversight role for Treasury policies, proposals and the operations of the Treasury function. It also provides a means for approving transactions in accordance with authority delegated from the Board.

### **Pensions**

From April 2007 all employees of NI Water have been automatically entered into the new NI Water Pension Scheme. The new NI Water Scheme has a benefits structure which is a 'mirror image' of the Civil Service Scheme. It is a funded defined benefit scheme managed by a Board of Trustees made up equally of Company and Member nominated trustees who will be legally responsible for managing the scheme. During 2009/10, NI Water will:

- seek to conclude the Bulk Transfer of monies from the Civil Service Scheme to the NI Water Pension Scheme; and
- work closely with the Scheme's Trustees and advisers to ensure the effective running of the scheme to the advantage of all members.

### **Chapter 3**

#### **Key Supporting Information**

#### **Tables D and E**

#### **Capital Works Programme**

Investment in Northern Ireland's water and sewerage infrastructure is essential in order both to meet key environmental standards and to deliver high quality services to customers. Some £234m of capital engineering projects were delivered during 2008/09. This included the continuation of projects previously started along with the commencement of new projects. 28% of this capital programme was targeted at water projects (21% on infrastructure and 7% on non-infrastructure), while 72% was targeted at wastewater projects (35% on infrastructure and 37% on non-infrastructure).

15 projects were commenced at high priority Wastewater Treatment Works. This will continue the on-going work to ensure compliance with the appropriate European Directives and meet the regulatory discharge consent standards.

Improvements to the water treatment works at Lough Bradan (Omagh area) and Carmoney (Londonderry Area) also commenced in 2008/09. Improvements were made to the watermain infrastructure in a number of areas throughout Northern Ireland.

Work continued on improving the wastewater network at various locations including Cookstown and Portadown. Significant progress was also made on the Belfast Sewers Project.

£212m of capital projects are scheduled for delivery during 2009/10. This includes the continuation of projects previously started along with the commencement of new projects. In total 35% of the capital programme is targeted at water projects while 65% is targeted at sewerage projects. Work will continue to ensure compliance with the appropriate European Community Directives and meet the regulatory discharge consent standards. Major projects which commenced in 2008/09 will continue throughout 2009/10.

It is planned to target improvements to the watermain infrastructure in a number of areas throughout Northern Ireland. Some 14 zones are programmed for work. This will continue the three year programme of work to reline or replace some 910km of watermains throughout Northern Ireland.

Improvements to the sewer network will be undertaken at a number of locations. Work will continue on improving the sewer network in Londonderry and Draperstown as well as the flagship Belfast Sewers Project.

#### **Cost of the Capital Expenditure Programme**

The major proportion of NI Water's capital budget arises from the work identified in the Capital Works Programme although there are other capital costs attributable to spend in areas such as technology and metering.

### **Operational Effectiveness**

NI Water has continued to enhance its service to customers and improve its infrastructure management through good operational management and investment in technology. This was achieved through sustained attention to works, particularly those operating beyond their designed capacity, and by carrying out a number of activities throughout 2008/09 such as:

- The introduction of mobile working technology and industry standard business processes;
- Investment enabling improvements in customer service;
- Introduction of new management structures and field roles across all operations;
- Centralisation of operational administration support arrangements;
- Rationalisation of local office accommodation;
- Development of telemetry for new sites and commencement of validation and assurance of telemetry signals from existing sites; and
- Stores provision has been rationalised and centralised.

### **Asset Management**

The implementation of Asset Management systems and preparation of the third Northern Ireland Asset Management Plan (NIAMP3) are a central part of the regulatory arrangements for NI Water. The following activities were undertaken in 2008/09:

- the OneAm consortium (asset management partners) has continued work to assist NI Water;
- NI Water has continued to implement the new asset management model – the Business Investment Cycle (BIC);
- the Corporate Asset Register (CAR) for above-ground and below-ground assets was successfully delivered;
- the Strategic Capital Investment Manager (SCIM) tool to prioritise and optimise capital investment was acquired and has been deployed;
- the Unit Cost Database (UCD) to provide consistent cost information;
- NI Water has established and refined a bespoke growth model to estimate future loads on wastewater treatment works.

### **Public Private Partnerships**

NI Water continues to deliver its Public Private Partnership (PPP) programme to upgrade water and wastewater facilities and sludge disposal.

The Alpha Project delivered the infrastructure upgrades necessary to provide a bulk potable water supply to NI Water in excess of 396 MI/d, representing just under 50% of NI Water's total drinking water demand.

The Omega Project upgraded wastewater treatment works representing a population equivalent of approximately 300,000, reflecting approximately 20% of Northern Ireland's current wastewater treatment capacity, and is planned to deliver 100% of its sludge disposal capacity in 2009/10.

## **Water Resources, Supply and Demand**

### Water Resources:

The company has continued to implement the recommendations contained in the 2002 Water Resource Strategy (WRS) and the 2007 update. The Security of Supply Index (SOSI) has continued to improve with an increase from -26 in 2007/08 to 42 in 2008/09 - largely as a result of additional WAFU being made available through the PPP Alpha schemes at Castor Bay, Dunore Point, Ballinress and Moyola.

Additional water which was planned to be provided from the river Strule has been delayed until 2010/11 as a result of negotiations with NIEA to provide additional water from this source on a long term basis. Depending on the outcome from the revised Water Resource Management Plan, this revision from the 2002 WRS could eliminate or delay the need for a new impounding reservoir at Glendergan.

It is anticipated that the improvement in SOSI will continue throughout the PC10 period. The entire resource strategy is currently under review within the project to produce a new Water Resource Management Plan with draft output programmed for mid-2010. Output from this revised Water Resource Management Plan will help to define the work relating to security of supply projects during the PC13 period.

### Restrictions on Water Use:

There were no restrictions placed on the use of water during 2008/09.

### Managing Demand:

Although NI Water installed over 11,000 domestic water meters last year, in the absence of domestic water charging, these meters are unlikely to directly affect consumption. More than 4,800 meters were installed on non-domestic properties in 2008/09.

NI Water seeks to encourage the wider efficient use of water, with significant resources dedicated to education. In 2008/09 NI Water representatives visited 111 schools reaching over 6,400 primary school children. This included visits by the NI Water mobile classroom (the Waterbus), classroom visits along with school visits to Silent Valley Education Centre, NI Water's Wastewater Heritage Centre and Water Treatment Works.

Supporting teachers at Key Stage 1 and 2, the NI Water education team provides interactive instruction on the water cycle, the role of water for health and the need for water conservation. In line with a commitment to embrace emerging media, a fully interactive education microsite was developed and launched this year. This website supports the work of the NI Water team and is promoted to schools as another resource available in delivering the curriculum. NI Water also works with youth groups and third level institutions, facilitating visits to treatment works and providing instruction in what we are doing.

Building on the success of our work with children, this year we have also engaged with greater numbers of community organisations. Presentations to Help the Aged, Gateway Group, National Trust Regional Group and youth groups, have been well received and will represent a more prominent part of our activity going forward. External Community Events attended involved Eco Community Challenge, Green Living Fair 2009, and Silent Valley Water for Life Days. We have worked with our partner IKEA to promote water conservation and to support World Water Day. Water conservation was promoted to the staff and visitors at 3 hospitals in the Southern Hospital Trust and by attending an Environmental Conference with our conservation stand.

### **Sustainable Procurement**

NI Water has developed a Sustainable Procurement Action Plan with the key objectives identified below. Each objective has a number of measures with defined implementation dates and progress towards implementation is currently well advanced.

- To maintain a Sustainable Procurement Framework that reflects sustainable development strategic priorities.
- To implement procurement policy by the integration of sustainable development considerations within the procurement process.
- To engage with key markets to secure capacity within the marketplace to deliver sustainable development priorities.
- To increase access to NI Water's procurement opportunities for Small and Medium Enterprises (SMEs) and Social Economy Enterprises (SEEs) through the tender process or participation in supply chains.
- To integrate sustainable development strategic priorities within the procurement process, where appropriate.
- To set clear and measurable targets on sustainable procurement for NI Water.
- To make sustainable procurement an integral part of NI Water procurement activity.
- To arrange professional training and development that helps to embed sustainable procurement principles within NI Water procurement processes.

## **Chapter 4**

### **Efficiency**

NI Water delivered £17.5m of operating cost efficiencies from a 2007/08 base and we are making progress towards a £70m capex efficiency saving over the three year SBP period. The operating cost efficiencies were generated by measures which include:

- manpower reductions resulting from the introduction of improved ways of working, such as Mobile Work Management (MWM). MWM uses industry standard technology to integrate customer contact and operational systems; and
- improved procurement of goods and services.

The capital cost efficiencies were achieved by measures which include:

- A programme of value engineering to limit scope of capital projects while ensuring delivery of required outputs;
- Improved procurement of capital projects, e.g. bundling of projects;
- Standardisation of components used for capital projects; and
- Development of unit costs to benchmark the costs of capital components.

### **Business Improvement Programme**

The One Programme consisted originally of some 44 projects designed around our balanced scorecard and was expected to deliver capital expenditure efficiencies of £81m and operating expenditure efficiencies of £54m by 2009/10, both figures based on a 2003/04 baseline. Within these projects it was also expected that NI Water would achieve a more customer-centric business capable of matching the performance levels of the water industry in the rest of the UK, as well as delivering a regulated business compliant with environmental, economic and legislative requirements.

Two years have now passed and the business has moved forward so that NI Water has made significant progress towards being a standalone and sustainable utility which has embraced commercial principles. Since the commencement of the reorganisation of the former Water Service into the present NI Water, the following has been achieved:

- Delivery of a Mobile Work Management system;
- Delivery of a new HR and Payroll IT system, as well as a new Performance Management System;
- Implementation of an improved Procurement and Contract Management system;
- Delivery of a centralised stores function;
- Centralisation of the Operations administration support to remove duplication of effort and effect a reduction in staff numbers required;

- Implementation of an asset management model (the Business Investment Cycle) along with the associated Asset Registers and Asset Management processes; and
- The reduction of employee numbers in line with the SBP from around 1,900 in 2007 to just over 1,600 on 31 March 2009.

The bulk of the One Programme will complete over the next year, although some elements will continue beyond that period and NI Water expects that there will be a continuing improvement to the business, its processes and the service it provides over several years to come. The main targets for the next twelve months will be:

- Delivery of a robust Benefits Realisation methodology;
- Development of employee terms and conditions, as well as developing the skills and abilities of our personnel;
- Continuing improvement in our Operations functions;
- The introduction of a data warehouse and the integration of computer systems on a company-wide basis, as well as the upgrading of technology solutions to streamline the administration and regulatory functions;
- Further developments in our financial systems and costing procedures.

The One Programme has already successfully delivered significant change and is, in the next twelve months, expected to complete one of the biggest organisational transformations in the UK and Ireland.



## **Chapter 5**

### **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.

**Board's Endorsement**

Authorisation: signed on behalf of the Board of Northern Ireland Water.

**Chris Mellor**

Chairman, Northern Ireland Water

**John Ballard**

Senior Non-Executive Director, Northern Ireland Water



# **Annual Information Return 2009**

## **Section 2**

### **Tables and Commentaries**

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 1 KEY OUTPUTS**  
**WATER SERVICE - 1**

			1		2		3				
DESCRIPTION			UNITS	DP	BASE YEAR SBP		REPORTING YEAR - 1		REPORTING YEAR		
					2006-07	CG	2007-08	CG	2008-09	CG	
A HOUSEHOLD - LEAKAGE											
1	Number of household supply pipes repaired	nr	0				495	C5		975	B3
2	Number of household supply pipes repaired free	nr	0				0			0	A1
3	Number of household supply pipes repaired - subsidised	nr	0				0			0	A1
4	Number of household supply pipes replaced	nr	0				0			0	A1
5	Number of household supply pipes replaced free	nr	0				0			0	A1
6	Number of household supply pipes replaced - subsidised	nr	0				0			0	A1
7	Total savings achieved/assumed	MI/d	2				0.00	C5		0.00	A1
8	Total cost of initiative	£000	2				0.00			0.00	A1
B HOUSEHOLD - WATER EFFICIENCY METHODS											
9	Number of cistern devices distributed to households	nr	0				188	C5		2472	B3
10	Number of cistern devices installed	nr	0				0	A1		494	B4
11	Total savings achieved/assumed	MI/d	2				0.00	A1		0.02	B4
12	Total cost of initiative	£000	2				N/C			1.66	B3
13	Number of water butts distributed to households	nr	0				N/C			0	A1
14	Number of water butts installed	nr	0				N/C			0	A1
15	Total savings achieved/assumed	MI/d	2				N/C			0.00	A1
16	Total cost of initiative	£000	2				N/C			0.00	A1
17	Number of water audit packs distributed to households	nr	0				N/C			660	B3
18	Total savings achieved/assumed	MI/d	2				N/C			0.00	B3
19	Total cost of initiative	£000	2				N/C			0.53	B3
20	Number of water audits carried out by the company in households	nr	0				N/C			500	B1
21	Total savings achieved/assumed	MI/d	2				N/C			0.00	B4
22	Total cost of initiative	£000	2				N/C			7.57	B2
C NON HOUSEHOLD - WATER EFFICIENCY METHODS											
23	Self water audit packs distributed to commercial customers by co.	nr	0				N/C			0	A1
24	Total savings achieved/assumed	MI/d	2				N/C			0.00	A1
25	Total cost of initiative	£000	2				N/C			0.00	A1
26	Water audits at commercial premises completed by co. or agent	nr	0				N/C			4	B1
27	Total savings achieved/assumed	MI/d	2				N/C			0.00	A1
28	Total cost of initiative	£000	2				N/C			0.17	B3
D TOTALS											
29	Total savings achieved/assumed	MI/d	2				0	C5		0.02	B4
30	Total cost of initiatives	£000	2				81.23	B4		84.77	B3
E OTHER WATER EFFICIENCY METHODS											
31a	Water Efficiency Publications - leaflets etc.	£	0				N/C			846	B3
31b	Water efficiency Promotional Material - magnets etc.	£	0				N/C			5670	B3
31c	Water Efficiency Devices - shower timers etc.	£	0				N/C			4666	B3
31d	Water Efficiency Education - Water Bus etc.	£	0				N/C			63,662	B3
32	Total savings achieved/assumed	MI/d	2				N/C			0.003	B4
33	Total cost of initiative	£000	2				N/C			74.85	B3

## **Table 1 – Water Service 1**

### **Introduction**

Northern Ireland Water (NIW) is committed to implementing demand management activities in order to reduce the requirements for additional water resources. The Water Resource Strategy 2002-2030 provides NIW with a comprehensive strategy to allow the company to meet its statutory obligations until 2030. The resource strategy was published in 2002 and subsequently updated in 2007. The development of a new Water Resources Management Plan will commence in 2009 and will provide the company with enhanced confidence in its ability to meet statutory requirements.

Although overall NIW has no major supply-demand pressures, it is recognised that water is an important resource that should not be taken for granted. There is also the potential effect of climate change leading to changes in weather patterns which may in the future put extra strain on existing water supplies. The Water Resources Management Plan will be the framework which allows forward planning measures to be developed to ensure the security of supply of this precious resource in the long term.

The promotion of water efficiency is a key element of water resource management. Over a number of years NIW has developed various areas of water efficiency both within the company and with its customers. Over the past reporting year work has been carried out to allow areas of the Annual Information Return to be populated. Water efficiency will be continuing in line with Price Controls:

- 2008 to March 2010  
Undertake the development of water efficiency schemes especially for those areas where there has been limited activity reported such as water butts and water audits.
- April 2010 to March 2013  
Build on previous experience and develop a better understanding of customer perception, cost benefit and savings. This information can then be used to develop future plans.
- April 2013 to March 2018  
Using previous experience and data gathered, to develop a full water efficiency plan covering 5 years.

It is hoped that by developing water efficiency plans and monitoring them that increasing levels of water savings can be achieved and that these will be sustainable in the long term.

### **Household - Leakage**

NIW operates a Leakage Notice Procedure in accordance with the Water & Sewage Services (Northern Ireland) Order 2006 whereby a customer with a supply pipe leak receives a notice, which currently gives 28 days for repairs to be completed by the customer. NIW repair the leak if the customer has not done so in the 28 day period and the cost of the repair is passed to the customer.

Prior to the 2007/08 reporting year NIW had an additional 7 days notice which was followed by a letter giving 7 days warning of NIW's intention to carry out work to repair the leak. However in the 2007/08 year the decision was taken to remove these additional 7 days as this should help with the reduction of leakage levels. Customers are still sent a letter to give 7 days notice prior to NIW undertaking repairs owing to the customer's failure to do so.

The legislation that governs leakage notices was updated in April 07. Prior to this waste notices were issued under Water & Sewerage Regulations (NI) 1973. Now notices are issued under Water & Sewerage Services (NI) Order 2006. In the 2008/09 report year 975 supply pipes were repaired by customers, an increase of 483 on the previous year.

In relation to supply pipe repairs GB water companies operate a free/subsidised domestic supply repair/replacement policy with company specific restrictions. NIW are not funded to operate a free/subsidised domestic supply pipe repair/replacement policy. The focus for the repair of customer supply pipes has been through the application of the Leakage Notice procedure.

Estimated savings as a result of the Leakage Notice procedure have been assessed based on an industry average figure for the volume of supply pipe leak (450 l/hr- UKWIR "Towards Best Practise for the Assessment of Supply Pipe Leakage") and the number of Supply Pipe Leaks in 2008/09. It has been estimated that total savings achieved for 2008/09, in relation to this activity, was 1.05 Ml/d. However no lines exist for reporting this figure as line 7 only relates to free/subsidised repair/replacement of supply pipes.

### **Lines 1-8: Household Supply Pipes**

NIW do not currently operate a free/subsidised repair/replacement policy for leaking customer supply pipes. No savings can be achieved/assumed as the guidance refers only to those that are repaired/replaced free or subsidised and not those that are repaired due to waste notices being issued to the customer by NIW. There are no costs to NIW as although on occasions NIW arrange external repairs these are agreed with the customer and the cost billed to them.

### **Household - Water Efficiency Methods**

NIW have been actively seeking to promote water efficiency amongst household customers throughout the report year. The promotion of efficiency has been achieved by a variety of methods, which include education schemes, distribution of water saving devices and projects with other organisations. NIW currently employ two full-time staff as education officers who present at schools, to groups, and at fairs and shows.

The NIW Water Education Team have attended many external events for the general public i.e. Eco community Challenge June 2008, the Lifestyle Green Show in September 2008, where leaflets and a selection of promotional items were distributed on "Using Water Wisely". Two Family Fun Days were held at Silent Valley Mountain Park, (June and August 2008) here we promoted the

message of water conservation and delivered it in a variety of ways. The Heritage Day which was held at Silent Valley in September for 200 children included water conservation in its content. We supported the Southern Trust Hospitals at 3 of their area hospitals in their "Save it" campaign supporting their conservation of water both to staff and hospital visitors.

The NIW Water Education Team promotes water efficiency at their Education Centres, at the Silent Valley and Wastewater Heritage Centre, Duncrue Street, Belfast where sessions take place alternating weeks. Monthly educational visits to the Wastewater and Water Treatment Centres for both schools and the general public are organised by the team. Talks are presented once a month to community groups such as mother and toddlers, Help the Aged and retired business groups. A variety of water efficiency promotional and educational materials are distributed at these conservation presentations, these include:

- Book markers promoting water efficiency in the home
- Water-butt leaflets
- Drought resistant gardening leaflets and seeds to school/ adult groups
- Promotional and educational leaflets
- School water audits
- Conservation snakes and ladders
- Hippo bags and instructions
- Shower timers (5mins)
- Pencils
- Fridge magnets
- Water cycle poster (teacher)

During 2008/9 a number of leaflets have been updated and revised to reflect the Company's new branding which included How Waterwise Are You?, Home Water Audit, Commercial Premises Water Audit, Water Audit for Schools. During the 2008/09 report year NIW commissioned a survey into the consumers perception of NIW. The distribution of the CCNI survey also included the issuing of a hippo bag which when installed in a toilet of 9 litres or more saves 2.5 litres per flush. 1,200 hippo bags were issued as part of the survey. The results of the survey were released by Chris Mellor (CEO NIW), Eleanor Gill (CCNI) and Connor Murphy (Regional Development Minister) on 27 March 2009 at the Canal Court Hotel, Newry. Also issued with some of the surveys was a home water audit and this was to enable NIW to gauge water consumption within the public.

In the report year 2008/09 NIW have met with Northern Ireland Housing Executive (NIHE) to discuss the opportunity of the two organisations working together to promote water efficiency amongst NIHE customers. These meetings have discussed several proposals including NIHE distributing water audits to their residents, as well as larger scale projects such as the NIHE installing water efficient devices whenever they carry out renovation work on properties. NIW would, where possible, install meters and record usage before and after to calculate savings achieved through the use of the efficient

devices. These meetings are a positive step forward and allow NIW access to a large number of properties directly to promote efficiency.

NIW has also been working with the Consumer Council for Northern Ireland in the past year to help the gauge public opinion of the service provided by NIW to its customers. This research took the basis of a household survey and was carried out by an independent research company, Perceptive Insight. Also included with the survey was a home water audit. Household customer were encouraged to complete and return this with the incentive of a prize. The home water audit provided information on water efficiency and also allowed customers to calculate their daily consumption.

NIW decided that to enable them to carry out water audits in the home it would be necessary to work with a partner. The partner chosen was the Northern Ireland Energy Agency. The company was tasked with carrying out water audits in the homes of NIW customers. In late March 2009 the NI Energy Agency used an updated domestic water audit and visited a number of properties across Northern Ireland to obtain a geographical spread.

#### **Lines 9-12: Household Cistern Devices**

The methodology used to calculate the distribution of cistern displacement devices (CDD's) for the reporting year is to monitor the amount of CDD's distributed on a monthly basis and then to add the totals for each month together to provide the total figure distributed in the year. CDD's can be requested by the customer directly through NIW's Customer Relations Centre (CRC). However for the year 2008/09 the figure was zero. Although there is no figure for CDD's requested directly from CRC, NIW has distributed a number of CDD's by other means. These CDD's were distributed at school visits, shows, and at the request of organisations. Each teacher was issued with a sample, as part of their visit from the Water Education Team, to the Waterbus or at our Educational Sites. The table shows the number of CDD's distributed in 2008/09. During the 2008/09 report year an increase of 2284 CDD's was recorded.

<b>Month</b>	<b>No. Distributed at School Visits</b>	<b>No. Distributed at Shows and Presentations</b>	<b>Total</b>
<b>April 08</b>	39	0	39
<b>May 08</b>	36	0	36
<b>June 08</b>	18	10	28
<b>July 08</b>	0	0	0
<b>August 08</b>	0	50	50
<b>September 08</b>	26	300	326
<b>October 08</b>	60	1232	1292
<b>November 08</b>	32	0	32
<b>December 08</b>	40	0	40
<b>January 09</b>	43	0	43
<b>February 09</b>	144	249	393
<b>March 09</b>	33	160	193
<b>Total</b>	471	2001	2472



Values derived from the Ofwat Water Efficiency Targets 2010-11 to 2014-15 were used to estimate the number of CDD's installed. This provided an installation rate of 20% and was due to the distribution method, through shows and events rather than customer requests. Again using the Ofwat Efficiency Report the volume displaced per flush was recorded as 2.5l/per flush. This figure is the average savings per flush achieved through the installation of Hippo Bags which are the CDD distributed by NIW.

The calculation for the savings achieved in 2008/09 report year is as follows:  
 $S \times O \times F \times (D \times I) = \text{Savings in litres}$

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

Calculation:

$$2.5 \times 2.5 \times 5 \times (2472 \times 0.2) = 15450 \text{ l/per day} \\ = 0.0155 \text{ MI/d}$$

### **Lines 13-16 Water Butts Distributed to Households**

For the report year 2008/09 NIW have not distributed water butts to households. However at present NIW are in the process of seeking a means by which water butts can be made available to domestic customers although there may be potential issues involved. It is hoped that in future years these lines will be populated.

### **Lines 17- 22 Water Audits: Household**

During previous report years NIW have been unable to populate these lines due to no water audits being distributed or carried out by the company. However for the report year 2008/09 NIW has been able to provide figures for these lines as they have had water audits carried out by Northern Ireland Energy Agency in customer's homes' and have also distributed water audits by mail shot and at events. Another development over the report year has been the launch of a self water audit for domestic households which can be accessed through the company's website. This facility is still in its infancy but the company has already received completed audits through this feature. It is hoped that in the future as customers become aware of the facility that it will be used more often. A useful feature that it provides is that it calculates figures automatically and will provide an average consumption rate per person without the user having to do any calculations of their own. Another advantage of the website self water audit is that as soon as the customer completes it the information is emailed directly to those responsible for it and this data can then be added to a spreadsheet to help to compile a picture of water usage across NIW's customer base.

### **Domestic Self Water Audit Packs**

Over the report year 2008/09 NIW distributed 660 self water audits. The number of water audits distributed in 2007/08 was zero. These audits were distributed along with a survey into customer perception of NIW which was developed in partnership with the Consumer Council for Northern Ireland.

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 number of audits returned was 91 which is a return rate of 14%. It has been assumed that completed audit achieved savings of 10 litres per property per day.

The calculation for the savings achieved in 2008/09 report year is as follows:

$D \times A \times S$  = Savings in litres

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

Calculation:

$660 \times 0.14 \times 10 = 924$  l/per day  
= 0.0009 MI/d

### **Water Audits Completed by Company in Households**

Working in conjunction with NI Energy Agency 500 water audits were completed in the homes of customers for the 2008/09 report year. This was a substantial change from AIR08 when no domestic audits were carried out.

To calculate the estimated savings that have been achieved due to this initiative it is necessary to make reference to the "Ofwat Water Efficiency Targets 2010-11 to 2014-15." In this report uptake rates are provided which are regarded by the industry as acceptable assumptions to take with regards to calculating savings achieved. The report provides a figure of 10 litres per day saved due to the implementation of water audits. A figure is also provided for assumed uptake rates; due to the implementation method an uptake rate of 70% is assumed.

The calculation for the savings achieved in 2008/09 report year is as follows:

$D \times A \times S$  = Savings in litres

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

Calculation:

$500 \times 0.7 \times 10 = 3500$  l/per day  
= 0.0035 MI/d

### **Non-household - Water Efficiency Methods**

NIW operate a large user discount scheme ([www.niwater.com/largeusertariff.asp](http://www.niwater.com/largeusertariff.asp)) which is dependent on the commitment of the customer to water efficiency. The customer will have to seen to be promoting water efficiency this may be through changes in procedure, installing water saving devices, installation of recycling plants and the reviewing of water efficiency by an independent industry expert.

Over the report year NIW has reviewed their efficiency methods and documentation. As part of this process the existing commercial water audit was evaluated and a new commercial audit was developed. The new audit

contains a larger variety of questions, to give more detailed audit findings. Work has also been carried out on NIW's website. A new area has been developed which deals with promoting water efficiency within the commercial customers supplied by NIW. The website covers several areas:

- **Why Save Water?**  
This area provides a simple background to why business customers should save water.
- **What is Normal Water Use?**  
Includes a calculation, whereby the business can calculate their average water use per employee. This allows them to compare this to the typical business figure.
- **What is a Water Balance?**  
Details what a water balance diagram is and shows an example. This will allow businesses to follow the example and create their own diagram, and this can help businesses understand water use and better understand where they may be able to make savings.
- **Water Efficient Plumbing Appliances?**  
This section provides basic information on the types of appliances that businesses could possibly fit to help then make savings on their current water use.

The website is accessible to all customers with internet access and is a further opportunity for commercial customers to find out information when it comes to making decisions with regards to water efficiency.

### **Lines 23-28 Non-Household - Water Audits**

Towards the latter part of the year NIW redeveloped their commercial water audit and carried out water audits on 4 of their own premises. However in this time no commercial water audits were distributed to commercial customers. It is recognised that this is an area where there is future potential for the distribution of water audits to commercial customers, and these lines can be populated.

NIW carried out water audits on 4 of their premises. These water audits were carried out towards the end of the reporting year using the updated commercial water audit. Due to the completion of these audits at the end of the year no savings can be recorded as being achieved/assumed. This is due to no time being available to carry out remedial work or introduce new procedures and then attribute savings to these changes.

### **Totals**

#### **Lines 29-30 Totals**

#### **Savings**

The total recorded savings for Sections A, B, C and E is 0.0233 MI/d (23,300 l/per day). These savings have been achieved through Section B (Household-Water Efficiency Methods) and Section E (Other Water Efficiency Methods). NIW do not operate a free/subsidised repair/replacement on supply pipes, therefore no savings where obtainable from Section A (Household- Leakage) and although NIW carried out some water audits on their premises, no

savings could be attributed to these at present therefore no savings could be associated with Section C (Non-Household- Water Efficiency Methods).

For the previous reporting year there where no savings recorded due to water efficiency measures therefore this figure is an increase in savings of 0.0233 MI/d.

### Costs

Household - Leakage: No costs are sustained by NIW through supply pipes being repaired, as NIW do not operate a free/subsidised repair/replacement scheme. If NIW repair 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. NIW will then repair the supply pipe and the cost will be charged to the customer.

Household - Water Efficiency Methods: The following is a break down of the costs attributed to NIW's efficiency measures within this area.

Efficiency Method	Cost £	Savings l/d	Cost per l/per day Saved £
<b>Cistern devices</b>	1,656	15,450	0.11
<b>Self water audits</b>	530	900	0.59
<b>Water audits carried out</b>	7573	3,500	2.16

Non-Household - Water Efficiency Methods:

Efficiency Method	Cost £
<b>Non-household audits carried out</b>	168

Other Water Efficiency Methods:

Efficiency Method	Cost £
<b>Leaflet - Water Butts</b>	98
<b>Leaflet - Waterwise</b>	131
<b>Leaflet - Hippo Bag</b>	494
<b>Leaflet - Use Water Wisely</b>	123
<b>Bookmark - Saving Water</b>	930
<b>Bookmark - "Flo," kids bookmark</b>	149
<b>Seeds - Drought Resistant</b>	960
<b>Magnet - Water is Precious/Save Water</b>	1,670
<b>Pencil - Use Water Wisely</b>	1,734
<b>Game - Snakes and Ladders</b>	227
<b>Timer - Shower Timers</b>	4,666
<b>Staff - EO1</b>	19,454
<b>Staff - EO2</b>	14,220
<b>Staff - EO2</b>	7,070
<b>Water Bus</b>	22,920

Overall Cost Summary:

<b>Household - Leakage</b>	£0
<b>Household - Water Efficiency Methods</b>	£9,759
<b>Non-Household - Water Efficiency Methods</b>	£168
<b>Other Water Efficiency Methods</b>	£74,846
<b>Water Efficiency Work Totals</b>	£84,773

This is a slight increase on the previous years spending on water efficiency by NIW. However there has been a sizeable increase in the savings that were reported, as for the previous year this figure was zero.

The calculation of costs due to staffing has been calculated using accepted methodology from the AIR08 return. This year's staffing costs also include an additional staff member, who spent time trying to develop water efficiency further for the second half of the year.

### **Other Water Efficiency Methods**

During the reporting year 2008/09 NIW has further developed its existing website ([www.niwater.com](http://www.niwater.com)). Building on its existing educational efficiency element, NIW has created an educational micro site "Water are you doing about water" (<http://www.niwater.com/education/index.html>) for ages 6 to 14 years. Sections include the Water Cycle and Save Water. The subsection "How much water" calculates a households daily use of water, "How do I save water" gives advice in the home and tips for water use in the garden and within schools. The site rewards a science quiz with downloadable certificate.

NIW has also added pages to the website which deal with household water efficiency and promoting water efficiency amongst commercial users. 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 carrying out calculations automatically and also provides NIW 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 businesses, which would help them to be more efficient in the future.

NIW has a dedicated Water Education team consisting of 2 full time employees who deliver presentations to a variety of groups and organise/attend external events. They work with the Eco schools award system as a provider on water conservation. Conservation classroom presentations are given throughout the year. This team also run the "Waterbus"- a double-decker bus, which has been transformed into a mobile education unit. 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 uses a number of educational tools such as; displays, quiz, models, experiments, DVDs and computer facilities. The Waterbus attends presentations and demonstrations, six times monthly, to primary schools. The programmes have been written for

Key Stage 1 (P1-P4) and Key Stage 2 (P5-P7).

A Primary/Special Schools Competition was held in 2008/9 the theme of which was "Save Water" and was well supported across the country with over 760 entries received, for artwork, poetry or rap.

NIW has highlighted throughout the year the issue of water efficiency and during the Christmas and New Year period highlighted the potential for frozen pipes. Just before Christmas 2008 leaflets were inserted in the Irish News and Belfast Telegraph making customers aware of the impact of cold weather that could ultimately result in burst pipes within their homes.

Opened on 18 May 2007, by the Minister for Regional Development the new Silent Valley Visitor Centre continues to offer excellent potential as an educational, community and tourist attraction. The renovation work has created an excellent exhibition centre looking at:

- Global Rainfall
- The Water Cycle
- Wildlife Booth
- How We Use & Waste Water
- Wildlife Viewing
- Water Aid

As well as, historical displays on the history of the site and the wildlife found in the local area. This site is used to educate visitors on the importance of water and its conservation. Over the weekend of 26-28 September 2008 NIW provided access to this site free of charge to the public as a celebration of the Olympics coming to London in 2012. This encouraged people to come along and learn about water and the importance of its conservation.

NIW 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 and the importance and techniques of waste water management. The site utilises the fresh water pond and surrounding habitat to attract bird life and contribute to nature conservation in the Belfast Lough Area. 2 February was World Wetlands Day and this was marked at the site with a school visit. The children took part in games and watched displays to learn the importance of these areas for wildlife as well as their importance as an essential supply of fresh water.

### **Lines 31-33 Other Water Efficiency Methods**

The majority of NIW's Other Water Efficiency Methods are education based. These include presentations given at the visitors centre at Silent Valley, visits to the Duncrue Heritage Centre, group visits to Water Treatment Sites and visits by the Waterbus to schools. NIW also have 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 can not be calculated. At shows and presentations the company distribute shower timers, over the reporting year NIW distributed 2972 shower timers. 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 (Ofwat Water Efficiency Targets). With this information we can calculate the savings.

The calculation for the savings achieved in 2008/09 report year is as follows:  
 $D * I * S = \text{Savings in litres}$

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

Calculation:  
 $2972 * 0.23 * 5 = 3417.8 \text{ l/per day}$   
 $= 0.0034 \text{ MI/d}$

Although NIW are involved heavily in other water efficiency methods the majority of these can not be linked directly to savings. However it is most likely that through these various methods, including education, that savings are achieved but unfortunately can not be quantified.

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 2 KEY OUTPUTS  
WATER SERVICE - 2

DESCRIPTION				1		2		3	
				BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
				2006-07	CG	2007-08	CG	2008-09	CG
<b>A</b>	<b>DG2 PROPERTIES RECEIVING PRESSURE/FLOW BELOW REFERENCE LEVEL</b>								
1	Total connected properties at year end	000	1	794.7	A2	800.018	A2	804.4	A2
2	Properties below reference level at start of year	nr	0	N/C		N/C		10321	B4
3	Properties below reference level at end of year	nr	0	N/C		10,321	B4	5770	B4
4	Properties receiving low pressure but excluded from DG2	nr	0	N/C		N/C		218	B4
4a	DG2 Properties with pressure below a surrogate level of 7.5m at end of year	nr	0					320	B2
<b>B</b>	<b>DG3 PROPERTIES AFFECTED BY SUPPLY INTERRUPTIONS</b>								
	<b>(i) UNPLANNED INTERRUPTIONS</b>								
5	More than 3 hours	nr	0	41241	B4	60662	B3	56,480	B3
6	More than 6 hours	nr	0	10285	B4	9483	B3	8,175	B3
7	More than 12 hours	nr	0	767	B4	1839	B3	2,010	B4
8	More than 24 hours	nr	0	9	B4	72	B3	609	B4
	<b>(ii) PLANNED AND WARNED INTERRUPTIONS</b>								
9	More than 3 hours	nr	0	77958	B4	39237	B3	48,163	B3
10	More than 6 hours	nr	0	41803	B4	20273	B3	26,480	B3
11	More than 12 hours	nr	0	265	B4	62	B3	0	B4
12	More than 24 hours	nr	0	25	B4	0	B3	0	B4
	<b>(iii) INTERRUPTIONS CAUSED BY THIRD PARTIES</b>								
13	More than 3 hours	nr	0	6258	B4	1472	B3	2,477	B3
14	More than 6 hours	nr	0	854	B4	510	B3	36	B3
15	More than 12 hours	nr	0	185	B4	22	B3	33	B4
16	More than 24 hours	nr	0	175	B4	6	B3	4	B4
	<b>(iv) UNPLANNED INTERRUPTIONS (OVERRUNS OF PLANNED INTERRUPTIONS)</b>								
17	More than 6 hours	nr	0	404	B4	835	B3	590	B3
18	More than 12 hours	nr	0	40	B4	99	B3	43	B4
19	More than 24 hours	nr	0	0	B4	0	B3	8	B4
<b>C</b>	<b>POPULATION</b>								
20	Population (winter) (total)	000	2	1743.46	B2	1771.11	B2	1800.32	B2
20a	Population (winter) (NI Water only - estimated)	000	2					N/C	
20b	Population (winter) (PPP only - estimated)	000	2					N/C	
<b>D</b>	<b>DG4 RESTRICTIONS ON USE OF WATER</b>								
21	% population - hosepipe restrictions	%	1	0.0	A1	0.0	A1	0.0	A1
22	% population - drought orders	%	1	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



**Table 2 – Water Service 2****DG2 properties receiving pressure / flow below reference level****Introduction**

NIW's first DG2 Register was provided for AIR08 and indicated that 10321 properties were receiving a service below the reference level. In addition to the Register an 'Under Investigation' data base was populated which contained 105,024 properties which required further investigation owing to anomalies which arose in the initial identification process (see Methodology Statement). It was acknowledged by NIW and the Reporter that DG2 properties were overestimated and that data from completed Rehabilitation work had not yet been applied to properties on the Register. NIW indicated that during AIR09 the following would be carried out:

- All 'Under Investigation' properties would be reviewed and those receiving service below the reference level entered into the DG2 Register.
- Available data from completed Watermain Rehabilitation schemes would be applied to the Register and used to substantiate removals.
- Field logging and investigation would commence to verify the robustness of data used to populate the Register for AIR08. This would cover properties not included in the Watermain Rehabilitation schemes.

NIW's priority during the report period was to validate data giving rise to DG2 properties and identify removals resulting from capital works. Further work will be carried out to take account of DG2 properties resulting from customer low pressure complaints upon validation of properties in the DG2 Register.

**Line 1: Total connected properties at year end**

Northern Ireland Water's (NIW) property data is provided by Customer Services Directorate through the company billing system (Rapid).

**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 10,321 as reported in AIR08.

**Line 3: Properties below reference level at end of year**

The number of properties on the Register at AIR09 is 5770 which represents a reduction of 4551 against the AIR08 reported figure of 10321. The reported figure includes 739 properties added from the 'under investigation' data base following completion of the verification work. A surrogate pressure of 15m head in the adjacent watermain has been adopted as the reference level. All properties removed or added to the Register during the report period are supported by a brief report and logged data. The AIR09 Table 2 Methodology Statement outlines in detail the additions and removals process.

The reductions arising from capital works are the result of an extensive ongoing watermain rehabilitation programme which will contribute to removals from the Register over the next few years.

Extensive field logging has provided data to support the removal of properties owing to improved information and this work will continue during the AIR10 report period. The logging programme initially targeted clusters of DG2 properties and was not prioritised based on pressure recorded in the Register.

The reduction achieved due to operational changes is the result of a boundary valve change and PRV installation at Kilraughts Road, Ballymoney.

The Register has been developed with links to reports, supporting documentation and location maps, all of which are held electronically.

### **Schedule of Changes**

	<b>No. of Properties</b>
Additions due to better information	739
Reductions due to asset improvements – capital works	1808
Reductions due to better information	3431
Reductions due to operational changes	51

### **Line 4: Properties receiving low pressure but excluded from DG2**

The Register contains details of 218 properties reported in line 3 which have been identified as complying with the exclusion criteria as they are all within 15m elevation of the service reservoir. NIW is not currently in a position to validate exclusions based on any other criteria but is continuing to identify critical point and surrogate logging locations across the network which will accommodate future permanent pressure monitoring. Existing suitable NIW telemetry sites have been included in this exercise to minimise future capital expenditure. To date over 500 sites have been identified and it is intended that some permanent pressure monitoring will commence during the AIR10 report period. The number of identified exclusions may increase as a result of the ongoing validation of supporting data.

### **Line 4a: DG properties with a pressure below a surrogate level of 7.5m at end of year**

The number of confirmed properties on the Register with a recorded surrogate pressure below 7.5m at the year end is 320 of which 139 are within the 7.5m elevation of the service reservoir and can therefore be classed as valid exclusions. This figure is derived from the 1065 validated DG2 Register properties. Validation of the remaining 4705 properties entered on the Register will continue during the AIR10 period.

Validation of data giving rise to these properties was not prioritised during the report period but was captured in the initial field investigation study of DG2 clusters.

### **DG3 Properties Affected by Supply Interruptions: Lines 5 to 19**

The rules governing the recording and collation of data for the DG3 Register are explained in the Levels of Service Procedures. The calculation, checking and presentation of figures is explained in the Methodology Statement for AIR09: Table 2: Lines 5 to 19. DG3 procedures were established and

implemented by NI Water in April 2007.

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

#### **Unplanned Interruptions**

<b>AIR</b>	<b>DG3 Properties Affected</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
Table 2: Line 5	More than 3 hours	41,241	60,662	56,480
Table 2: Line 6	More than 6 hours	10,285	9,483	8,175
Table 2: Line 7	More than 12 hours	767	1,839	2,010
Table 2: Line 8	More than 24 hours	9	72	609

The numbers of properties affected by unplanned interruptions lasting more than 6 hours have fallen over the last three years, by 802 properties between 2006/07 and 2007/08 and by a further 1,308 properties between 2007/08 and 2008/09. The introduction of a corresponding Key Performance Indicator target of 2.0% in April 2007 reducing to 1.2% in 2008/09 has helped to encourage this downward trend.

The numbers of properties affected by unplanned interruptions lasting more than 12 hours have risen over the last three years, by 1,072 properties between 2006/07 and 2007/08 and by a further 171 properties between 2007/08 and 2008/09.

The numbers of properties affected by unplanned interruptions lasting more than 24 hours have also risen over the last three years, by 63 properties between 2006/07 and 2007/08 and by a further 537 properties between 2007/08 and 2008/09.

The rise in numbers can be largely attributed to a small number of incidents involving higher than average numbers of properties and interruption durations. These incidents are discussed in greater detail in later sections of the Commentary.

#### **Planned and Warned Interruptions**

<b>AIR</b>	<b>DG3 Properties Affected</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
Table 2: Line 9	More than 3 hours	77,958	39,237	48,163
Table 2: Line 10	More than 6 hours	41,803	20,273	26,480
Table 2: Line 11	More than 12 hours	265	62	0
Table 2: Line 12	More than 24 hours	25	0	0

The numbers of properties affected by planned and warned interruptions exceeding 3 hours and 6 hours have risen between 2007/08 and 2008/09. The rise can be attributed to an increase in the amount of mains rehabilitation work undertaken by the Company. This trend is set to continue throughout 2009/10 as more work is undertaken in the North West of the province.

The numbers of properties affected by planned and warned interruptions lasting more than 12 hours have fallen over the last three years, by 203 properties between 2006/07 and 2007/08 and by a further 62 properties between 2007/08 and 2008/09.

No properties experienced planned and warned interruptions exceeding 12 hours in 2008/09 and for the second year in succession, no properties experienced planned and warned interruptions exceeding 24 hours.

### Interruptions Caused by Third Parties

AIR	DG3 Properties Affected	2006/07	2007/08	2008/09
Table 2: Line 13	More than 3 hours	6,258	1,472	2,477
Table 2: Line 14	More than 6 hours	854	510	36
Table 2: Line 15	More than 12 hours	185	22	33
Table 2: Line 16	More than 24 hours	175	6	4

The numbers of properties affected by third party interruptions lasting more than 6 hours have fallen over the last three years, by 344 properties between 2006/07 and 2007/08 and by a further 474 properties between 2007/08 and 2008/09. *NI Water includes third party interruptions when reporting on its three KPIs for connected properties affected by unplanned interruptions.*

There was already a significant reduction in the numbers of properties affected by third party interruptions lasting more than 12 hours and more than 24 hours between 2006/07 and 2007/08. Numbers have remained low in 2008/09.

### Unplanned Interruptions (Overruns of Planned Interruptions)

AIR	DG3 Properties Affected	2006/07	2007/08	2008/09
Table 2: Line 17	More than 6 hours	404	835	590
Table 2: Line 18	More than 12 hours	40	99	43
Table 2: Line 19	More than 24 hours	0	0	8

The numbers of properties experiencing overruns of planned interruptions greater than 6 hours has reduced considerably from 835 properties in 2007/08 to 590 properties in 2008/09. *NI Water includes overruns when reporting on its three KPIs for connected properties affected by unplanned interruptions.*

The number of properties experiencing overruns of planned interruptions greater than 12 hours has also reduced, from 99 properties in 2007/08 to 43 properties in 2008/09.

8 properties experienced an overrun exceeding 24 hours, 3 in April, 3 in June, 1 in January and 1 in March.

### **Additional information on performance against alternative standards**

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

“Number of properties experiencing unplanned and unwarned interruptions (expressed as a percentage of households) in excess of:

1a) 6 hours, 1b) 12 hours and 1c) 24 hours”

**Note:** The number of properties experiencing unplanned and unwarned interruptions includes interruptions caused by third parties and unplanned interruptions (overruns of planned interruptions).

**Note:** KPIs 1a and 1c were introduced for the first time in April 2007.

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

Interruption Category		Outturns		06/07 KPI Target	Outturn		07/08 KPI Target	Outturn		08/09 KPI Target
		2006/07 Props	2006/07 %		2007/08 Props	2007/08 %		2008/09 Props	2008/09 %	
>6hrs	U/P	10,285	1.294%		9,483	1.185%		8,175	1.016%	
	UTP	854	0.107%		510	0.064%		36	0.004%	
	O/R	404	0.051%		835	0.104%		590	0.073%	
	<b>Total</b>	<b>11,543</b>	<b>1.452%</b>	<b>n/a</b>	<b>10,828</b>	<b>1.353%</b>	<b>2.0%</b>	<b>8,801</b>	<b>1.094%</b>	<b>1.2%</b>
>12hrs	U/P	767	0.097%		1,839	0.230%		2,010	0.250%	
	UTP	185	0.023%		22	0.003%		33	0.004%	
	O/R	40	0.005%		99	0.012%		43	0.005%	
	<b>Total</b>	<b>992</b>	<b>0.125%</b>	<b>0.3%</b>	<b>1,960</b>	<b>0.245%</b>	<b>0.25%</b>	<b>2,086</b>	<b>0.259%</b>	<b>0.15%</b>
>24hrs	U/P	9	0.001%		72	0.009%		609	0.076%	
	UTP	175	0.022%		6	0.001%		4	0.000%	
	O/R	0	0.000%		0	0.000%		8	0.001%	
	<b>Total</b>	<b>184</b>	<b>0.023%</b>	<b>n/a</b>	<b>78</b>	<b>0.010%</b>	<b>0.03%</b>	<b>621</b>	<b>0.077%</b>	<b>0.01%</b>

**Note:** Percentage outturns are based on total connected properties as follows: 794,710 (AIR07); 800,018 (AIR08); 804,418 (AIR09)

#### >6hr KPI

The 2008/09 final outturn of 8,801 properties (1.094% of connected properties) is within the yearend target of 1.2%. The 2007/08 final outturn was also within target although the target was set much higher at 2.0%. The outturn percentages have continued to fall over the last three years. As NI Water is keen to see this trend continue, further reductions in targets are proposed over the next five years.

**>12hr KPI**

The 2008/09 final outturn of 2,086 properties (0.259% of connected properties) exceeds the yearend target of 0.15%. The 2006/07 and 2007/08 final outturns were within target. Target failure in 2008/09 can be largely attributed to a small number of incidents involving higher than average numbers of properties and interruption durations.

In July 2008, an unplanned interruption due to mains rehabilitation work in Rasharkin left 135 properties without supplies for 56.5 hours. This represented almost double the monthly target for no more than 70 properties to be affected by unplanned interruptions lasting more than 12 hours.

The exceptional rainfall in August 2008, resultant ground movement and associated increase in numbers of bursts, also impacted heavily on KPI compliance.

In March 2009, a much publicised burst on a trunk main in Portaferry affected 220 properties for 58 hours, more than 1.5 times the monthly target allowance of 141 properties.

Also in March 2009, a difficult repair to a bridge crossing left 197 properties without supplies for 25.75 hours, almost 1.5 times the monthly target allowance.

**>24hr KPI**

The 2008/09 final outturn of 621 properties (0.077% of connected properties) exceeds the yearend target of 0.01%. The 2007/08 final outturn was within target. Target failure in 2008/09 can be largely attributed to a small number of incidents involving higher than average numbers of properties and interruption durations.

In July 2008, an unplanned interruption due to mains rehabilitation work in Rasharkin left 135 properties without supplies for 56.5 hours. Given that the yearend target was for no more than 80 properties to be affected by unplanned interruptions lasting more than 24 hours, this single incident involved almost twice the yearly allowance.

The exceptional rainfall in August, resultant ground movement and associated increase in numbers of bursts, also impacted heavily on KPI compliance.

In March 2009, a much publicised burst on a trunk main affected 220 properties in Portaferry for 58 hours. The number of properties affected by this incident was almost three times the yearly allowance.

Also in March 2009, a difficult repair to a bridge crossing left 197 properties without supplies for 25.75 hours, almost 2.5 times the yearly allowance. And a blocked main disrupted supplies to 23 properties for 28 hours.

**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 assumed that “night” falls between the hours of 12 midnight and 7am.

The following table provides a summary of those interruption records in 2008/09 whose Interruption Start Date/Time and All Props Restored Date/Time fell within the hours of 12 midnight and 7am.

Interrupt. No.	Interruption Start		All Props Restored		Duration Of Interruption (Hours)	Properties Affected	
	Date	Time	Date	Time		> 0 Hrs	> 3 Hrs
5479	02/04/2008	00:15	02/04/2008	04:00	3.75	809	809
5777	16/05/2008	00:15	16/05/2008	03:30	3.25	2,464	2,464
5778	16/05/2008	00:15	16/05/2008	03:30	3.25	563	563
5806	22/05/2008	00:15	22/05/2008	03:30	3.25	563	563
5854	22/05/2008	00:15	22/05/2008	03:30	3.25	563	563
5888	30/05/2008	00:15	30/05/2008	04:00	3.75	944	944
6075	20/06/2008	00:15	20/06/2008	03:30	3.25	997	997
6088	24/06/2008	00:00	24/06/2008	04:00	4	509	509
6465*	04/07/2008	00:00	04/07/2008	04:30	4.5	102	102
6256	10/07/2008	00:15	10/07/2008	03:30	3.25	433	433
6352	25/07/2008	00:15	25/07/2008	04:15	4	2,040	2,040
6353	30/07/2008	00:15	30/07/2008	04:15	4	2,040	2,040
6430	04/08/2008	01:00	04/08/2008	05:00	4	8	8
6454	06/08/2008	00:30	06/08/2008	04:00	3.5	1,774	1,774
6754**	17/09/2008	01:30	17/09/2008	05:30	4	26	26
7534	07/12/2008	00:00	07/12/2008	04:30	4.5	17	17
7433	07/12/2008	01:00	07/12/2008	05:15	4.25	52	52
7763	10/12/2008	02:00	10/12/2008	06:15	4.25	16	16
8261	15/01/2009	00:15	15/01/2009	04:15	4	100	40
7943	16/01/2009	00:15	16/01/2009	03:30	3.25	633	633

\* Interruption No. 6465 was a planned interruption.

\*\* Interruption No. 6754 was a planned interruption, reclassified as unplanned because the warning was only 14.5 hours.

Both the Metering Team and Leakage function are responsible for interruptions to supply that are of a relative short duration. Interruptions lasting less than 1 hour are not, as a rule, recorded by NI Water. Step testing is usually carried out at night to reduce the impact of loss of supply to customers.



20 records have been identified where customers would not have noticed the loss of service because it occurred at night. All 20 interruptions lasted less than 6 hours. The number of properties affected by these interruptions was 14,551. This represents a significant proportion of the total number of properties experiencing unplanned interruptions lasting more than 3 hours in 2008/09 (55,984 properties).

$$(14,551 / 55,984) \times 100 = \mathbf{26\%}.$$

NI Water reported in its AIR08 Commentary that there were 17 interruptions where customers would not have noticed the loss of service because it occurred at night. The number of properties affected by these interruptions was 9,325.

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

The following table provides a summary of all the overruns of planned and warned interruptions lasting 6 hours or less in 2008/09.

Interrupt. No.	Month	Duration Of Interruption (Hours)	Properties Affected		Duration Of Overrun (Hours)
			> 0 Hrs	> 3 Hrs	
5769	Apr 08	2.5	2	0	2
5904	Apr 08	2.75	186	0	0.75
6722	Sep 08	4	35	35	3
6902	Sep 08	4	16	16	1.5
7921	Nov 08	5.75	62	62	0.25
8019	Jan 09	2	78	0	0.5
7912	Jan 09	6	11	11	1
8387	Feb 09	1.5	38	0	2
8700	Mar 09	3	33	0	1
8890	Mar 09	4.5	41	41	0.5

There were 5 overruns of planned and warned interruptions lasting between 3 and 6 hours. The number of properties affected by these overruns was:

$$35 + 16 + 62 + 11 + 41 = \mathbf{165}.$$

This number is small compared to the number of properties that experienced a planned and warned interruption of between 3 and 6 hours (21,668).

$$T2: L9 = 48,148$$

$$T2: L10 = 26,480$$

$$48,148 - 26,480 = \mathbf{21,668}$$

NI Water reported in its AIR08 Commentary that there were 4 overruns of planned and warned interruptions lasting between 3 and 6 hours. The number of properties affected by these overruns was 191.

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

The following table provides a summary of all the unplanned interruptions caused by electricity supply failures in 2008/09.

Interrupt. No.	Month	Duration Of Interruption (Hrs)	Properties Affected					Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs	
6328	Jul 08	4	15	3	0	0	0	Booster down for 3 hrs.
6906	Sep 08	8	48	48	48	0	0	NIE interruption to supply affecting Rectory WPS. Boundary with Ballyhome DMA opened.
7234	Oct 08	21.75	155	155	155	155	0	Browsers mobilised for strategic customers on the evening of 18 October.
7216	Nov 08	8	0	0	0	0	0	NIW where able to maintain supply to area. However, after return of supply the pumps at Syonfin tripped and were not back on line until 05:00 11/11/08. Again NIW maintained supply to area without loss of supply.
8053	Jan 09	6.5	25	121	55	0	0	Benraw SR pumping station. No NIE power due to high winds.
8051	Jan 09	25.5	4	4	4	4	4	NIE power out in high winds to Finnis WPS.
8622	Mar 09	9.5	874	874	874	0	0	Calone SR had emptied due to a mains failure. Areas rezoned and generator linked up to pumps to enable quicker recovery.

7 unplanned interruptions were caused by electricity supply failures in 2008/09. In terms of numbers of properties affected, the most significant incident occurred in March 09 when 874 properties were without supplies for 9.5hrs. In terms of interruption duration, the most significant incident occurred in January 09 when 4 properties were without supplies for 25.5hrs.

The combined impact of the 7 electricity supply failures on the annual outturns is as follows:

	<b>&gt; 3 Hrs</b>	<b>&gt; 6 Hrs</b>	<b>&gt; 12 Hrs</b>	<b>&gt; 24 Hrs</b>
Numbers of Properties Affected by Electricity Supply Failures	1,205	1,136	159	4
Numbers of Properties Affected by Unplanned Interruptions	55,984	8,115	2,010	609
Percentage Impact	2.15%	14.00%	7.91%	0.66%

The impact of the electricity supply failures was greatest on the >6hr outturn, accounting for 14% of the total number of properties affected by unplanned interruptions.

The combined impact of the 7 electricity supply failures on KPI target compliance is as follows:

	<b>&gt; 6 Hrs</b>	<b>&gt; 12 Hrs</b>	<b>&gt; 24 Hrs</b>
Percentage of Connected Properties Affected by Electricity Supply Failures	0.141%	0.020%	0.0005%
Percentage of Connected Properties Affected by Unplanned Interruptions	1.094%	0.259%	0.077%
Percentage Impact	12.89%	7.72%	0.65%
Percentage of Connected Properties Affected by Unplanned Interruptions Less EFSs.	0.953%	0.239%	0.077%

The impact of the electricity supply failures was greatest on >6hr KPI target compliance, accounting for 12.89% of the outturn percentage. The removal of properties affected by unplanned interruptions caused by electricity supply failures does not alter the fact that NI Water would have failed to meet its >12hr and >24hr KPI targets.

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

The following table provides a summary of the interruption to supply incidents and burst watermain incidents during 2008/09 for which Upward Reports were generated. Significant incidents are in **bold**.

<b>Date of Incident</b>	<b>Cause of Incident</b>	<b>Category</b>
3 April 08	Interruption to supply - Inniscarn Road, Moneymore	3
9 April 08	Interruption to supply - Ballyvaston SR, Newtownards	3
12 April 08	Interruption to supply - Hillsborough Road, Lisburn	3
18 April 08	Interruption to supply - Maydown Road, L'Derry	3
19 April 08	Burst watermain - Jubilee Road, Newtownards	3
27 April 08	Interruption to supply - Barnish Road, Randalstown	3
2 May 08	Interruption to supply - Drumahiskey Road, Ballymoney	3
6 May 08	Interruption to supply - Randox Road, Crumlin	3
7 May 08	Interruption to supply - Old Dundonald Road, Belfast	3
13 May 08	Burst watermain - Moyallan Road, Gilford	3
13 May 08	Burst watermain - Altnaglushan, Dungannon	3
15 May 08	Interruption to supply - Bridge Road, Dunloy	3
17 May 08	Interruption to supply - Ballygawley / Aughnacloy	3
20 May 08	Interruption to supply - Castledawson Road, Magherafelt	3
21 May 08	Interruption to supply - Bellaghy / Castledawson	3
28 May 08	Burst watermain - Barnish Road, Randalstown	3
31 May 08	Interruption to supply - Gortilea SR, Feeney	3
7 June 08	Interruption to supply - Falcan Estate, Newtownards	3
22 June 08	Burst watermain - Bradshaws Brae, Newtownards	3
25 June 08	Burst watermain - Croppyhill SR, L'Derry	3
27 June 08	Burst watermain - Magheraliskmisk pumping main	3
2 July 08	Burst watermain - Sconce Hill SR, Coleraine	3
<b>4 July 08</b>	<b>Interruption to supply - Rasharkin area</b>	<b>3</b>
<b>8 July 08</b>	<b>Interruption to supply - Irwin Avenue DMA, Newtownards</b>	<b>3</b>
28 July 08	Interruption to supply - Tullyvar WPS, Ballygawley	3
<b>5 Aug 08</b>	<b>Interruption to supply - Newtownards to Greyabbey TM</b>	<b>3</b>
15 Aug 08	Interruption to supply - Killycomain Road, Portadown	3
16 Aug 08	Interruption to supply - Newry West TM from Fofanny	2
<b>18 Aug 08</b>	<b>Interruption to supply - Aghnagar Road, Cappagh</b>	<b>2</b>
20 Aug 08	Interruption to supply - Pomeroy Road, Donaghmore	3
24 Aug 08	Interruption to supply - Drones Road, Armoy	3
23 Sept 08	Interruption to Supply - Castle Road, Randalstown	3
24 Sept 08	Interruption to Supply - New Street, Randalstown	3
27 Sept 08	Burst watermain - Carmoney WTW to Avish SR TM	3
29 Sept 08	Burst watermain - Derg WTW, Castlederg	3
11 Oct 08	Interruption to Supply - Bridge Road, Warrenpoint	3
12 Oct 08	Burst trunkmain - Altnahinch TM, Loughguile	3
<b>17 Oct 08</b>	<b>Interruption to Supply - Ballykine WPS, Ballynahinch</b>	<b>3</b>
<b>19 Oct 08</b>	<b>Interruption to Supply - Lagmore Avenue, Belfast</b>	<b>3</b>

<b>Date of Incident</b>	<b>Cause of Incident</b>	<b>Category</b>
4 Nov 08	Burst watermain - Church Road, Ballynahinch	3
7 Nov 08	Interruption - Ballyhowne SR, Knockagh Road, Newtownabbey	3
11 Nov 08	Burst watermain - Clay Lake WTW, Keady	3
2 Dec 08	Interruption to Supply - Donegal Road, Belfast	3
9 Dec 08	Interruption to Supply - New Street, Randalstown	3
10 Dec 08	Interruption to Supply - Cappagh SR, Dungannon	3
12 Dec 08	Interruption to Supply - Doagh Road, Ballyearl	3
17 Dec 08	Interruption to Supply - Whitetown Road, Dungannon	3
18 Dec 08	Burst watermain - Anderson Park, Doagh	3
9 Jan 09	Interruption to supply - Brootall WPS, Killylea	3
10 Jan 09	Interruption to supply - Dungannon / South Armagh	3
19 Jan 09	Burst watermain - Boghill Road, Templepatrick	3
23 Jan 09	Interruption to supply - Lisnahunchin Road, Portglenone	3
2 Feb 09	Interruption to supply - Killaney WPS, Augher	3
9 Feb 09	Interruption to supply - Castor Bay WTW, Craigavon	3
9 Feb 09	Interruption to supply - Glenshesk Road, Armoy	3
25 Feb 09	Interruption to supply - Ballinlea Road, Ballintoy	3
26 Feb 09	Burst watermain - Tulnacross Road, cookstown	3
26 Feb 09	Interruption to supply - Ballycullen SR, Newtownards	3
8 Mar 09	Interruption to Supply - Calone SR, Armagh	3
12 Mar 09	Burst Trunkmain - Ballyeasborough Road, Portavogie	3
14 Mar 09	Burst watermain - Randalstown Road, Antrim	3
<b>22 Mar 09</b>	<b>Interruption - Inishargy Road/Killyvolgan Road, Kircubbin</b>	<b>3</b>
26 Mar 09	Burst Trunkmain - Marshallstown Road, Carrickfergus	3
<b>26 Mar 09</b>	<b>Interruption - Clady Bridge, Ballyhill Road, Belfast</b>	<b>3</b>
30 Mar 09	Burst watermain - Bann Road, Ballymoney	3

There were 12 occurrences during the year where the number of properties affected by a single incident exceeded the entire monthly target allowance. NI Water assumes a monthly allowance of one seventeenth of the yearend target from April to October and a monthly 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.

<b>KPI</b>	<b>2008/09 Target</b>		<b>Monthly Target Allowance</b>	
	<b>Percentage</b>	<b>Properties</b>	<b>Apr to Oct</b>	<b>Nov to Mar</b>
<b>&gt;6hrs</b>	1.2%	9,649	567	1,136
<b>&gt;12hrs</b>	0.15%	1,206	71	141
<b>&gt;24hrs</b>	0.01%	80	5	9

The following table provides a summary of the 12 incidents where one or more of the monthly target allowances were exceeded. Numbers exceeding the target allowances are in bold text.

Interrupt. No.	Month	Duration Of Interruption (Hours)	Properties Affected					Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs	
6669	Aug 08	11.5	805	805	<b>805</b>	0	0	Knock HL SR DMA due to burst on WTM.
6670	Aug 08	18	331	331	331	<b>81</b>	0	Dehommed LL SR due to burst on WTM. SR Revalved from WTM to ETM.
6671	Aug 08	23.5	355	355	355	<b>130</b>	0	Dehommed HL SR due to burst on WTM. remaining 15.00 at the highest points on system and long services due to air in system, area is undulating countryside in the Dromara Hills.
7292	Nov 08	16	147	147	147	<b>147</b>	0	Leakage section working with contractors changing a PRV blew 2 bypass valves off.
6258	Jul 08	13	394	148	148	<b>148</b>	0	Irwin Avenue DMA, off Holywood Road
7009	Oct 08	16.75	501	501	501	<b>150</b>	0	Lagmore Upper at Mount Eagles Lane. 250mm DI main. Air valve moved within socket joint on upstream side of isolating branch valve. Design fault as a result of minimal anchoring.
7234	Oct 08	21.75	155	155	155	<b>155</b>	0	Pillar Hill SR, Dromara Road, Ballynahinch
6717	Aug 08	50.5	9	9	9	9	<b>9</b>	Loughries Road Newtownards/Ballyreagh Road Newtownards
8860	Mar 09	28	23	23	23	23	<b>23</b>	Blockage in main causing poor pressure and no water complaints. Main shut off on 28th to try to find blockage. Water back on at 16.30. Second attempt made on 29th to find blockage. Water restored to all properties with better than before pressure.
6500	Jul 08	56.5	135	135	135	<b>135</b>	<b>135</b>	Re-Hab job Rasharkin.
8865	Mar 09	25.75	197	197	197	<b>197</b>	<b>197</b>	Breach on outside of bridge on Ballyhill Road had to be shut off as it was causing a hazard to traffic. Brackets had to be manufactured to hold repair.
8886	Mar 09	58	220	220	220	<b>220</b>	<b>220</b>	Interruption associated with failure of 450mm DI main, as identified on Upward Report. Tanker, bowsers and bottled water deployed during incident. Extension of problems relating to major air-locks.

As there were 12 occurrences during the year where the number of properties affected by a single incident exceeded the entire monthly target allowance, this could be viewed as exceptional in itself. The property count for 1 incident exceeded the >6hr monthly target allowance. The property counts for 9 incidents exceeded the >12hr target allowance. And the property counts for 5 incidents exceeded the >24hr target allowance. There were 3 incidents where the numbers of affected properties exceeded both the >12hr and >24hr monthly target allowances. These were the 3 most significant incidents of the year.

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

When reporting on AIR08: Table 2: Lines 5 to 19, NI Water assigned a confidence grade of B3. As there has been no significant change in the processes and procedures used to capture and record DG3 supply interruption details, NI Water has again recommended a Reliability Band of B for all lines. However, NI Water has downgraded the Accuracy Band from 3 to 4 for lines relating to interruptions of more than 12 and 24 hours duration in recognition of the lower numbers of properties affected and hence the lower margin of error.

**Reliability Band (B)**

The information that NI Water reports for DG3 does not involve any extrapolation. The Company has a proper system and procedures in place for capturing the data and properly documented evidence of each interruption record. The OMIS Interruptions to Supply Module used by the Networks Water and Leakage functions and the ITS Spreadsheet Template used by the Engineering and Procurement and Customer Services directorates meet the regulatory requirements for a DG3 Register.

It is recognised that there are certain shortcomings in the reporting process. For example, there is no linkage to the GIS and no automatic confirmation of property counts. Also, there is no linkage to Rapid Xtra and the Mobile Work Management System and hence, no automatic confirmation of interruption start times or other details that may help to ensure incident and address completeness/consistency. However, these shortcomings are minor in that their impact on DG3 reporting is not believed to be significant. Some of the shortcomings are already being managed through detailed checking whilst others will be addressed through changes in the reporting process, further training, improved supporting documentation and an extension of the checking process.

**Accuracy Band (4) – Lines 7, 8, 11, 12, 15, 16, 18 & 19**

The greatest potential for error is in the recording of individual property counts, particularly where the GIS has not been used to verify the information. Errors may also have arisen through the apportionment of numbers under the various time bands where the start and end of an interruption was not accurately determined.

For interruptions in excess of 12 and 24 hours, the annual numbers of

properties affected are small and hence the margin of error is also small. The information is therefore more likely to be accurate to within +/-25% than +/-10%.

**Accuracy Band (3) – Lines 5, 6, 9, 10, 13, 14 & 17**

For interruptions in excess of 3 and 6 hours, the annual numbers of properties affected are larger and hence the margin of error is also larger. The information is therefore more likely to be accurate to within +/-10% than +/-25%.

**Action plan for improvement**

As NI Water is unable to report a confidence grade of A2, A3, B2 or better for its DG3 data, the following list of actions have been drawn up:

- A formal signing off procedure is to be introduced whereby the monthly data compiled by Operations Services will be signed off by Heads of Function. A trial involving Networks Water took place in March 2009.
- GIS address lists are to be provided for all unplanned interruptions lasting more than 6 hours.
- The use of alternative sources of information for auditing purposes is to be expanded to include Rapid Xtra. Upward Reports were reconciled with the DG3 interruption records during the AIR09 reporting period.
- Operations Services have had preliminary discussions with Asidua regarding a DG3 reporting solution within Diamond (NI Water data warehouse). Such a solution would enable information to be drawn from Rapid Xtra, the Mobile Work Management System and the GIS.

The following is a summary of the actions taken by NI Water in 2008/09 to encourage reductions in numbers of properties:

- Use DG3 Register to support more capital investment in mains rehabilitation
- Examine the times when customers first report a loss of water supply
- Consider a method of status updates to keep customers and CRC informed
- Discuss the lessons learnt from major incidents
- Initiation of a project by TAM in relation to single supply areas
- Find out what other companies have done to reduce or eliminate interruptions

**EP Networks Projects (Service 1st)**



- Plan and prepare all rehabilitation work
- Ensure good interaction between operational staff and project management team
- Ensure a full understanding of the network
- Don't rationalise old connections
- Minimise the number of line valve installations
- Use under-pressure fittings
- Downsize mains to allow slip-lining
- Use hydraulic line stops to reduce the zone of influence
- Rezone areas
- Don't replace sound services

From April 2007, NI Water has been reporting internally on DG3 on a monthly basis. From January 2009, NI Water has also been reporting internally on DG3 on a weekly basis. Weekly reporting allows Management to monitor DG3 on a more frequent basis, thus encouraging consistency in the handling of interruptions and maintaining the standard of reporting.

The profile of DG3 continues to be raised at management level through monthly Leadership meetings and within Networks Water through monthly team meetings involving Area Managers, Field Managers and Field Operatives.

#### **Line 20: Population (winter)**

The following table provides a summary of the monthly numbers of bed-spaces sold for hotel, guesthouse and B&B establishments in Northern Ireland in 2008. Information was extracted from monthly bulletins published in the Research section of the NI Tourist Board website.

Web address: [www.nitb.com](http://www.nitb.com)

<b>MONTH</b>	<b>HOTEL BED- SPACES SOLD</b>	<b>GUESTHOUSE &amp; B&amp;B BED- SPACES SOLD</b>	<b>TOTAL BED- SPACES SOLD</b>	<b>PERCENTAGE</b>
Jan-08	129,300	29,700	159,000	5.46%
Feb-08	162,400	35,800	198,200	6.81%
Mar-08	188,400	48,300	236,700	8.14%
Apr-08	181,100	44,700	225,800	7.76%
May-08	210,900	72,900	283,800	9.75%
Jun-08	199,600	67,300	266,900	9.17%
Jul-08	214,000	83,200	297,200	10.21%
Aug-08	265,500	92,400	357,900	12.30%
Sep-08	212,500	63,900	276,400	9.50%
Oct-08	198,200	39,400	237,600	8.17%
Nov-08	167,400	28,500	195,900	6.73%
Dec-08	151,300	22,800	174,100	5.98%
<b>Total</b>	<b>2,280,600</b>	<b>628,900</b>	<b>2,909,500</b>	<b>100%</b>

**Assumption:** The percentage bed-spaces sold during the winter was taken to be the summation of the percentages for January, February, March, April,

November and December as these were the six months of the year with the lowest percentages.

$$5.46\% + 6.81\% + 8.14\% + 7.76\% + 6.73\% + 5.98\% = \mathbf{40.89\%}$$

- According to the “Preliminary Visitor Tourism Forecast for January - December 2008” (NITB website), the estimated number of non-resident visitor nights for Northern Ireland in 2008 was **11,214,000**.
- By calculation, the estimated number of non-resident winter visitor nights =  $40.89\% \times 11,214,000 = \mathbf{4,585,405}$ .
- By calculation, the estimated average number of non-resident winter visitors per night =  $4,585,405 / (31 + 29 + 31 + 30 + 30 + 31) = \mathbf{25,195}$ .
- According to AIR09: Table 7: Line 17, the baseline resident population is  **$1,775.12 \times 10^3$** .
- By calculation, the Population (winter) =  $1,775,120 + 25,195 = \mathbf{1,800,315}$ .

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

AIR07	AIR08	AIR09
$1,743.46 \times 10^3$	$1,771.11 \times 10^3$	$1,800.32 \times 10^3$

The Winter Population figure has increased from  $1,771.11 \times 10^3$  in AIR08 to  $1,800.32 \times 10^3$  in AIR09, an increase of  $29.21 \times 10^3$  (1.65%). This increase can be attributed to changes in the key component figures that make up this figure. Between 2007/08 and 2008/09, the Total Resident Population (AIR: Table 7: Line 17) increased from  $1,748.53 \times 10^3$  to  $1,775.12 \times 10^3$  whilst the Average Winter Non-Resident Population increased from 22,582 to 25,195.

### Reporting Restriction

Unfortunately, it has not been possible for NI Water to calculate “a” and “b” components for this line as the source data is representative of the province as a whole and not of multiple areas that could be easily matched to NI Water and PPP areas of supply. In addition, the output for sites varies throughout the year, making it difficult to determine precisely how many persons were served within each area of supply.

### Confidence Grade

NI Water has assigned a confidence grade of B2 to this line. The tourism statistics used are for the 2008 calendar year as opposed to the 2008/09 financial year. NI Tourist Board has advised that statistics for January to March would not be available until May 2009.

The “B” is awarded on the basis that monthly occupancy breakdowns for hotel, guesthouse and B&B establishments were sought from NI Tourist Board. However, the number of non-resident visitor nights for Northern Ireland in 2008 was obtained from the “Preliminary Visitor Tourism Forecast for January - December 2008”. This forecast is based on January to August data from both the Northern Ireland Passenger Survey (NITB) and the Survey of Overseas Travellers (Fáilte Ireland). Estimates for residents of the Republic of Ireland visiting Northern Ireland are based on January to June 2008 data provided by the Central Statistics Office.

The “2” has been assigned because even if all visits occurred in the winter, the difference in the calculated winter population would only be in the region of 2% (see calculation below).

$$\begin{aligned}
 &11,214,000 / (31 + 29 + 31 + 30 + 30 + 31) = 61,615 \\
 &1,775,120 + 61,615 = 1,836,735 \\
 &100 - ((1,800,320 / 1,836,735) \times 100) = \mathbf{1.98\%}
 \end{aligned}$$

#### **DG4 Restrictions on Use of Water**

- **Line 21: % population - hosepipe restrictions**
- **Line 22: % population - drought orders**
- **Line 23: % population - sprinkler/unattended hosepipe restrictions**

Drought orders are not applicable in Northern Ireland.

Under Article 36 of the Water and Sewerage Services (NI) Order 1973, when the Department for Regional Development is satisfied that a serious deficiency of supplies of water in any area exists or is threatened, it may make an order to prohibit or restrict the use of water for any purpose (or by means by which the water is used, i.e. hosepipe ban).

The Department may also by order abstract water from any source and suspend or modify any obligation governing the discharge of compensation water for a period not exceeding 6 months.

There were no restrictions placed on the use of water during the reporting year. The high reliability assessment (A1) is based on the established procedures for the making of any order to prohibit or restrict the use of water. The high accuracy grade reflects the fact that no orders were made during the reporting year.

Northern Ireland Water does not operate a sprinkler license system.

#### **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.

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

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

DESCRIPTION			UNITS	DP	1 BASE YEAR SBP 2006-07CG		2 REPORTING YEAR -1 2007-08CG		3 REPORTING YEAR 2008-09CG	
A DG5 ANNUAL FLOODING SUMMARY										
1	Number of domestic properties connected to sewerage system		000	1	703.5	B2	676.3	B2	598.8	B2
(i) OVERLOADED SEWERS										
2	Properties flooded in the year (overloaded sewers)		nr	0	N/C		195	D6	3	B4
3	Flooding incidents in the year (overloaded sewers)		nr	0	N/C		212	D6	3	B4
4	Flooding incidents (overloaded sewers attributed to severe weather)		nr	0	N/C		126	D6	0	B4
5	Props. where flooding limited to uninhabited cellars only (o/loaded sewers)		nr	0	N/C		0	D6	0	DX
(ii) OTHER CAUSES										
6	Properties flooded in the year (other causes)		nr	0	N/C		366	D6	23	B4
7	Properties which have flooded more than once in the last ten years (other causes)		nr	0	N/C		108	D6	3	CX
8	Flooding incidents (other causes - equipment failures)		nr	0	N/C		19	D6	4	B4
9	Flooding incidents (other causes - blockages)		nr	0	N/C		324	D6	16	B4
10	Flooding incidents (other causes - collapses)		nr	0	N/C		34	D6	3	B4
11	Props. where flooding limited to uninhabited cellars only (other causes)		nr	0	N/C		0	D6	0	DX
B DG5 PROPERTIES ON THE AT RISK REGISTER										
(i) AT RISK SUMMARY										
12	2 in 10 risk at end of year		nr	0	N/C		80	DX	80	DX
13	1 in 10 risk at end of year		nr	0	N/C		0	DX	745	D6
14	Total 1 in 10 and 2 in 10 properties at risk at end of year		nr	0	N/C		80	DX	825	DX
15	1 in 20 risk at end of year		nr	0	N/C		0		0	DX
16	Props. at risk but not flooded in the past 10 yrs (excluding severe weather)		nr	0	N/C		N/C		N/C	
17	Properties not at risk of flooding internally but suffering restricted toilet use (RTU)		nr	0	N/C		N/C		N/C	
(ii) PROBLEM STATUS OF PROPERTIES ON THE 1 IN 10 & 2 IN 10 REGISTERS										
18	Cost beneficial problems where risk is reduced temporary measures (mitigation)		nr	0	N/C		N/C		N/C	
19	Non cost beneficial problems where risk is reduced by temporary measures (mitigation)		nr	0	N/C		N/C		N/C	
20	Cost beneficial problems without mitigation awaiting solution and those which have not been appraised		nr	0	N/C		N/C		N/C	
21	Non cost beneficial problems without mitigation		nr	0	N/C		N/C		N/C	
(iii) ANNUAL CHANGES TO 2 IN 10 & 1 IN 10 REGISTERS										
22	Removed by company action		nr	0	N/C		N/C		N/C	
23	Removed because of better information		nr	0	N/C		N/C		N/C	
24	Added because of better information		nr	0	N/C		N/C		N/C	
25	Added because of increased demand		nr	0	N/C		N/C		N/C	
(iv) PROBLEM STATUS OF PROPERTIES ON THE 1 IN 20 REGISTER										
26	Cost beneficial problems where risk is reduced temporary measures (mitigation) (1 in 20)		nr	0	N/C		N/C		N/C	
27	Non cost beneficial problems where risk is reduced by temporary measures (mitigation) (1 in 20)		nr	0	N/C		N/C		N/C	
28	Cost beneficial problems without mitigation awaiting solution and those which have not been appraised (1 in 20)		nr	0	N/C		N/C		N/C	
29	Non cost beneficial problems without mitigation (1 in 20)		nr	0	N/C		N/C		N/C	
(v) ANNUAL CHANGES TO THE 1 IN 20 REGISTER										
30	Removed by company action (1 in 20)		nr	0	N/C		N/C		N/C	
31	Removed because of better information (1 in 20)		nr	0	N/C		N/C		N/C	
32	Added because of better information (1 in 20)		nr	0	N/C		N/C		N/C	
33	Added because of increased demand (1 in 20)		nr	0	N/C		N/C		N/C	

**Table 3 – Sewerage Service – Internal Flooding****Line 1 - Number of Domestic Properties Connected to the Sewerage System**

Northern Ireland Water's (NIW) property data is provided from the RapidXtra Property Summary Report, provided from Crystal Alliance and validated through the Contract Office.

**Lines 2 to 11 DG5 Annual Flooding Summary**

Data gathering and calculation for Table 3 Lines 2 to 11 is as described below.

**Sources/Process for all Lines 2 to 11**

A download of internal sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009 on a month by month basis.

The records were sorted firstly by Creation Date field, then by Street Name field, then by Property Number field, and finally by Town/City field.

Investigations were carried out for each reported incident and those properties found not be flooded after investigation using information from the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly, are removed, the remaining properties were combined for a yearly total.

**Assumption**

For the purpose of AIR09, NIW 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.

**Lines 2, 3, 6, 8, 9 and 10**

A count was then made on these records that represented one internal flooding complaint per unique property, meaning that properties affected by more than one incident were reported only once, as per the definition.

These properties were then sub-divided into the appropriate categories for lines 2, 3, 6, 8, 9 and 10 using the information gathered from, the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly.

**Line 4**

A sort was carried out on all addresses to eliminate properties with 'flooding other causes' as found from the investigations using the information gathered from the Sewer Maintenance Contractor, Flooding Report Forms, Field

Manager reports and contacting the Customers directly.

The remaining properties are those either flooded due to overloaded sewers or flooding due to overloaded sewers attributed to severe weather.

A Met office report was obtained for each of these lines to ascertain if the cause of the internal flooding was due to weather conditions.

As per the definition this line's enumeration includes flooding incidents caused by severe storms which affect properties that are **not** at risk of flooding more frequently than once in ten years therefore a check was made on historical records to determine this.

### **Lines 5 and 11**

As stated in last year's methodology. From JR07 for England and Wales, it can be seen that it is reasonable to report zero properties for cellar flooding. Given that NI is not likely to have as many properties with cellars as in parts of England and Wales and that such detailed information is unavailable for NIW's property flooding records derived from Ellipse or the returned Flooding Incident Report Forms, the decision has been taken to assume zero properties for cellar flooding.

### **Line 7**

A count was then made on these records that represented one internal flooding complaint per unique property identified as caused by blockage, collapse or equipment failure.

These annual records were combined with the list of historical records stating cause of flooding to be blockage, collapse or equipment failure.

A sort on the date of incident field and address field gave the number of properties that have flooded more than once in the last 10 years due to other causes.

### **Changes in Methodology over the Previous Year**

The raw data is from the same source i.e. Ellipse Work Management System as the AIR 08 return but for the AIR09 data each internal flooding complaint was investigated as described.

### **Confidence Grading for DG5**

All data is lifted directly from **reported** internal flooding incidents and cross checked with the returned Flooding Incident Report Forms, Operation Staff and Customer where appropriate. Therefore the confidence grade on the figures reported for lines 2, 3, 4, 6, 8, 9 and 10 is B2, for line 7 because of use of historical data C4 and for lines 5 and 11 is as last year D6 and the reason for this is given in the Line-Specific Methodology. To enhance the confidence grade further for AIR10 NIW intent to use Insurance Claim data as additional source of information to help populate this table.

Of the 742 properties taken from 2000+ historical records defaulting to the

1:10 register in is NIW's intention to investigate these further by the use of workshops and face to face meeting with appropriate staff in Operations and Engineering Procurement to establish the exact cause of flooding and confirm if any capital schemes have already been completed to eliminate the flooding at individual properties. This work should be completed by March 2010.

### **Changes in Figures from AIR08 to AIR09**

The reason for the significant changes in figures quoted on lines 2 to 11 is down to the fact that that last year's figures were assumptions and for AIR09 the figures were obtained from investigated incidents.

### **Lines 12 to 15 – DG5 Properties on the At Risk register**

Data gathering and calculation for Table 3 Lines 12 to 15 is as described below.

### **Objective/Aim**

To establish and 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.

### **Sources/Process for incidents reported within reporting year of 2008/09**

A download of internal sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009 on a month by month basis.

The records were sorted firstly by Creation Date field, then by Street Name field, then by Property Number field, and finally by Town/City field.

Investigations were carried out for each reported incident and those properties found not be flooded after investigation using information from the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly, are removed, the remaining properties were combined for a yearly total.

The purpose of this initial sorting process was to ensure that records relating to the same property were grouped together and records relating to the same incident were also grouped together for the same date.

The cause of each confirmed internal flooding incident is confirmed by using the above steps with the records that have been excluded from inclusion to the 'At Risk' register for one or more of the following reasons;

- The cause of flooding was equipment failure
- The cause of flooding was sewer blockage
- The cause of flooding was sewer collapse
- The return period of the storm was more than 1 in 20

These have been identified and a count kept for AIR return and records determined as DG5 Reportable have been assigned to one of three "At Risk" registers – 2 in 10, 1 in 10 or 1 in 20. These "At Risk" registers are held on an MS Excel worksheet along with a section for Excluded records.

**Sources/Process for incidents held within NIW Historical Records**

The internal flooding Historical Register is a collection of historical events that have taken place since January 2000. Flooding events are recorded as addresses of properties that have been flooded. There are a number of different sources for the information contained in this register of flooding events and the quality of information differs from source to source.

Data sources used to compile the historical records are as follows:

- Central Claims Unit
- Drainage Area Studies
- Eastern Division Flooding Records
- Customer Enquiry management System (CEMS)
- Work Planning System (WPS)
- Captrax
- Anecdotal Evidence
- Ellipse

Because the data was contained in sources that indirectly related to flooding incidents the data is not considered to be good quality.

Determination of historical data was carried out using the available information obtained from the above sources, and was carried out as follows;

- A visual check was made against each incident reading all data held on all sources for each incident at each address.
- Where there was no information written on the cause of flooding this incident was placed by default to the 1:10 register. Pending further investigations.
- Where a mention was made of blockage or equipment failure etc. then this incident was excluded.
- Additional investigations using Operational and Asset management staff were carried out to check each defaulted property against their local knowledge to confirm flooding, a reason for flooding or work has been carried out to alleviate the cause of the flooding.

The addresses remaining therefore have no apparent cause of flooding and will remain defaulted onto the 1:10 register until further investigations into weather conditions or frequency of flooding at each location will move the property from one category to another or remove altogether. The removals of properties will be reported upon on lines T3 lines 20 – 22 for AIR10.

**Process**

Those properties found to be 'At Risk' from records reported this reporting year are combined those the properties found to be at risk from the Historical Records and assigned as follows;



- The number of records assigned to the Internal 2 in 10 “At Risk” Register was counted to give the figure for Line 12.
- The number of records assigned to the Internal 1 in 10 “At Risk” Register was counted to give the figure for Line 13.
- The numbers of records assigned to the Internal 2 in 10 and 1 in 10 “At Risk” Registers were summated to give the figure for Line 14.
- The number of records assigned to the Internal 1 in 20 “At Risk” Register was counted to give the figure for Line 15.

**Changes in Methodology over the Previous Year**

The DG5 register is in the process of being developed and during the course of the development it has been necessary to run a 2 tire approach for the determination on internal flooding incidents namely Historical Data and ‘Live Data’ i.e. data captured for the reporting year of 2008/2009.

**Confidence Grading for DG5**

Although considerable amount of work has been carried out in the initial default determination of 2000+ historical internal flooding records further work needs to be carried out to acutely determine each individual flooding incident. Because of the work carried out this year for the AIR 09 return the confidence grade for the 'At Risk' Register will improve slightly for line 13 from the AIR08 figure of DX to D6. Lines 12, 14 and 15 will remain DX.

**Lines 16 to 33 - DG5 Properties on the At Risk register**

The data to populate lines 16 to 33 is not gathered by NIW at present as the Internal Flooding register is still under development.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 3A KEY OUTPUTS  
SEWERAGE SERVICE - EXTERNAL FLOODING (including PPP)**

DESCRIPTION				UNITS	DP	1		2		3		
						BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR		
						2006-07	CG	2007-08	CG	2008-09	CG	
A ANNUAL FLOODING SUMMARY												
(i) OVERLOADED SEWERS												
1	Areas flooded externally in the year (overloaded sewers)			nr	0	N/C			899	D6	1792	D6
2	Curtilege flooding incidents in the year (overloaded sewers)			nr	0	N/C			733	D6	1619	D6
3	Highway flooding incidents (overloaded sewers)			nr	0	N/C			194	D6	357	D6
4	Other flooding incidents (overloaded sewers)			nr	0	N/C			120	D6	244	D6
5	Total flooding incidents (overloaded sewers)			nr	0	N/C			1047	D7	2220	D6
6	External flooding incidents (overloaded sewers attributed to severe weather)			nr	0	N/C			458	D6	1062	D6
(ii) OTHER CAUSES												
7	Areas flooded externally in the year (other causes)			nr	0	N/C			4,283	D6	7968	D6
8	Areas which have flooded more than once in the last 10 years (other causes)			nr	0	N/C			1,723	D6	3828	D6
9	Flooding incidents (other causes - equipment failure)			nr	0	N/C			173	D6	438	D6
10	Flooding incidents (other causes - blockages)			nr	0	N/C			4,300	D6	9217	D6
11	Flooding incidents (other causes - collapses)			nr	0	N/C			210	D6	528	D6
B AREAS ON THE 1:10, 2:10, 1:20 AT RISK REGISTER												
(i) AT RISK SUMMARY												
12	2 in 10 risk at end of year			nr	0	N/C			7	DX	7	DX
13	1 in 10 risk at end of year			nr	0	N/C			1	DX	1	DX
14	1 in 20 risk at end of year			nr	0	N/C			0	DX	0	DX
15	Total at risk on the 1:10, 2:10, 1:20 register at end of year			nr	0	N/C			8	DX	8	DX
(ii) PROBLEM STATUS OF EXTERNAL AREAS ON THE 1:10, 2:10, 1:20 REGISTER												
16	Cost beneficial problems where risk is reduced temporary measures (mitigation)			nr	0	N/C			N/C		N/C	
17	Non cost beneficial problems where risk is reduced by temporary measures (mitigation)			nr	0	N/C			N/C		N/C	
18	Cost beneficial problems awaiting solution and problems which have not been appraised			nr	0	N/C			N/C		N/C	
19	Non cost beneficial problems which have not been solved by mitigation			nr	0	N/C			N/C		N/C	
(iii) ANNUAL CHANGES TO 1:10, 2:10, 1:20 REGISTER												
20	Removed by company action (external only)			nr	0	N/C			N/C		N/C	
21	Removed by company action (external linked)			nr	0	N/C			N/C		N/C	
22	Removed because of better information			nr	0	N/C			N/C		N/C	
23	Added because of better information			nr	0	N/C			N/C		N/C	
24	Added because of increased demand			nr	0	N/C			N/C		N/C	
25	Removed from external to internal register			nr	0	N/C			N/C		N/C	

**Table 3a – Sewerage Service – External Flooding****A: Annual Flooding Summary (Lines 1 to 11)**

Data gathering and calculation is as described below.

**Lines 1 & 7: Sources/Primary Process**

1. A download of external sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009.
2. The records were sorted firstly by Date field, then by Property Number field, then by Street Name field and finally by Town field.

The purpose of this initial sorting process was to ensure that records relating to the same external area were grouped together and records relating to the same incident were also grouped together. The order in which records were arranged was as follows:

- Records representing complaints regarding the same external area on the same day
  - Records representing complaints regarding the same external area on different days
  - Records representing complaints regarding neighbouring external areas in the same street on the same day
  - Records representing complaints regarding neighbouring external areas in the same street on different days
  - Records representing complaints regarding external areas in neighbouring streets on the same day
  - Records representing complaints regarding external areas in neighbouring streets on different days
3. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order.
  4. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
  5. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
  6. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same property on the same day. Records returning "1" and "True" responses represented complaints from the same property within one day, etc.

**Assumption**

For the purpose of AIR09, NIW 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.

7. The remaining records were representative of one external flooding complaint per unique property per unique external flooding incident.

The remaining records may have included properties flooded both internally and externally during the same event.

8. The records were labelled as “External” and combined with the confirmed annual “Internal” records (also labelled) and representative of one internal flooding complaint per unique property per unique internal flooding incident.
9. The records were sorted firstly by Date field, then by Property Number field, then by Street Name field and finally by Town field.
10. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order.
11. A query was created returning a response of “True” in row 1 if the string of text in row 2 equalled the string of text in row 1.
12. The responses to the above query were copied to another column and dropped down one cell.
13. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
14. All internal records were eliminated.
15. External records were also eliminated but only if they returned a value of “0”, “1”, “2” or “3” and “True”.
16. The remaining records were representative of one external flooding complaint per unique property per unique external flooding incident.

The remaining records did not include properties flooded both internally and externally during the same event.

### **Sources/Secondary Process**

1. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
2. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order.
3. A query was created returning a response of “True” in row 1 if the string of text in row 2 equalled the string of text in row 1.
4. Records with “True” responses were eliminated.
5. The remaining records were representative of one external flooding complaint per unique property, meaning that external areas affected by more than one incident were reported only once, as per the definition. The remaining records were apportioned using the following process:

**Assumption – Apportionment**

The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

**Lines 2 – 5: Sources/Secondary Process**

1. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
2. The Street Name field was split into two separate fields (SN1 and SN2).
3. A string of text was created for each record consisting of the contents of the SN1 field and the contents of the Town field in that order.
4. A query was created returning a response of “True” in row 1 if the string of text in row 2 equalled the string of text in row 1.
5. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
6. Records with “0”, “1”, “2” or “3” subtraction results and “True” responses were eliminated.

**Note:** Records returning “0” and “True” responses represented complaints from the same external area, neighbouring external area or neighbouring street on the same day. Records returning “1” and “True” responses represented complaints from the same external area, neighbouring external area or neighbouring street within one day, etc.

**Assumption**

For the purpose of AIR09, NIW has assumed that a single incident includes recorded complaints from the same property, neighbouring properties and neighbouring streets 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.

7. The remaining records were representative of one external flooding complaint per unique external flooding incident. The remaining records were apportioned using the following process:

**Assumption – Apportionment**

The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

**Line 6: Sources/Secondary Process**

1. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
2. The Street Name field was split into two separate fields (SN1 and SN2).
3. A string of text was created for each record consisting of the contents of the SN1 field and the contents of the Town field in that order.
4. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
5. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
6. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same external area, neighbouring external area or neighbouring street on the same day. Records returning "1" and "True" responses represented complaints from the same external area, neighbouring external area or neighbouring street within one day, etc.

**Assumption**

For the purpose of AIR09, NIW has assumed that a single incident includes recorded complaints from the same property, neighbouring properties and neighbouring streets 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.

7. The remaining records were representative of one external flooding complaint per unique external flooding incident. The remaining records were apportioned using the following process:

**Assumption – Apportionment**

1. The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on Monthly weather assessment reports for Northern Ireland which were obtained from the Met Office site for the period April 2008 to March 2009.

**Example:**

<http://www.metoffice.gov.uk/climate/uk/2008/january.html>

Northern Ireland diary of highlights

2. The reports were studied and references to heavy rain or flooding were extracted from the main body of text.

3. The extracts were further studied with a view to acquiring dates on which the province as a whole or parts of the province were subject to severe weather. Therefore the number of heavy rainfall days was extracted and the proportion of external flooding incidents was proportioned accordingly across heavy rainfall and non-heavy rainfall days.

**Line 8: Sources**

1. A download of external sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009.
2. The Ellipse records were combined with all historical flooding records from the External Flooding Database, less any Ellipse records already included.

Historical flooding records included all determined and undetermined records at 31 March 2009.

**Note:** At this stage of the process, it was necessary to go through the same process of elimination as described Lines 1 & 7. This was to ensure that properties flooded both internally and externally during the same flooding event were only recorded on the internal incident flooding summary.

3. The records were sorted firstly by Date field, then by Property Number field, then by Street Name field and finally by Town field.

The purpose of this initial sorting process was to ensure that records relating to the same external area were grouped together and records relating to the same incident were also grouped together. The order in which records were arranged was as follows:

- Records representing complaints regarding the same external area on the same day
  - Records representing complaints regarding the same external area on different days
  - Records representing complaints regarding neighbouring external areas in the same street on the same day
  - Records representing complaints regarding neighbouring external areas in the same street on different days
  - Records representing complaints regarding external areas in neighbouring streets on the same day
  - Records representing complaints regarding external areas in neighbouring streets on different days
4. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order (This was used to determine the number of unique properties per incident).
  5. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
  6. The responses to the above query were copied to another column and dropped down one cell.

7. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
8. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same property on the same day. Records returning "1" and "True" responses represented complaints from the same property within one day, etc.

### **Assumption**

For the purpose of AIR09, NIW 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.

9. Records with "False" "True" responses were eliminated.

These records represented the most recent complaints from properties having made multiple complaints. Records become redundant once they have been compared with the records directly above.

10. Records with "False" "False" responses were eliminated.

These records represented external areas flooded once in the last 10 years.

11. Records with subtraction results in excess of "3650" and "True" responses were eliminated.

These records represented external areas flooded more than once in excess of 10 years.

12. Records were retained if they returned a subtraction result between "4" and "3650" inclusive and "True" responses.

These records represented external areas flooded more than once in the last 10 years. However, the same area could have appeared more than once, once for every separate incident.

13. Records were again sorted by Property Number field, Street Name field and Town field to ensure the order was correct for the next stage in the process.

14. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.



15. Records with “True” responses were eliminated.
16. The remaining records were representative of one external flooding complaint per unique property.

**Assumption – Apportionment**

The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

**Lines 9 – 11: Sources/Secondary Process**

1. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
2. The Street Name field was split into two separate fields (SN1 and SN2).
3. A string of text was created for each record consisting of the contents of the SN1 field and the contents of the Town field in that order.
4. A query was created returning a response of “True” in row 1 if the string of text in row 2 equalled the string of text in row 1.
5. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
6. Records with “0”, “1”, “2” or “3” subtraction results and “True” responses were eliminated.

**Note:** Records returning “0” and “True” responses represented complaints from the same external area, neighbouring external area or neighbouring street on the same day. Records returning “1” and “True” responses represented complaints from the same external area, neighbouring external area or neighbouring street within one day, etc.

**Assumption**

For the purpose of AIR09, NIW has assumed that a single incident includes recorded complaints from the same property, neighbouring properties and neighbouring streets 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.

7. The remaining records were representative of one external flooding complaint per unique external flooding incident. The remaining records were apportioned using the following process:

**Assumption – Apportionment**

The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on averages

for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

### **Changes in Methodology over the Previous Year**

There have been no changes in the methodology from that as reported for AIR08. The raw data is from the same source i.e. Ellipse Work Management System and figures are derived using the Line-Specific Methodology Statements and calculation sheets. It should be noted that the figures for AIR09 are considerably increased on those presented for AIR08; the only explanation for this may be the very wet summer in 2008.

As the data used to populate these lines was obtained from the Ellipse system it is not possible to interrogate the figures shown in Table 3a to satisfy the comments requested in the Utility Regulator guidance notes for Table 3a.

### **Confidence Grading**

All data is lifted directly from **reported** external flooding incidents and no further interrogation has been carried out on these incidents the confidence grade for all Annual Flooding Summary figures in Table 3a Lines is D6 and due to the nature of the raw data there is no detail relating to the cause of flooding it has been necessary to base proportioning on JR08 average for England and Wales.

### **Future Reporting**

There are currently approximately 40,000 undetermined records of reported External Flooding NIW proposal is still to have these investigated and determined so that the DG5 External Registers can be suitably populated, target date is October 2010.

### **B: Areas on the 1:10, 2:10, 1:20 At Risk Register**

Data gathering and calculation is as described below.

#### **Lines 12 – 15: Reporting Restriction**

NIW is currently in the process of determining all records held within the External Flooding Register as either DG5 Reportable or Excluded. Undetermined records are deemed to be under investigation. Therefore, it has only been possible to report on the total number of determined records at 31 March 2009 in this part of the table.

Records determined as DG5 Reportable have been assigned to one of three “At Risk” registers – 2 in 10, 1 in 10 or 1 in 20. These “At Risk” registers are held on an MS Excel worksheet along with a section for Excluded records. Records have been excluded for one or more of the following reasons:

- The cause of flooding was equipment failure
- The cause of flooding was sewer blockage
- The cause of flooding was sewer collapse
- The return period of the storm was less frequent than 1 in 20

- The mitigation work is complete and the external area is no longer at risk of flooding

**Process**

1. The number of records assigned to the External 2 in 10 "At Risk" Register was counted to give the figure for Line 12.
2. The number of records assigned to the External 1 in 10 "At Risk" Register was counted to give the figure for Line 13.
3. The number of records assigned to the Internal 1 in 20 "At Risk" Register was counted to give the figure for Line 14.
4. The numbers of records assigned to the External 2 in 10, 1 in 10 and 1 in 20 "At Risk" Registers were summated to give the figure for Line 15.

**Changes in Methodology over the Previous Year**

There have been no changes in the methodology from that as reported for AIR 08. NIW has not commenced work on the determination of External records as it was decided for this reporting year to concentrate on Internals. Therefore there has been no increase in the number as quoted for AIR08.

**Confidence Grading for DG5**

As the 'At Risk' Registers are in their initial stages of development, the figures shown would not reflect a realistic number of properties contained in each of the 'At Risk' Registers. Consequently a Grading of DX has been given

**Lines 16 - 25**

The data to populate lines 16 to 25 is not gathered by NIW at present as the External Flooding register is still under development.

**PPP only**

The two sites being reported from a PPP perspective are Kinnegar and North Down Ards. The responsibility for flooding is different for both of these sites.

- The Networks associated with the Kinnegar Catchment has not been transferred to the Kinnegar Contract; nor indeed has the Terminal Pumping Stations at the end of the Sub Catchments. Therefore there are no incidents of flooding associated with this incoming main.
- The Networks associated with the North Down Ards WwTW Catchment has not been transferred to the Omega Contract; whereas the Contract has required the remediation of the discharge arrangements at Briggs Rock, Donaghadee and Millisle. New Pumping Stations with adequate Storm Retention have been constructed and WOCs obtained for storm discharge arrangements. A new Waste Water Treatment Works has been constructed at North Down and receives the flow from each of these new Pumping Stations. No flooding has been associated with the North Down Ards WwTW or associated components. Therefore, there has been no contribution to flooding from the Omega Contract.

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 4 KEY OUTPUTS CUSTOMER SERVICE - 1

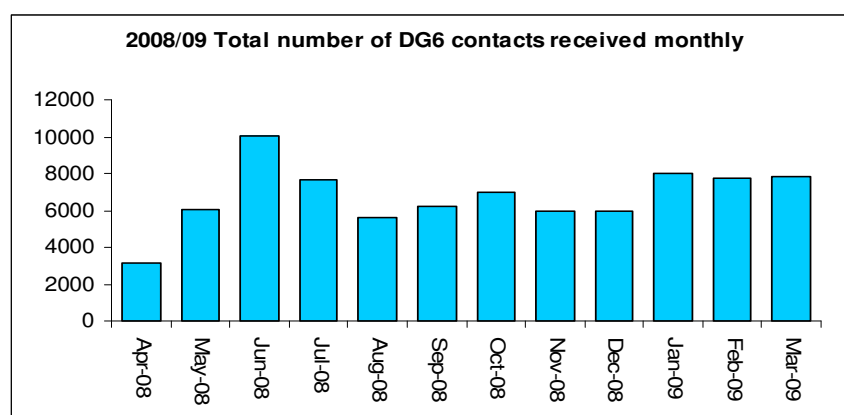
DESCRIPTION		UNITS	DP	1		2		3	
				BASE YEAR SBP 2006-07	CG	REPORTING YEAR -1 2007-08	CG	REPORTING YEAR 2008-09	CG
<b>A</b>	<b>DG6 RESPONSE TO BILLING CONTACTS - GENERAL</b>								
1	Total billing contacts	nr	0	36208	C2	53137	B2	81,370	B3
2	Number dealt with within 5 working days	nr	0	26478	C2	50464	B2	80,262	B3
3	Number dealt with in more than 10 working days	nr	0	6676	C2	1497	B2	12	B3
4	DG6 Percentage dealt with within 5 working days	%	1	73.1%	C2	95.0	B2	98.6	B3
5	Percentage dealt with in more than 10 working days	%	1	18.4%	C2	2.8	B2	0.01	B3
<b>B</b>	<b>CONNECTED PROPERTIES</b>								
6	Number of properties connected for water supply only	nr	0	90810	B3	135779	B3	141751	A2
7	Number of properties connected for water and sewerage services	nr	0	705167	B3	664282	B3	662629	A2
8	Number of properties connected for sewerage services only	nr	0	128	B3	197	B3	38	A2

**Table 4 – Customer Service 1****DG6 – Response to Billing Contacts**

This was the second year of non domestic billing by Northern Ireland Water through the new Customer Relations Centre which was opened in October 2006 and is managed by our partners, Crystal Alliance. Following the original deferment of domestic charges from 1 April 2007 (pending the reports from the Independent Water Review Panel) these were deferred again, following decision of the Executive, from April 2008. After publication of the first report of the Independent Water Review Panel, the Executive announced the phasing in of new sewerage and unmeasured water charges from 1 April 2008. Accordingly, introduction of the new charges, in addition to the pre-existing billing of metered water customers, more than doubled NIW's non domestic customer base from around 43,000 to over 89,000.

To support introduction of the new charges, a "Customer Readiness" communications campaign extended until the end of May 2008. Individual mailings were sent to all non domestic customers to communicate the charges, encourage direct debit sign up and invite contact regarding any inaccuracies in the standing data (names, addresses etc). These campaign contacts were recorded as non reportable until the end of May 2008.

The chart below shows monthly profile of DG6 contacts received during 2008/09.



The source of data for DG6 Table 4 (lines 1 to 5) population has changed from 2007/08. Previously, information was extracted from data provided by Customer Relations Centre in the monthly Customer /Billing contacts business review pack which was validated by NIW. Line 1 was reported as the total contact closed rather than received. In response to Reporter feedback from AIR08, 2008/09 (line 1 to 5) figures are reported using the submitted methodology stated for DG6. The difference of 1096 between received and closed contacts (which is less than 1% variance) is believed to be attributable to DG6 open contacts spanning year end.

In response to AIR08 reporter's feedback, 2009/10 monthly reports for DG6 (received and closed) will be run by the NI Water Billing and Revenue department and independently validated by the NI Water contract office on a monthly basis. On the first day of the month the DG6 reports will be run along

with previous months to accurately update “closed” figures on a rolling basis and support the annual reconciliation. Variances will be queried and resolved as they arise.

The Customer Relations Centre (managed by Crystal Alliance) currently records the date of receipt of contacts (other than by telephone) by scanning, indexing and logging the contact. NIW is clarifying daily routines to determine the treatment of correspondence received after 2pm and possible delay by adding to the next day’s work queue. However, as post is delivered before 2pm, this only applies to email/fax/personal visits, which on review of monthly reports, is a small proportion of DG6. NIW has requested monthly access for observational testing.

NIW does not issue payment cards to non domestic customers.

### **Responses**

For DG6 recording purposes the date of the substantive response is used. i.e., if the customer has a billing related query which leads to a recalculated bill, the date of the telephone call explaining the reason for the re bill is used as date and timestamp of the response. The recalculation is generated overnight; the file transferred and the recalculated bill is printed. The date for closing should be the date of dispatch and this is being confirmed with the Customer Relations Centre.

### **Holding replies**

Holding letters are used if a billing enquiry leads to an operational action for resolution. For instance, a high consumption query may lead to a leakage issue which requires a field visit. In this instance the Customer Relations Centre does not currently report the actual number of holding letters open and the length of time a contact remain open. NIW have requested additional information for DG6 2008 including:

- Opening balance of contacts carried over from last reporting period
- Total number of DG6 contacts received during the month
- Total number of DG6 contacts closed during the month
- Actual time taken to close a DG6 contact
- Age of longest outstanding contact
- Ageing profile of all outstanding DG6 contacts
- Total number of DG6 holding letters issued per month
- Total number of DG6 contacts closed to a holding letter

For quality purposes, the NIW Billing & Revenue team selects a random 100 accounts for monthly bill accuracy checks. Results are collated and referred to Customer Relations Centre for action.

The NIW Billing & Revenue team also selects 5 random calls for listening and monitoring re quality assurance.

The NIW Billing & Revenue team updates the Business Process Document at regular intervals, making it available to relevant staff.

As necessary, NIW Billing & Revenue key account managers carry out personal visits to customers which may result in a billing query. A tracking record is held by the account manager for each query raised. This is transferred to the Customer Relations Centre customer services team who treat this as an item of correspondence and log it as received. Feedback is provided on every query raised to ensure closure. In these instances holding letters are not raised as the responsibility for communication is with the NIW key account managers. However, the date/item of contact and date of closure are recorded and reported for DG6.

**Connected Properties**

Confidence grades of A2 assigned as the data is taken directly from the Rapid Xtra Property Summary Report.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 5 KEY OUTPUTS  
CUSTOMER SERVICE - 2**

DESCRIPTION		UNITS	DP	1		2		3	
				BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
				2006-07	CG	2007-08	CG	2008-09	CG
<b>A DG7 RESPONSE TO WRITTEN COMPLAINTS</b>									
1	Total written complaints received	nr	0	1,220	B2	2,644	B2	3,727	B4
2	Number dealt with within 10 working days	nr	0	1,116	B2	2,394	B2	3,636	B4
3	Percentage dealt with within 10 working days	%	1	91.5%	B2	90.5%	B2	97.6	B4
4	Number dealt with in more than 20 working days	nr	0	30	B2	10	B2	16	B4
5	Percentage dealt with in more than 20 working days	%	1	2.46	B2	0.38	B2	0.4	B4
<b>B DG8 BILLS FOR METERED CUSTOMERS</b>									
6	Total metered accounts	nr	0	77,534	B2	78,444	A2	84,075	B2
7	Metered accounts excluded from indicator	nr	0	869	B2	1,126	A2	17,692	B2
<b>(i) NO. OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING AT LEAST ONE BILL DURING YEAR BASED ON METER READING:</b>									
8	Company readings	nr	0	63,580	B2	55,401	A2	61,751	B2
9	Company or customer readings (or both)	nr	0	63,753	B2	55,517	A2	61,904	B2
<b>(ii) NUMBER OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING:</b>									
10	Estimated bills only	nr	0	1,949	B2	2,836	A2	3,901	B2
11	No bills received during the report year	nr	0	10,963	B2	18,965	A2	578	B2
12	Unread by company for 2 years	nr	0	9,148	B2	9,930	A2	895	B2
<b>C DG9 TELEPHONE CONTACT</b>									
13	Total calls received on customer contact lines	nr	0	259,046	B2	322,318	B2	321,720	A2
14	All lines busy	nr	0	142	B2	0	B2	0	A2
15	Total of abandoned calls	nr	0	23,575	B2	3,374	B2	3,591	A2
16	Call handling satisfaction	nr	2		B2	4.23	B2	4.40	A2
17	Total telephone complaints	nr	0	13,788	B2	22,636	B2	33,102	A2
<b>D SPECIAL ASSISTANCE REGISTER</b>									
18	Customers on the special assistance register	nr	0	N/C		N/C		N/C	



**Table 5 – Customer Service 2****DG7 – Response to written complaints**

Complaints are considered dealt with if a full response has been issued. If a repeat contact comes in on the same subject this will be handled as a new complaint. A closed complaint would not be reopened.

No Petitions have been received this year.

Despatch date for DG7 is the date the response is posted. If for any reason a response is printed and then cannot be posted that day it will be reprinted on the despatch date with a new date on the letter.

Following a 2 month transitional period responsibility for CCNI complaint handling transferred from NIW to CRC on 4 August 2008. These responses are quality assured by NIW escalation team before issue.

All CCNI complaints are received via email. These are included in the figures reported.

No complaints have been received through NI Direct.

Holding responses will be issued if a full response cannot be issued within 10 days. Holding responses must outline the action being taken, when it will be completed and when a further response will be issued. Practice has been to issue multiple holding responses for a single complaint. We are planning to move away from this practice at some stage during the next year.

All reported figures are based on actual data. No sampling is used except for quality assurance purposes.

Issue of not logging emails on day of receipt.

It is hoped that the Quality Development Plan which was not implemented this year due to resource restrictions will be implemented in the current year 2009/10.

During the reporting period some customer contacts would have been received and dealt with by Developer Service Coordination Team, this information was copied to CRC for inclusion in system reporting.

The new Public Liability Claims process went live on 1 April 2008. All complaints aspects of claims are handled and reported as complaints

The following issues may have had an influence of the reported figures:

- In Quarter One, DG7 complaints were coded incorrectly, as a result of this there is a high level of complaints coded as 'Other' and 'Poor Service' in April, May and June. Q1 figures were therefore based on original CMS type rather than closed CMS type. Closure Codes on

Rapid were updated on 1 July 2008 and the written complaints started to be correctly coded. This resulted in a significant decrease in complaints coded as 'other' and 'Poor Service' during the year. The list of CMS types is included in document BSA 77 in levels of service methodology.

- Year end quality assurance has identified a number of issues – Complaints are originally coded (original CMS type) based on initial information and then recoded when closed (Closed CMS type). It would be expected that closed CMS type would be the most accurate but this is not the case for Q1. Therefore categorisation has been based on Original CMS type for Q1. The issue of miscategorisation is being addressed with Crystal Alliance.
- If an item is received after 2pm it will be logged the following working day with a received date of the following working day (i.e. the logged date is recorded as the received date. This issue is being addressed through contractual negotiations). The number of complaints affected by this issue is approximately 500.
- If a complaint is not resolved by the time the year end report is run (1 May) but a holding response is issued in the subsequent year then it will be reported in the complaints received figure line 1 for the reporting year, but it will not be included in the calculation of the % of time taken to resolve figure line 2-5 in the reporting year. Once the item is resolved and closed the system is set up so that any item closed which has a holding response, is recorded as being closed on the date of the holding response, which in this case is the subsequent year. It will therefore be included in this subsequent years figures for time taken to close.
- If a complaint is not resolved by the time the year end report is run (1 May) but a holding response has been issued in the reporting year, then it will be reported in the complaints received figure (line 1) for the reporting year but it will not be included in the calculation of the % of complaints resolved time figure line 2-5. Once the item has been closed during the subsequent year it will be closed to a date in the reporting year gone so will not be included in the subsequent year's figures.
- The number of complaints which will appear in neither years report for time taken to closed is calculated by assessing the volume of written DG7's that were received in year 2008/09, remained open on 1 May 2009 but will be closed back to a holding letter date in 2008/09.
- Complaints made directly to contractors about work carried out on our behalf will only be recorded if NIW are notified. If NIW are notified it will be recorded even if it is handled directly by the contractor.

- CEO mail is included in reported figures and recorded on system this year.
- The number of Billing complaints (disputes, errors, methods), Tariffs/Price Complaints, and Allowance complaints were impacted by unmeasured bills being sent out at the end of May 2008, Sewerage Charges being introduced from the 1 April 2008 and Standing Only charges being introduced at the 1 April 2008.
- The number of flooding complaints received in September was impacted by severe weather conditions. Heavy rainfall resulted in extensive flooding on the afternoon of Saturday 16 August. In Q1 15 flooding complaints were received and in Q2 120 flooding complaints were received, most in August and September.
- The number of 'Interruption to supply' and 'Pressure' written complaints in March were impacted by a burst watermain at Mid-Ards Trunk Main on 21-23 March, affecting properties in the Portaferry area.

#### **Confidence Grade B4**

This is based on the fact that the reports are generated off system, with sound records procedures and documentation, but there are some known short comings in terms of quality assurance i.e. the quality development plan not being in place and some manual manipulation of reports.

In addition the accuracy is considered as +/- 15% based on 31 not included in either year, 500 logged on day 1 and 44 discrepancy between rapid DG7 closed report and no closed on CorVu complaint report.

Table 5 Line 3 shows a DG7 figure of 98.1%. It should be noted that the equivalent figure quoted in NI Water's Annual Report for 2008/09 was 98.44%. The Annual Report figure was reported directly by Crystal Alliance in their Business Review Pack. However, subsequent to the completion of the Annual Report, NI Water's Contract Office ran the report for the AIR09 submission directly from the Rapid system – resulting in a different number of written complaints closed and a different number of written complaints closed within 10 working days. Due to the complexities of the Crystal Alliance contract termination process it was not possible to fully determine the reasons for these differences. Therefore, the figure of 98.1% which was reported directly from the system (and which is fully auditable) has been reported in AIR09.

#### **DG8 – Bills for metered customers**

The number of metered accounts excluded from the indicator has increased this year as last years report did not include all the appropriate exclusions. The following are now excluded from the indicators:

- Charged on another basis
- Test meters
- Trade-effluent meters

- DRD or NIW meters
- Fire supplies
- Properties occupied less than six months
- Complex accounts – Including combination meters

**Void properties**

The number of actual meter readings (by company and customer) has increased mainly due to concerted efforts from the metering team and in spite of staff redeployment within that section. The redeployment of meter reading staff to other sections of the business resulted in meter readings not increasing by as much as was hoped. As a result the number of estimated bills only has increased by 1065.

Reorganisation of field teams has taken place which we anticipate will result in a reduction in the number of estimated bills only next year.

No bills received and unread for 2 years has reduced significantly due to the correct exclusions being applied and the efforts of teams. Efforts will continue to reduce these numbers further next year.

During the year work has been ongoing to remove the manual steps from the data transfer in relation to Rapid Routestar interface. This will improve the efficiency and accuracy of the transfer process and is currently in testing.

**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. Customer reads can be registered for billing purposes by using the On-line facility available on our website or by calling our billing line.

Confidence grade of B2 is now applied due to the correction of the report to correctly exclude meters as stated above compared to C4 for last year.

Table 3 Line 13 in the STR shows a DG8 figure of 93.25%. It should be noted that the equivalent figure quoted in NI Water's Annual Report for 2008/09 was 93.7%. The DG8 figure quoted in the Annual Report was calculated on the basis of customers receiving a bill based on an actual reading as a percentage of total bills issued. The AIR09 DG8 figure reports the proportion of customers receiving a bill based on an actual reading as a percentage of total billable accounts.

**DG9 Introduction**

This is the Director General standard for the measurement of telephone answering performance. Currently our expected SLA is 95% of telephone calls must be substantively answered in 30 seconds. During 2008/09, Northern Ireland Water answered 97.09% of all calls received during business within 30 seconds out of a total of 321,720 calls. This is a significant improvement on the last reporting year's performance of 94.78%. Even during periods of high customer contacts (flooding on 17 August 2008), Northern Ireland Water ensured accessibility to its Customer Relations Centre, reporting 100% line availability at all times. Previously, in October/November 2006, NIW outsourced all customer billing, collection and contact activities to a service partner, Crystal Alliance, in preparation for the planned introduction of domestic billing in April 2007. Domestic billing was again deferred by the Northern Ireland Executive in November 2008. The unpopularity of the planned domestic billing and the general political climate raised customer awareness and undoubtedly affected the ongoing level of customer contacts since even though billing was postponed until at least 2010. There are a number of other factors, including campaigns, which NIW believes impacted on its DG9 performance for the 2008/09 reporting year.

**All Lines Busy**

The possibility of a customer receiving an engaged or all lines busy tone has been minimised by the availability of 210 telephone lines. Whilst it is more than the number of staff that we have, it means if a customer rings and a staff member is not available to answer the call, the customer will wait in the relevant queue. If the customer rings and all lines are busy then the customer will receive an engaged/all lines busy tone.

**Calls Abandoned**

3,591 calls were abandoned during the reporting year. The Company's performance of 98.88% of calls not abandoned falls just short of the 99% target set for the year. The failure to meet the expected target can be attributed to the August flooding when 3000 calls were received in one weekend (10 times the expected volume). The KPI 6a performance in August was 94.23% and the poor performance of this month was enough to bring the YTD performance below target.

*At present, the Company is not able to differentiate between calls abandoned within 10 seconds and those abandoned over 10 seconds. During the reporting year NIW reported total calls abandoned within 30 seconds and over 30 seconds.*

**Call Handling Satisfaction**

Customer's satisfaction with regards call handling is assessed by McCallum Layton, an independent market research company. McCallum Layton carry out quarterly customer survey of 100 customers who have called the Company for any reason. The answer to survey question 18 ("Overall, how satisfied were you with how your call was handled 1-5?") gives the call handling satisfaction score.

McCallum Layton carries out the same research for 25 UK water companies with OFWAT organising and overseeing the project. The Company achieved an overall score of 4.4/5.0 for the reporting year, meeting the target set at the beginning of the year of 4.4. In the last quarter of 2008/09 NI Water was ranked 12<sup>th</sup> out of the 25 participating UK Water Companies.

It should be noted, that responsibility for this measure transferred from the Company's Customer Services Directorate to the Company's Customer Relations Partner Crystal Alliance after the second quarter of surveys. The performance drastically increased after Crystal Alliance took control of the measure. In the first two quarters of the reporting year the company scored 4.14 and 4.26. In the second quarter, under Crystal Alliance's oversight the Company scored 4.55 and 4.64.

McCallum Layton will inform the senior management which week out of the quarter they will survey. This allows management to forward McCallum Layton all calls received during that week from which they will survey 100. It has come to light that on the weeks McCallum Layton indicated they wished to survey Crystal Alliance ran an initiative called "*Quality Week*". During this week staff were given extra encouragement and instruction to ensure that customers received the very best levels of service. The Company believes that the McCallum Layton surveys should be carried out without the call centre staff having prior knowledge of which week would be assessed. The transfer of responsibility to Crystal Alliance and their introduction of "*Quality Week*" almost certainly affected the Customer Satisfaction score but it would be difficult to ascertain to what extent the overall performance was raised.

The Company has instructed Crystal Alliance not to inform staff in advance of the McCallum Layton survey in July 2009.

The audit sheets provided to the market researcher that set out the details of calls that were excluded from the survey have been included in *the Customer Research Appendix*. The audit sheets comply with the guidance except in the omission of "*Percentage of useable Calls*", this will be addressed in the new reporting year.

### **Customers on the Special Assistance Register**

The Company launched its Priority Services Service in February 2009. No customers were recorded on the register by the end of the reporting year. At the end of April 2009, 93 customers were on the Special Assistance Register.

### **Areas of the Reporting Requirements Which May Not Have Been Met**

- During the reporting year the telephone and fax number for NIW switchboard was displayed in small type at the very bottom of the company website (see below). This is a business line and should not be advertised to NIW customer base. Calls to this business line have not been included in total calls received. This number has since been removed from NIW website.

- Northern Ireland Water Limited, Registered Office, Northland House, 3 Frederick Street, Belfast, BT1 2NR, Registered Number: NI054463 Tel: +44 (0) 2890 244 711| Fax: +44 (0) 2890 354 798.
- NIW is currently investigating the number of rejected calls across principle advertised customer contact points. Based on the definition of 'rejected' contained within the Call Media Report, some calls may be rejected if there are no users currently logged on with the skill to handle the task and the task queued for the 'Max Queue Time' and was returned to the connector. NIAUR guidance states that calls should not be classed as rejected for this reason. The Company is not able to distinguish which of the 4,287 calls across all principle advertised customer contact points were rejected for these two reasons.
- NI Water advertises a "Type Talk" line for hearing impaired customers on their company website. This is a misprint as the number provided is for a stand alone Text Phone (as published in the Priority Services Code of Practice) and can only be used by customers who have their own text phone. When this line was tested during one of Customer Services Directorate's quality checks the line was not answered. After investigation it became clear that the Text Phone line has only been operational from May 2009 yet it was advertised for the entire 2008/09 Reporting Year. Crystal Alliance has now sought advice from the Royal Society of the Deaf who have tested the line and confirmed that it is now operational. Calls to this line during the 2008/09 year cannot be reported and this service failure is currently under investigation.
- NIW also answers calls received via Type Talk, which is a separate third party service whereby the customer rings an operator who in turn contacts CRC via the normal customer line (e.g. Waterline) on behalf of the customer. This is recorded as a call received on the appropriate line and reported in the DG9 Performance.

### **NI Direct Flood Line**

NI Direct Floodline was launched on 30 January 2009, as a single contact telephone number for customers in the event of a flooding incident. NI Direct would 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. Given the integrated suite of systems within NIW and the need to report Floodline jobs separately for regulatory purposes, all flooding incidents originating from NI Direct are prefix with 'FIL'. To date, NIW has only received 4 calls through this process, up to end March 2009.

### **Temporary Customer Contact Points**

The company did not employ any temporary customer contact points during the reporting year.

### **Number and Configuration of Incoming Lines and the Hours During Which They are Open**

Office hours are defined as the hours which NIW's principal advertised

customer telephone contact 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
- **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
- **Debtline:** Monday to Friday - 08.00 to 17.00

## **IVR**

The Company does not use an IVR system.

## **Sampling Methods**

The Company is capable of reporting actual DG9 contacts received, telephone complaints, calls abandoned and all lines busy and do not need to employ any sampling methods to monitor these parameters.

The only parameter that is assessed by sampling methods is Customer Call Handling Satisfaction. In line with all other UK water companies NI Water employs McCallum Layton to survey 100 customers who have called the Company each quarter.

## **Telephone Complaints**

Telephone complaints cover any telephone call from a customer or a customers representative (e.g. Citizens Advice Bureau, solicitor) alleging that an action or inaction of NIW, or a service or lack of service provided by NIW 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, NIW 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. dishwasher 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.

## **Incidents**

In addition to the flooding of 17 August 2008, the following incidents may have affected service:



- The number of 'No Water' telephone complaints received on 21-23 March was impacted by a burst water main at Mid-Ards Trunk Main, affecting properties in the Portaferry area.
- Week ending 11 May which included a bank holiday. Total calls received 6493 due to bursts reported in several areas; Castlereagh, Dundonald, Cookstown, Glenariff and Magherafelt.
- Week ending 18 May. Total calls received 7842, Billing enquiries line particularly busy with an increase of 76.49% compared to the previous week (755 more calls).

**Confidence Grades**

With the exception of Call Handling Satisfaction, this data is derived directly from the Avaya telephony system through the Call Media reporting system it has been assigned a confidence grade of "A2", supplied by the Customer Billing and Contact centre from the Rapid system.

Call Handling Satisfaction has been given a confidence grade of A2 as it is conducted independently and the results are provided to NIW (via its outsourced partner) from McCallum Leyton.

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

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

DESCRIPTION		UNITS	DP	1 BASE YEAR SBP 2006-07 CG		2 REPORTING YEAR -1 2007-08 CG		3 REPORTING YEAR 2008-09 CG	
<b>A</b>	<b>TOTAL WRITTEN COMPLAINTS</b>								
1	Total written complaints received	nr	0	1,220	B2	2,364	B2	3,727	B4
2	Number dealt with within 10 working days	nr	0	116	B2	2,268	B2	3,636	B4
3	Number dealt with in more than 20 working days	nr	0	30	B2	10	B2	16	B4
<b>B</b>	<b>CATEGORY OF WRITTEN COMPLAINTS</b>								
	<b>(i) Charges and Bills</b>								
4	Total written complaints about charging and billing issues	nr	0	N/C		820		1,577	B2
5	Total written complaints about charging and billing issues escalated to second stage review	nr	0	N/C		N/C		36	B2
	<b>(ii) Water Service</b>								
6	Total written complaints about water service issues	nr	0	N/C		366		822	B2
7	Total written complaints about water service issues escalated to second stage review	nr	0	N/C		N/C		18	B2
	<b>(iii) Sewerage Service</b>								
8	Total written complaints about sewerage service issues	nr	0	N/C		771		1,024	B2
9	Total written complaints about sewerage service issues escalated to second stage review	nr	0	N/C		N/C		7	B2
	<b>(iv) Metering</b>								
10	Total written complaints about metering issues	nr	0	N/C		32		71	B2
11	Total written complaints about metering issues escalated to second stage review	nr	0	N/C		N/C		2	B2
	<b>(v) Other activities</b>								
12	Total written complaints about other service issues	nr	0	N/C		375		233	B2
13	Total written complaints about other service issues	nr	0	N/C		N/C		7	B2

**Table 5a – Customer Complaints Data for Consumer Council for Northern Ireland****DG7 – Response to written complaints**

The following issues may have had an influence of the reported figures:

- In Quarter One, DG7 complaints were coded incorrectly, as a result of this there is a high level of complaints coded as 'Other' and 'Poor Service' in April, May and June. Closure Codes on Rapid were updated on 1 July 2008 and the written complaints started to be correctly coded. This resulted in a significant decrease in complaints coded as 'other' and 'Poor Service' during the year. The list of CMS types is included in the in levels of service methodology.
- Year end quality assurance has identified a number of issues – Complaints are originally coded (original CMS type) based on initial information and then recoded when closed (closed CMS type). It would be expected that closed CMS type would be the most accurate but this appears not to be the case. Therefore categorisation has been based on Original CMS type.
- If an item is received after 2pm it will be logged the following working day with a received date of the following working day (i.e. the logged date is recorded as the received date. This issue is being addressed through contractual negotiations). The number of complaints affected by this issue is approximately 500.
- If a complaint is not resolved by the time the year end report is run (1 May 2009) but a holding response is issued in the subsequent year then it will be reported in the complaints received figure line 1 for the reporting year, but it will not be included the calculation of the % of time taken to resolve figure line 2-5 in the reporting year. Once the item is resolved and closed the system is set up so that any item closed which has a holding response, is recorded as being closed on the date of the holding response, which in this case is the subsequent year. It will therefore be included in this subsequent year's figures for time taken to close.
- If a complaint is not resolved by the time the year end report is run (1 May) but a holding response has been issued in the reporting year, then it will be reported in the complaints received figure (line 1) for the reporting year but it will not be included in the calculation of the % of complaints resolved time figure line 2-5. Once the item has been closed during the subsequent year it will be closed to a date in the reporting year gone so will not be included in the subsequent year's figures.
- The no of complaints which will appear in neither years report for time taken to closed is calculated by assessing the volume of written DG7's

that were received in year 2008/09, remained open on 1 May 2009 but will be closed back to a holding letter date in 2008/09.

- Complaints made directly to contractors about work carried out on our behalf will only be recorded if NIW are notified. If NIW are notified it will be recorded even if it is handled directly by the contractor.
- CEO mail is included in reported figures and recorded on system this year.
- The number of Billing (disputes, errors, methods) complaints, Tariffs/Price Complaints, and Allowance complaints were impacted by unmeasured bills being sent out at the end of May 2008, Sewerage Charges being introduced from the 1 April 2008 and Standing Only charges being introduced at the 1 April 2008.
- The number of flooding complaints received in September was impacted by severe weather conditions. Heavy rainfall resulted in extensive flooding on the afternoon of Saturday 16 August. In Q1 15 flooding complaints were received and in Q2 120 flooding complaints were received, most in August and September.
- The number of 'Interruption to supply' and 'Pressure' written complaints in March were impacted by a burst watermain at Mid-Ards Trunk Main on 21-23 March, affecting properties in the Portaferry area.
- Complaints are considered dealt with if a full response has been issued. If a repeat contact comes in on the same subject this will be handled as a new complaint. A closed complaint would not be reopened.
- No Petitions have been received this year.
- Despatch date for DG7 is the date the response is posted. If for any reason a response is printed and then cannot be posted that day it will be reprinted on the despatch date with a new date on the letter.
- Following a 2 month transitional period responsibility for CCNI complaint handling transferred from NIW to CRC on 4 August 2008. These responses are quality assured by NIW escalation team before issue.
- All CCNI complaints are received via email. These are included in the figures reported.
- The on system classification of the complaint level is not yet robust therefore the no of CCNI stage 2 complaints is reported based on a manual spreadsheet. This is being addressed with the relevant teams

and is expected to be able to be accurately reported off system for AIR10.

- No complaints have been received through NI direct.
- Holding responses will be issued if a full response cannot be issued within 10 days. Holding responses must outline the action being taken, when it will be completed and when a further response will be issued. Practice has been to issue multiple holding responses for a single complaint. We are planning to move away from this practice at some stage during the next year.
- All reported figures are based on actual data. No sampling is used except for quality assurance purposes.
- Issue of not logging emails on day of receipt.
- No of classification errors found in QA check.
- It is hoped that the Quality Development Plan which was not implemented this year due to resource restrictions will be implemented this year.
- During the reporting period some customer contacts would have been received and dealt with by Developer Service Coordination Team, this information was copied to CRC for inclusion in system reporting.
- The new Public Liability Claims process went live 1 April 2008. All complaints aspects of claims are handled and reported as complaints.

#### **Confidence Grade B4**

This is based on the fact that the reports are generated off system, with sound records procedures and documentation, but there are some known shortcomings in terms of quality assurance i.e. the quality development plan not being in place and some manual manipulation of reports.

In addition the accuracy is considered as +/- 18% based on 31 not included in either year, 500 logged on day 1 and 150 discrepancy between rapid DG7 closed report and CorVu complaint report.

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 6A BAD DEBT

OUTSTANDING REVENUE AND BREAKDOWN OF CUSTOMER SERVICES OPERATING EXPENDITURE

DESCRIPTION		UNITS	DP	1 BASE YEAR SBP 2006-07	2 REPORTING YEAR -1 2007-08	3 REPORTING YEAR 2008-09	CG
<b>A REVENUE OUTSTANDING - MEASURED HOUSEHOLDS</b>							
1	Total revenue outstanding < 48 months (measured households)	£m	3			0.000	A2
2	Number of measured households with outstanding revenue < 48 months	nr	0				
3	Revenue outstanding < 3 months (measured households)	£m	3				
4	Number of measured households with outstanding revenue < 3 months	nr	0				
5	Revenue outstanding 3 - 12 months (measured households)	£m	3				
6	Number of measured households with outstanding revenue 3 - 12 months	nr	0				
7	Revenue outstanding 12 - 24 months (measured households)	£m	3				
8	Number of measured households with outstanding revenue 12 - 24 months	nr	0				
9	Revenue outstanding 24 - 36 months (measured households)	£m	3				
10	Number of measured households with outstanding revenue 24 - 36 months	nr	0				
11	Revenue outstanding 36 - 48 months (measured households)	£m	3				
12	Number of measured households with outstanding revenue 36 - 48 months	nr	0				
13	Revenue outstanding > 48 months (measured households)	£m	3				
14	Number of measured households with outstanding revenue > 48 months	nr	0				
<b>B REVENUE OUTSTANDING - UNMEASURED HOUSEHOLDS</b>							
15	Total revenue outstanding < 48 months (unmeasured households)	£m	3			0.000	A2
16	Number of unmeasured households with outstanding revenue < 48 months	nr	0				
17	Revenue outstanding < 3 months (unmeasured households)	£m	3				
18	Number of unmeasured households with outstanding revenue < 3 months	nr	0				
19	Revenue outstanding 3 - 12 months (unmeasured households)	£m	3				
20	Number of unmeasured households with outstanding revenue 3 - 12 months	nr	0				
21	Revenue outstanding 12 - 24 months (unmeasured households)	£m	3				
22	Number unmeasured households with outstanding revenue 12 - 24 months	nr	0				
23	Revenue outstanding 24 - 36 months (unmeasured households)	£m	3				
24	Number of unmeasured households with outstanding revenue 24 - 36 months	nr	0				
25	Revenue outstanding 36 - 48 months (unmeasured households)	£m	3				
26	Number of unmeasured households with outstanding revenue 36 - 48 months	nr	0				
27	Revenue outstanding > 48 months (unmeasured households)	£m	3				
28	Number of unmeasured households with outstanding revenue > 48 months	nr	0				
<b>C REVENUE OUTSTANDING - MEASURED NON HOUSEHOLDS</b>					7.029	7.875	A2
29	Total revenue outstanding < 48 months (measured non households)	£m	3			27160	A2
30	Number of measured non households with outstanding revenue < 48 months	nr	0			5.913	A2
31	Revenue outstanding < 3 months (measured non households)	£m	3			13002	A2
32	Number of measured non households with outstanding revenue < 3 months	nr	0			1.962	A2
33	Revenue outstanding 3 - 12 months (measured non households)	£m	3			14158	A2
34	Number of measured non households with outstanding revenue 3 - 12 months	nr	0				
35	Revenue outstanding 12 - 24 months (measured non households)	£m	3				
36	Number of measured non households with outstanding revenue 12 - 24 months	nr	0			0	A2
37	Revenue outstanding 24 - 36 months (measured non households)	£m	3				
38	Number of measured non households with outstanding revenue 24 - 36 months	nr	0				
39	Revenue outstanding 36 - 48 months (measured non households)	£m	3				
40	Number of measured non households with outstanding revenue 36 - 48 months	nr	0				
41	Revenue outstanding > 48 months (measured non households)	£m	3				
42	Number of measured non households with outstanding revenue > 48 months	nr	0				
<b>D REVENUE OUTSTANDING - UNMEASURED NON HOUSEHOLDS</b>						0.584	A2
43	Total revenue outstanding < 48 months (unmeasured non households)	£m	3			5647	A2
44	Number of unmeasured non households with outstanding revenue < 48 months	nr	0			0.173	A2
45	Revenue outstanding < 3 months (unmeasured non households)	£m	3			198	A2
46	Number of unmeasured non households with outstanding revenue < 3 months	nr	0			0.411	A2
47	Revenue outstanding 3 - 12 months (unmeasured non households)	£m	3			5449	A2
48	Number of unmeasured non households with outstanding revenue 3 - 12 months	nr	0				
49	Revenue outstanding 12 - 24 months (unmeasured non households)	£m	3				
50	Number unmeasured non households with outstanding revenue 12 - 24 months	nr	0				
51	Revenue outstanding 24 - 36 months (unmeasured non households)	£m	3				
52	Number of unmeasured non households with outstanding revenue 24 - 36 months	nr	0				
53	Revenue outstanding 36 - 48 months (unmeasured non households)	£m	3				
54	Number of unmeasured non households with outstanding revenue 36 - 48 months	nr	0				
55	Revenue outstanding > 48 months (unmeasured non households)	£m	3				
56	Number of unmeasured non households with outstanding revenue > 48 months	nr	0				
<b>E REVENUE WRITTEN OFF</b>							
57	Amount of revenue written off from measured households	£m	3	N/C	N/C		
57a	Amount of revenue written off from measured non-households	£m	3	N/C	0.815	0.170	A2
58	Amount of revenue written off from unmeasured households	£m	3	N/C	N/C		
58a	Amount of revenue written off from unmeasured non-households	£m	3	N/C	0.005	0.000	A2
<b>F CUSTOMER SERVICES OPERATING EXPENDITURE</b>							
59	General customer services operating expenditure Total	£m	3	N/C	17.579	16.873	A2
i							
ii							
iii							
iv							
60	Outstanding revenue collection operating expenditure (households)	£m	3	N/C	N/C	N/C	
61	Donations to charitable trusts assisting customers in debt (households)	£m	3	N/C	N/C	N/C	
62	Operating expenditure due to vulnerable household customers	£m	3	N/C	N/C	N/C	
63	Total customer services operating expenditure	£m	3	N/C	17.579	16.873	B2

**Table 6a – Bad Debt****Overview**

The company operates a partnership with an external service provider (Crystal Alliance) for customer contact and billing. Customer Services 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.

In 2007/08 Revenue Outstanding per boxes C & D were classified in one line as Revenue Outstanding – Non Households and was defined as the amount of revenue relating to water and sewerage (trade effluent) charges that had been billed in the year but not collected at 31 March 2008. At 31 March 2008 the closing trade debtor balance was £7.086m (last years figure was incorrectly stated at £7.029m) (measured water £6.692m, trade effluent £0.394m). Income has now been classified as Non Domestic Measured Water and Sewerage (which also includes Trade Effluent income) and Non Domestic Unmeasured Water and Sewerage.

The figures contained within the table are clarified below:

**Box A – Revenue Outstanding – Measured Households**

For the year ended 31 March 2009 NI Water had no actual revenue from households as this is received by way of a subsidy from Department of Regional Development (“DRD”). There was no outstanding revenue from DRD at 31 March 2009.

**Box B – Revenue Outstanding – Unmeasured Households**

As above, income is received by way of a subsidy from DRD and there was no revenue outstanding at 31 March 2009.

**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 2009.

At 31 March 2009 the closing trade debtor balance was £7.875m. Trade Debtors increased this year due to:

- The introduction of new income streams in 2008/09 (These included measured sewerage, unmeasured water and unmeasured sewerage).
- An increased tariff from 2007/08.

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 £4.8m and is made up of the following:

- £2.1 m for debt over 1 year
- £1m for debt 180 – 365 days
- £0.2m for debt 151 – 180 days
- £0.1m for debt 121 – 150 days
- £0.1m for remainder of debt
- £1.3m for Test meters

There is one GL code for measured water and sewerage debtors. At year end the GL debtor balance (gross of credit balances) was approx. £0.726m more than the detailed debtors listing provided by Crystal Alliance. This was due to the following:

- |                            |           |
|----------------------------|-----------|
| • Test Meters to be billed | £1.7m     |
| • Referred Bills           | (£0.09m)  |
| • Pipe Debtors written off | (£0.884m) |

### 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 2008/09 outstanding from measured non households for less than 48 months. Balance as at 31 March 2009 was £7.875m.

**Row 30 – Number of Measured Non-Households with outstanding revenue < 48 months:** The number of measured non households at the end of 2008/09, with revenue outstanding for less than 48 months. Total at 31 March 2009 was 27,160.

**Row 31 – Total Revenue Outstanding < 3 months (Measured Non Households):** The Total amount of revenue at the end of 2008/09 that has been outstanding from measured non households for less than 3 months. Balance as at 31 March 2009 was £5.9m

**Row 32 – Number of Measured Non-Households with outstanding revenue < 3 months:** The number of measured non households at end of 2008/09, with revenue outstanding for less than 3 months. As at 31 March 2009 this totalled 13,002.

**Row 33 – Total Revenue Outstanding 3-12 months (Measured Non Households):** The total amount of revenue at the end of 2008/09 that has been outstanding from measured non households for at least 3 months but less than 12 months. Balance as at 31 March 2009 was £1.962m.

**Row 34 – Number of Measured Non-Households with outstanding revenue 3-12 months:** The number of measured non households at end of



2008/09 with revenue that has been outstanding for at least 3 months but less than 12 months. At 31 March 2009 this totalled 14,158.

**Row 35 – Total Revenue Outstanding 12-24 months (Measured Non Households):** The total amount of revenue at the end of 2008/09 outstanding from measured non households for at least 12 months but less than 24 months.

Once the bad debt provision is applied there are no debtors greater than 12 months. Therefore at 31 March 2009 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 2009.

- This is a new income stream for 2008/09.
- At 31 March 2009 the closing trade debtor balance was £0.58m.

The debtor balance reported figure is made up of unmeasured water and sewerage debtors less bad debt provision. The bad debt provision is £0.323m and is made up of the following:

- £0.317m for debt 180 – 365 days

The remainder of the balance is spread over the remaining categories.

**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 2008/09 outstanding from unmeasured non households for less than 48 months. Balance at 31 March 2009 was £0.584m

**Row 44 – Numbers of Unmeasured Non-Households with outstanding revenue < 48 months:** The number of unmeasured non households at the end of 2008/09 with revenue that has been outstanding for less than 48 months. Total at 31 March 2009 was 5,647.

**Row 45 – Total Revenue Outstanding < 3 months - Unmeasured Non Households:** The total amount of revenue at the end of 2008/09 outstanding from unmeasured non households for less than 3 months. Balance at 31 March 2009 was £0.173m.

**Row 46 – Numbers of Unmeasured Non-Households with outstanding revenue < 3 months:** The number of unmeasured non households at the end of 2008/09 with revenue outstanding for less than 3 months. Total at 31 March 2009 was 198.

**Row 47 – Total Revenue Outstanding 3-12 months - Unmeasured Non Households:** The Total amount of revenue at the end of 2008/09 outstanding from unmeasured non households for at least 3 months but less than 12 months. Balance at 31 March 2009 was £0.411m.

**Row 48 – Numbers of Unmeasured Non-Households with outstanding revenue 3-12 months:** The number of unmeasured non households at end of 2008/09 with revenue outstanding for at least 3 months but less than 12 months. Total at 31 March 2009 was 5,449.

**Row 49 – Total Revenue Outstanding 12-24 months - Unmeasured Non Households:** The total amount of revenue at the end of 2008/09 outstanding from unmeasured non households for at least 12 months but less than 24 months.

There are no debtors greater than 12 months at 31 March 2009 as this was a new income stream in 2008/09. Therefore this row and all remaining rows in box D are zero.

### **Box E – Revenue Written Off**

#### **Bad debt write-offs**

The bad debt write off policy is detailed below. As with all other customer data the company receives monthly figures for bad debt write-offs. The figure for the year is £0.17m (2007/08, £0.815m). The large balance in the prior year was due to an error in data received from Crystal Alliance for the first 6 months of the year. This resulted in the bad debts written off figure being misstated per the General Ledger. There was no overall impact on the financial position of the company, and no errors of this nature occurred in the current year.

Trade effluent write-offs are shown in the table at line 58a as £0.006m (2007/08, £0.005m).

#### **Authorisation of bad debt write-off**

With regard to writing off bad debts the service provider has authorisation to write off only terminated accounts. No write off for ongoing debt will be made unless expressly authorised by NI Water. Authorisation approval levels are as follows:

<b>Value £</b>	<b>Authorised Person</b>
Up to £5,000	Collection & Debt Operational Manager (Crystal Alliance) and NI Water Revenue Manager
£5,000 - £49,999	Head Of Operations (Crystal Alliance) and NI Water Revenue Manager
> £50,000	Operations Director (Crystal Alliance) and NI Water Director Customer Services

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 Crystal Alliance use to guide their actions and decisions. The strategy states that write offs will only be made on terminated accounts where the debt has been finalised. As well as this, additional year-end write offs were made following a review of the collectability and commercial viability of future collection methods relating to the older portion of debts.

### 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 includes trade effluent. The total for 2008/09 was £0.17 (2007/08, £0.815m).

**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 2008/09 was nil. Last year Trade Effluent were incorrectly classified as unmeasured 2007/08, £0.005m).

### Bad Debt provisioning

The methodology for calculating the bad debt provision was revised for the year end 2007/08. An analysis was carried out on historical collection patterns for older debt and based on this information the % applied to the aged groupings was refined. The company view the revised methodology as providing a better estimate of the provisioning required. This has been continued in the current year. However an amendment was made to increase the % provided for debtors > 365 days from 90% to 100%. This was to give the company added cover on aged debt carried over from 31 March 2007.

NI Water's bad debt provision is calculated as follows:

	Age of debt	Provision
<b>General provision</b>		
Measured Water and Trade Effluent	> 365 days	100%
	181-365 days	65%
	151-180 days	35%
	121-150 days	20%
	0-120 days	2%
Repayment Plan	>151 days	25%
Unmeasured Water	> 365 days	100%

	181-365 days	45%
	151-180 days	35%
	121-150 days	20%
	0-120 days	2%
Repayment Plan	>151 days	25%

**Specific provision**

Uncollectables	All	100%
----------------	-----	------

The following is a summary of the bad debt provision at 31 March 2009 and 31 March 2008:

	2009	2008
	£m	£m
Measured water & sewerage	4.667	2.176
Unmeasured water & sewerage	0.323	Nil
Trade effluent	0.165	0.033
<b>Total</b>	<b>5.155</b>	<b>2.209</b>

The significant increase in measured water is mainly due to test meters.

**Box F – Customer Services Operating Expenditure**

The allocation and apportionment of costs to Customer Services is in line with the methodology adopted for Tables 21 and 22 – please refer to commentary on these tables.

**Row 59 – General customer services operating expenditure:** Total CS operating expenditure is made up of Meter reading & customer queries, Meter repair and maintenance, CS function activity (wages and salaries, outsourced billing and contractor costs, materials, other direct costs and general & support expenditure) and other miscellaneous customer services operating expenditure. This agrees to the Customer Services lines in Tables 21 and 22.

**Row 60 – Outstanding revenue collection operating expenditure:** 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.

**Row 61 – Donations to charitable trusts assisting customers in debt:** There were no donations to charitable trusts assisting customers in debt in the year.

**Row 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 have no 'vulnerable customers'.

**Row 63 – Total customer services operating expenditure:** This agrees to the total of table 21, line 13 and table 22, line 12.

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 7 NON FINANCIAL MEASURES WATER PROPERTIES & POPULATION

DESCRIPTION				1 BASE YEAR SBP 2006-07	2 REPORTING YEAR -1 2007-08	3 REPORTING YEAR 2008-09	4 CURRENT YEAR 2009-10
UNITS	DP						
<b>A PROPERTIES</b>							
1	Household properties connected during the year	000	3	6.118	7.595	8.358	B3
2	Non-household properties connected during the year	000	3	5.859	1.482	0.723	B3
<b>B BILLING</b>							
3	Households billed unmeasured water	000	3	650.15	634.990	646.099	C3
4	Households billed measured water (external meter)	000	3	30.89	30.398	0.000	C3
5	Households billed measured water (not external meter)	000	3	0	0	0.000	C3
6	Households billed water	000	3	681.04	665.388	646.099	C3
7	Household properties (water supply area)	000	3	718.39	712.932	686.036	C3
8	Non-households billed unmeasured water	000	3	48.69	31.341	30.519	C3
9	Non-households billed measured water	000	3	50.42	42.823	78.416	C3
10	Non-households billed water	000	3	99.11	74.164	108.935	C3
11	Non-household properties (water supply area)	000	3	107.21	83.516	116.249	C3
12	Void properties	000	3	45.455	56.896	49.698	C3
<b>C POPULATION</b>							
13	Population - households billed unmeasured water	000	2	1644.36	1637.01	1672.51	B3
14	Population - households billed measured water	000	2	88.489	85.06	0.00	A1
15	Population - non-households billed unmeasured water	000	2	0	8.10	6.67	B3
16	Population - non-households billed measured water	000	2	0	18.36	95.93	B3
17	Population - total	000	2	1732.849	1748.53	1775.11	B2

### Table 7 – Water Properties and Population

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:

- **Properties (Lines 1 & 2)**  
Reports properties connected during the year.
- **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.
- **Population (Lines 13-16)**  
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 NIAUR guidance, lines 3, 8, 13, 14, 15 and 16 are now calculated lines, being the sum of their equivalent lines submitted in table 10b (i).

The information in this table is used for the water balance calculation and also in tariff and 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 has been deferred.

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).

In April 2008, Northern Ireland Water extended the water charging 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.

#### Classification of Farms

For AIR08, farms had been classified and reported as 'billed' households on the principle of their status and allocation of 'domestic allowance'. Under NIAUR guidelines, farms should be classified as billed non-households and NIW have rectified this for AIR09.

#### Data Sources and data validation

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 initiatives such as the universal non-domestic metering programme or actions co-ordinated by the data integrity project (to confirm and cleanse data on voids, site meters and duplicates).

Even though NIW has been installing meters on all new household connections since April 2008, as explained above, customers are not being charged on a measured basis, so the property is still being reported as unmeasured. Depending on the basis for charging when domestic billing is introduced, these customers can be activated as measured household if required. The 165 properties classified as billed measured water are under investigation to ensure correct classification

The new connection application form was updated during the year to allow the customer classification to be determined at the start of the process. However, approximately 10% of new connections had been classified as “unknown” - these have been split between household and non-household on a pro-rata basis i.e. 92% of unknown connections were assigned to households and 8% to non-households.

Data on property counts and classifications are reported monthly and reconciled with other data collection activities, such as the metering programme.

Data on population is obtained from Northern Ireland Statistics and Research Agency (NISRA), adjusted for the summer months based on information received for Northern Ireland.

### **NIW Non-Household Metering Programme**

During the AIR09 period, NIW continued the application of its universal non-domestic metering policy, surveying all unmeasured non household properties to determine if a meter could be installed on the premises.

This work has resulted in a significant decrease in the number of unmeasured non-household properties during the year, as shown in the table below.

<b>Non-Household</b>	<b>01 April 2008</b>			<b>At 01 April 2009</b>		
	<b>Gross</b>	<b>Occupied</b>	<b>Void</b>	<b>Gross</b>	<b>Occupied</b>	<b>Void</b>
Unmeasured	35347	27190	8157	25601	17423	8178

These reductions were reflected as increases in measured non-households and site metered properties.

### **Voids**

These surveys also confirmed if the property was occupied or void, as NIW were concerned with the apparently high % of voids in this category – reported as 32% at the start of the year. At time of reporting on AIR09, the void data had not been uploaded into the customer billing database. Records



from surveys indicate that the total number of void 'non-household unmeasured properties was 4428 and not 8178 as reported. NIW will seek guidance from the Reporter on how best to report these figures.

### Test Meters

NIW has a significant number of meters classified as 'test' from its legacy databases. Of the 11,500 in total, 7024 have been investigated and 1993 test meters have been identified (through the Data Integrity Project) that should be attributed to the non-domestic measured category and billed retrospectively to April 2007. These have been subtracted from the test meter account but have not yet been updated on Rapid. For the purposes of the Annual Information Reporting, these have been subtracted manually and added to the non-households billed measured water category.

### Site Metered Properties

As part of the ongoing data checks, NIW has been investigating site meters (multiple properties being charged through a single meter, such as business parks and industrial estates). To ensure that these meters are not double counted, they are no longer included in Table 7 property counts (although NIW still retain this information for customer record and charging purposes).

### Lines 13 – 17 Population

The population data used by NIW has been derived from 2006 based Population Projections obtained from NISRA (Northern Ireland Statistics & Research Agency) website.

([www.nisra.gov.uk/archive/demography/population/projections/ni/wni06cc.xls](http://www.nisra.gov.uk/archive/demography/population/projections/ni/wni06cc.xls)).

See summary in Table 1 below:

Population projections by the Office for National Statistics, Northern Ireland		
PERSONS, thousands	2006-based	Principal projection
Components of change (mid-year to mid-year), total fertility rate and expectation of life at birth based on the mortality rates for the year		
	2007-2008	2008-2009
Population at start	1760.753	1773.619
Births	23.967	24.26
Deaths	14.007	13.958
Natural change	9.96	10.302
Net migration	2.906	3
Total change	12.866	13.302
Population at end	1773.619	1786.921
Population @ 30th June 2008 = 1,773,619      Population @ 30th June 2009 = 1,786,921		
Population @ 30th Sept 2008 = 1,773,619 + (1,786,921 - 1,773,619) x (91/365)		
Population @ 30th Sept 2008 = 1,776,935		

NISRA Population Projections figures are based on births, deaths and migration information gathered by NISRA between 1 July and 30 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.

### **Table 1 - NISRA Population Projections (2006 based)**

The population for unconnected properties has been calculated from NIHE Housing Condition Survey 2006 which states a value for unconnected properties of 6,270 and this is multiplied by an occupancy rate of 0.291 to provide a population of 1,824. The occupancy rate of 0.291 was derived from analysis of the number of occupants in the unconnected properties (NIHE), the reason for the occupancy rate being so low was that the majority of unconnected properties were unoccupied. The calculation is shown below:

#### **Calculation for Unconnected Occupancy Rate**

6,270 unfit due to lack of adequate water supply:

0 occupants 5,440 (86.8%)

1 occupant 437 (7%)

2 occupants 242 (3.9%)

Other 151 (2.4%)

This means that even assuming that the average number of occupants per household in the others category is 6 there are only 0.3 people per property where there is a lack of adequate water supply.

$$(0 \times 5440 + 1 \times 437 + 2 \times 242 + 6 \times 151)/6270 = 0.291$$

The total supplied population is therefore calculated as 1,775,111.

Non-household population has been calculated by adding the population in communal residence (Table 2)

([www.nisranew.nisra.gov.uk/census/pdf/standard\\_tables\\_section1.pdf](http://www.nisranew.nisra.gov.uk/census/pdf/standard_tables_section1.pdf)) to the population of farms. The number of farms is provided by the Customer Services Directorate and the occupancy rate is obtained from NISRA ([www.nisra.gov.uk/archive/demography/population/household/lgdavghsize.xls](http://www.nisra.gov.uk/archive/demography/population/household/lgdavghsize.xls)). The communal population is therefore 26,455 and the population of farms is  $30,459 \times 2.5 = 76,148$ . Therefore non-household population is 102,603.

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 1,672,508 (Line 13)

In other report years Line 14 was populated with the population of farms, however on the recommendation of the Reporter, farms now come under non-household measured properties.

The population for non-household measured/unmeasured was derived by the % split between measured/unmeasured non-household properties (CSD) against the NHH population (Communal population + Farm population). The

total farm population (76,148) has been classed as measured. The communal population (26,455) is split based on 26,641 unmeasured customers (25.2%) and 79,000 measured customers (74.8%). This therefore provides a population for measured NHH of 95,931 (Line 16) and an unmeasured NHH population of 6,672 (Line 15).

**Table: Age By Sex And Whether Living In A Household Or Communal Establishment**

**Table population: All persons**

	All persons			Males			Females		
	Total	Household residents	Communal establishment residents	Total	Household residents	Communal establishment residents	Total	Household residents	Communal establishment residents
<b>All persons</b>	<b>1685268</b>	<b>1658813</b>	<b>26455</b>	<b>821450</b>	<b>809276</b>	<b>12174</b>	<b>863818</b>	<b>849537</b>	<b>14281</b>

**Notes:**

(1) Communal establishment residents includes staff and their families, other residents and persons sleeping rough.

**Table 2 – 2001 Northern Ireland Census Data**

Line 17 is calculated by summing Line 13 + Line 14 + Line 15 + Line 16. This gives a figure of 1,775,111 which is the total connected population.

**Confidence Grades**

Confidence grades have been assigned to lines 13–17. The base population data is sourced from the NISRA (Northern Ireland Statistical Research Agency) website. The methodology for the development of the Northern Ireland resident population is as per the following weblink: [www.nisra.gov.uk/archive/demography/publications/mye\\_methodology.pdf](http://www.nisra.gov.uk/archive/demography/publications/mye_methodology.pdf). As this is not NI Water data it is very difficult to assess the confidence grades attributable to such data. We understand that NISRA are likely to have sound records, procedures, investigations and analysis all documented. However the last published population projections are 2006 based and there is a degree of extrapolation. Hence the assignment of reliability band B.

The resident population figure is proportioned across lines 13–16 based on data derived from NI Water's non-household measured and unmeasured property numbers, the estimated occupancy of unconnected properties, the estimated farm population and the population in communal establishments. It is recognised that there is ongoing work to improve the confidence and accuracy of the non-household property numbers. An accuracy band 3 has been assigned for lines 13, 15 and 16 and accuracy band 2 to the overall population total in line 17. As the figure for line 14 is zero it has been assigned an A1 confidence grade.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 8 NON FINANCIAL MEASURES  
WATER METERING**

DESCRIPTION				1 BASE YEAR SBP 2006-07	2 REPORTING YEAR -1 2007-08	3 REPORTING YEAR 2008-09	CG
UNITS	DP						
<b>A HOUSEHOLD METER INSTALLATION</b>							
1	Selective meters - installed	nr	0	0	0	0	A1
2	Meter optants installed	nr	0	0	0	0	A1
3	Meters installed - external meter with existing boundary box	nr	0	0	0	11401	C3
4	Meters installed - external meter without boundary box	nr	0	0	3723	0	A1
5	Meters installed - internal meter	nr	0	0	0	0	A1
6	No. of meter installation requests outstanding for greater than three months	nr	0		0	0	A1
<b>B WATER DEMAND AT RECENTLY METERED PROPERTIES</b>							
7	Average water billed - selective metered properties	l/prop/d	2	N/C	N/C	N/C	N/C
8	Average water billed - optionally metered properties	l/prop/d	2	N/C	N/C	N/C	N/C

**Table 8 - Water Metering****Progress installing meters**

NIW installs meters on all new connections as per the obligation associated with Article 81 of The Water and Sewerage Services (Northern Ireland) Order 2006; we do not however install meters in existing domestic premises given the deferral of charging by the Northern Ireland Assembly. NIW has also been proactively increasing its meter penetration across significant numbers of non domestic premises where technically possible and within budget restrictions during the reporting year. Non-domestic metering has halted in 2009/10 due to budget constraints although a bid for additional funding is being developed.

**The methods by which NI Water has selectively metered its customers.**

NIW is not metering Domestic Optants (those over 60) given the deferral in charging by the Assembly in March in 2007. Also to note given the deferral, NIW is not using its power to meter domestic properties as and when customers move house. The Company has metered all the large volume non-domestic customers in Northern Ireland all of which have key account managers.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 9 NON FINANCIAL MEASURES  
WATER QUALITY**

DESCRIPTION			UNITS	DP	1		2		3	
					BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
					2006-07	CG	2007-08	CG	2008-09	CG
<b>A</b>	<b>WATER TREATMENT AND DISTRIBUTION</b>									
1	Distribution input affected by Article 31 undertakings (or ADs)		MI/d	3	330	A2	236.311	A2	247.256	A2
2	Distribution input affected by new Article 31 (or ADs) since start of report year		MI/d	3	5	A2	9.862	A2	0.000	A1
3	Percentage distribution input not affected by Article 31s (or ADs)		%	3	58.129	A2	61.924	A2	60.633	A2
4	Percentage properties in WSZs affected by Article 31s in distribution		%	3	43.662	A2	38.020	A2	37.445	A2
5	Percentage properties in WSZs affected by new Article 31s in distribution		%	3	0.45	A2	1.402	A2	0.000	A1
<b>B</b>	<b>DISTRIBUTION INPUT COVERED BY WORK PROGRAMMES AGREED WITH DWI</b>									
6	Raw water deterioration		MI/d	3	50	A2	42.457	A2	11.831	A2
7	Conditioning water supplies to reduce plumbosolvency		MI/d	3	703	A2	606.817	A2	614.605	A2
8	Reducing the risk from Cryptosporidium		MI/d	3	805	A2	617.772	A2	0.000	A1
9	Other		MI/d	3	0	A2	0.000	A2	0.000	A1

**Table 9 – Water Quality****Background – Year on Year**

The quality of water supplied by NI Water to customers has improved between 2007 and 2008:

- Mean Zonal Compliance has increased from 99.30% in 2007 to 99.49% in 2008 (NIW assessment waiting for confirmation from DWI).
- The increase in water quality is largely due to a decrease in exceedances of the Total Trihalomethane parameter as the new PPP sites came into service.
- Operational Performance Index (based on turbidity, iron and manganese) has improved from 98.98% in 2007 to 99.22% in 2008 (NIW assessment on Turbidity, Iron and Manganese).
- The overall percentage compliance at customer tap or authorised supply point (not including authorised departures) increased from 99.33% in 2007 to 99.47% in 2008 – see second point above.
- The percentage compliance measured at Water Treatment Works (WTWs) increased from 99.92% in 2007 to 99.95% in 2008.
- The percentage compliance measured at Service Reservoir increased from 99.86% in 2007 to 99.93% in 2008.
- Of 110,961 measurements (directive standards, national standards and additional monitoring requirements) made at customer tap, WTWs, SRs and Authorised Supply Points, 99.69% met the standards.

**Line 1 – Distribution input affected by Article 31 undertakings (or ADS)**

The data used for the estimation of average flow at WTWs in Table 9 lines 1-3 was supplied from operations leakage metering. This data was estimated prior to 2005 to allow the scheduling of audit samples to meet regulatory requirements during the year. This scheduling was audited by DWI. For the purposes of scheduling from 2007, an estimate of expected daily throughput by works was received from operational scientists in order to populate the LIMS system for frequency of sampling. 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.

**Article 31 Undertakings or Authorised Departures:**

- Article 31 Undertakings – NI Water did not use Article 31 Undertakings during 2008.
- Authorised Departures – NI Water had a number of authorised departures in place during 2008 (details below). The AD end date is the date authorised by DWI, being one year after the completion of the programme of work to allow commissioning. The ADs listed are at

zonal level, and are derived from the original supplying WTW authorisations apart from 2 pesticides AD which are applied at the authorised supply point. Further ADs may be applied for in the future if required by DWI.

### 2008 ADs by Water Supply Zone / Authorised Supply Point

Site Code	Zone/Supply Point Name	DWI Ref	Parameter	AD Start	AD End
W2501	Altmore	P054	MCPA	22-Nov-07	24-Dec-09
W3505	Lough Cowey	P053	MCP(P(Mecoprop)	01-Jan-07	24-Dec-09
Z104	Ballymena Borough	D011	Total Trihalomethanes	01-Jan-07	15-Oct-09
Z109	Dunore North	D011	Total Trihalomethanes	01-Jan-07	15-Oct-09
Z112	Mormeal	D011	Total Trihalomethanes	01-Jan-07	16-Jul-09
Z113	Moyola	D011	Total Trihalomethanes	01-Jan-07	16-Jul-09
Z116	Unagh	D011	Total Trihalomethanes	01-Jan-07	16-Jul-09
Z201	Altmore	D011	Total Trihalomethanes	01-Jan-07	24-Dec-09
Z202	Altmore-Gortlenaghan	D011	Total Trihalomethanes	01-Jan-07	24-Dec-09
Z209	Castor Bay-Shanmoy	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z219	Seagahan	D011	Total Trihalomethanes	01-Jan-07	24-Dec-09
Z221	Banbridge-Babylon Hill	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z222	Ballydougan-Ballyhannon	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z223	Lurgan-Magheraliskmisk	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z225	Newry-Ballintemple	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z227	Castor Bay-Richill	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z309	Dunmurry	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z310	Dunore East	D011	Total Trihalomethanes	01-Jan-07	15-Oct-09
Z311	Hollywood	D011	Total Trihalomethanes	01-Jan-07	31-Oct-08
Z314	Lisburn North	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z316	Lough Cowey	D011	Total Trihalomethanes	01-Jan-07	24-Dec-09
Z318	Oldpark	D011	Total Trihalomethanes	01-Jan-07	15-Oct-09
Z320	Stoneyford	D011	Total Trihalomethanes	01-Jan-07	24-Sep-09
Z321	Woodvale	D011	Total Trihalomethanes	01-Jan-07	15-Oct-09
Z410	Lough Bradan	D011	Total Trihalomethanes	07-Aug-07	06-Aug-10

- The individual associated WTWs were assessed against both being in service at the end of the year and also the expiry of their Authorised Departure. This led to 7 sites being assessed with 2 sites being excluded from the calculation as highlighted here.

### 2008 WTWs affected by Authorised Departures

Site Code	Water Treatment Works	MI/d	Out of service	AD Expiry	Included	Volume MI/d
W1301	Moyola	14.58		16/07/2009	Yes	14.58
W2308	Castor Bay	83.11		24/09/2009	Yes	83.11
W2501	Altmore	3.90		24/12/2009	Yes	3.90
W2514	Seagahan	10.99		24/12/2009	Yes	10.99
W3301	Dunore Point	111.68		15/10/2009	Yes	111.68
W3315	Forked Bridge	15.07		15/10/2009	Yes	15.07
W4513	Lough Bradan	7.94		06/08/2010	Yes	7.94
<b>Total affected DI</b>						<b>247.26</b>



**2008 WTWs removed from calculations**

Site Code	Water Treatment Works	MI/d	Out of service	AD Expiry	Reason for Exclusion
W3320	Creighton's Green	0.56		31/10/2008	AD Expired
W3505	Lough Cowey	2.46	06/10/2008	24/12/2009	Out of service

**Line 2 – Distribution input affected by new Article 31 undertakings (or ADs) since start of report year**

During 2008 there were no new Article 31 undertakings or Authorised Departures in place for NI Water. The entry in Line 2 is therefore 0.

**Line 3 – Percentage distribution input not affected by Article 31s (or ADs)**

The calculation for this line was taken from the DI affected by ADs from the “2008 WTWs affected by ADs” table above measured against the overall average DI as assessed by leakage in the Supply DI Summary sheet referred at line 1.

**Line 4 – Percentage properties in WSZs affected by Article 31s in distribution**

The data used for the estimation of percentage properties in Table 9 lines 4-5 was derived from the property count in the zone in late 2007 by NI Water's Asset Information Section. This was obtained from a GIS property count on the Pointer data set (licensed from OSNI).

Although the line states that it refers solely to Article 31 undertakings, this has been calculated as including WSZs affected by Authorised Departures in accordance with the guidance. The zones were assessed by the expiry date of the relevant Authorised Departure as below.

**2008 ADS by Water Supply Zone showing population affected**

Site Code	Site Name	Parameter	AD Start	AD End	Supplying WTW in service	Properties Included
Z104	Ballymena Borough	Total Trihalomethanes	01/01/2007	15/10/2009	Yes	15706
Z109	Dunore North	Total Trihalomethanes	01/01/2007	15/10/2009	Yes	26963
Z112	Mormeal	Total Trihalomethanes	01/01/2007	16/07/2009	Yes	4738
Z113	Moyola	Total Trihalomethanes	01/01/2007	16/07/2009	Yes	14137
Z116	Unagh	Total Trihalomethanes	01/01/2007	16/07/2009	Yes	5918
Z201	Altmore	Total Trihalomethanes	01/01/2007	24/12/2009	Yes	836
Z202	Altmore - Gortlenaghan	Total Trihalomethanes	01/01/2007	24/12/2009	Yes	8175
Z209	Castor Bay - Shanmoy	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	9183
Z219	Seagahan	Total Trihalomethanes	01/01/2007	24/12/2009	Yes	15279
Z221	Banbridge - Babylon Hill	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	9911
Z222	Ballydougan - Ballyhannon	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	32161
Z223	Lurgan - Magheraliskmisk	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	21834
Z225	Newry - Ballintemple	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	9267
Z227	Castor Bay - Richill	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	7110
Z309	Dunmurry	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	23619
Z310	Dunore East	Total Trihalomethanes	01/01/2007	15/10/2009	Yes	30322
Z311	Hollywood	Total Trihalomethanes	01/01/2007	31/10/2008	Yes	
Z314	Lisburn North	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	6557
Z316	Lough Cowey	Total Trihalomethanes	01/01/2007	06/10/2008	No	
Z318	Oldpark	Total Trihalomethanes	01/01/2007	15/10/2009	Yes	28860
Z320	Stoneyford	Total Trihalomethanes	01/01/2007	24/09/2009	Yes	3168
Z321	Woodvale	Total Trihalomethanes	01/01/2007	15/10/2009	Yes	34331
Z410	Lough Bradan	Total Trihalomethanes	07/08/2007	06/08/2010	Yes	8747
					<b>Total</b>	<b>316822</b>

**All properties 846101**

**Percentage affected 37.44%**  
**Percentage not affected 62.56%**

**Line 5 – Percentage properties in WSZs affected by new Article 31s in distribution**

As referred in line 2 above, during 2008 there were no new Article 31 undertakings or Authorised Departures put in place for NI Water. The entry in Line 5 is therefore 0.

**Line 6 – Raw water deterioration**

Following MCPA exceedances at Altmore WTW and MCPP exceedances at Lough Bradan WTW, legal instruments in the form of Authorised Departures are in place at these sites under the agreement of DWI.

Site Code	Site Name	MI/d Raw Water Deterioration	Comment
W2501	Altmore	3.90	PAC for Pesticide removal
W4513	Lough Bradan	7.94	Upgrade for pesticide removal
<b>Total</b>		<b>11.84</b>	

Following MCPA exceedances, Dorisland and Camlough WTWs have had PAC installed and have increased monitoring of this parameter but no Authorised Departures in place. DWI are content with this methodology and the sites have not been included in the calculations.

Site Code	Site Name	MI/d Raw Water	Comment
		Deterioration	
W2706	Camlough	4.48	PAC for Pesticide removal
W3317	Dorisland	29.55	PAC for Pesticide removal
	<b>Total</b>	<b>34.03</b>	

### 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 was reviewed with DWI during 2007, with the dose rates for many of the works that supply non lead resistant zones being reduced for 2008.

Site Code	Site Name	MI/d Dosed Water
W1301	Moyola	14.58
W1302	Lough Fea	11.87
W1303	Dungonnell	9.05
W1307	Buckna Borehole	1.57
W1310	Glarryford Borehole	4.02
W1501	Killylane	11.51
W1701	Ballinrees	19.61
W1702	Altnahinch	8.06
W1704	Alcrossagh Borehole	2.63
W2308	Castor Bay	83.11
W2501	Altmore	3.90
W2509	Clay Lake	3.92
W2514	Seagahan	10.99
W2706	Camlough	4.48
W2801	Fofanny (New Works)	39.38
W2802	Carron Hill (New works)	6.26
W3301	Dunore Point	111.68
W3315	Forked Bridge Works	15.07
W3317	Dorisland	29.55
W3320	Creighton's Green	0.56
W3801	Drumroad WTW	118.64
W4301	Carmony	20.13
W4306	Caugh Hill	22.25
W4501	Derg	12.40
W4513	Lough Bradan	7.94
W4523	Lough Macrory	11.64
W4541	Glenhordial	4.27
W4701	Killyhevlin	23.91
W4722	Belleek	1.66
	<b>Total</b>	<b>614.60</b>

**Line 8 – Reducing the risk from *Cryptosporidium***

DWI approved *Cryptosporidium* risk assessments were carried out on all sources and showed effective barriers existed at all treatment works. For previous Annual Information Returns, this was the basis of calculating the Distribution Input for this line. 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.

**Line 9 – Other**

There were no other Distribution Inputs affected by other legal requirements not mentioned in lines 6-8. The return for this line is therefore 0.

**Confidence Grades**

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

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 10 NON FINANCIAL MEASURES  
WATER DELIVERED (NIW Only)**

DESCRIPTION		UNITS	DP	1		2		3		4
				BASE YEAR SBP 2006-07		REPORTING YEAR -1 2007-08		REPORTING YEAR 2008-09		CURRENT YEAR 2009-10
				CG		CG		CG		
<b>A WATER DELIVERED - VOLUMES</b>										
1	Billed measured household	MI/d	2	14.52		14.76		0.00		0.00
2	Billed measured non-household	MI/d	2	129.32		124.68		134.05		
3	Billed measured	MI/d	2	143.84		139.44		134.05		
4	Billed unmeasured household	MI/d	2	296.15		306.61		311.07		N/C
5	Billed unmeasured non-household	MI/d	2	41.73		24.48		20.80		
6	Billed unmeasured	MI/d	2	337.88		331.09		331.87		
<b>B WATER DELIVERED - COMPONENTS</b>										
7	Estimated water delivered per unmeasured non-household	l/prop/d	2	840.98	B4	803.30	B4	784.61	B4	
7a	Estimated water delivered per unmeasured household	l/prop/d	2	434.10		443.29	B4	481.59	B3	
8	Per capita consumption (unmeas'd h'hold - excl s/pipe leakage)	l/h/d	2	145.07	B3	145.18	B3	158.97	B3	
9	Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2	158.88		158.34		0.00		
10	Underground supply pipe leakage (unmeas'd households)	l/prop/d	2	67.19		63.58		65.97		
11	Underground supply pipe leakage (ext. metered households)	l/prop/d	2	0		0.00		32.98		
12	Underground supply pipe leakage (other metered h'holds)	l/prop/d	2	0		0.00		0.00		
13	Underground supply pipe leakage (void properties)	l/prop/d	2	67.19		63.58		65.97		
14	Meter under-registration (measured households)	MI/d	2	0.45		0.53		0.00		
15	Meter under-registration (measured non-households)	MI/d	2	5.78		5.53		9.84		
16	Distribution system operational use	MI/d	2	9.12		4.97		4.72		
17	Water taken legally unbilled	MI/d	2	8.76		25.09		29.37		
18	Water taken illegally unbilled	MI/d	2	0.97		2.48		1.21		
19	Water taken unbilled	MI/d	2	9.74		27.57		30.58		
20	Water delivered (potable)	MI/d	2	305.89		498.10		496.50		
21	Water delivered (non-potable)	MI/d	2	0		0.00		0.00		
22	Water delivered (non-standard rates: potable)	MI/d	2	491.46		4.20		13.90		
23	Water delivered (non-standard rates: non-potable)	MI/d	2	0		0.00		0.00		
24	Distribution losses	MI/d	2	118.74		111.38		131.49		
25	Total leakage	MI/d	2	168.75	B3	156.52	B3	180.93	B4	
26	Distribution input	MI/d	2	619.32	B2	614.45	B2	632.71	B2	
27	Bulk supply imports	MI/d	2	0		0.00		0.00		
28	Bulk supply exports	MI/d	2	0		0.22		0.34		
29	Water treated at own works to own customers	MI/d	2	619.32		614.45		632.37		
30	Overall water balance	cg			B2		B2		B3	
<b>C SECURITY OF SUPPLY</b>										
31	Security of supply index - company's planned levels of service	nr	0	N/C		-26		42		
32	Security of supply index - reference levels of service	nr	0	N/C		-26		42		

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 10 NON FINANCIAL MEASURES  
WATER DELIVERED (PPP only)**

DESCRIPTION			1		2		3		4	
			BASE YEAR SBP 2006-07		REPORTING YEAR -1 2007-08		REPORTING YEAR 2008-09		CURRENT YEAR 2009-10	
			CG		CG		CG			
<b>A WATER DELIVERED - VOLUMES</b>										
1	Billed measured household	MI/d	2							
2	Billed measured non-household	MI/d	2							
3	Billed measured	MI/d	2							
4	Billed unmeasured household	MI/d	2							
5	Billed unmeasured non-household	MI/d	2							
6	Billed unmeasured	MI/d	2							
<b>B WATER DELIVERED - COMPONENTS</b>										
7	Estimated water delivered per unmeasured non-household	l/prop/d	2							
7a	Estimated water delivered per unmeasured household	l/prop/d	2							
8	Per capita consumption (unmeas'd h'hold - excl s/pipe leakage)	l/h/d	2							
9	Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2							
10	Underground supply pipe leakage (unmeas'd households)	l/prop/d	2							
11	Underground supply pipe leakage (ext. metered households)	l/prop/d	2							
12	Underground supply pipe leakage (other metered h'holds)	l/prop/d	2							
13	Underground supply pipe leakage (void properties)	l/prop/d	2							
14	Meter under-registration (measured households)	MI/d	2							
15	Meter under-registration (measured non-households)	MI/d	2							
16	Distribution system operational use	MI/d	2							
17	Water taken legally unbilled	MI/d	2							
18	Water taken illegally unbilled	MI/d	2							
19	Water taken unbilled	MI/d	2							
20	Water delivered (potable)	MI/d	2							
21	Water delivered (non-potable)	MI/d	2							
22	Water delivered (non-standard rates: potable)	MI/d	2							
23	Water delivered (non-standard rates: non-potable)	MI/d	2							
24	Distribution losses	MI/d	2							
25	Total leakage	MI/d	2							
26	Distribution input	MI/d	2					0.00		
27	Bulk supply imports	MI/d	2							
28	Bulk supply exports	MI/d	2							
29	Water treated at own works to own customers	MI/d	2					0.00		
30	Overall water balance	cg								
<b>C SECURITY OF SUPPLY</b>										
31	Security of supply index - company's planned levels of service	nr	0							
32	Security of supply index - reference levels of service	nr	0							

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 10 NON FINANCIAL MEASURES  
WATER DELIVERED (Total)**

DESCRIPTION		UNITS	DP	1		2		3		4	
				BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR		CURRENT YEAR	
				2006-07	CG	2007-08	CG	2008-09	CG	2009-10	
<b>A WATER DELIVERED - VOLUMES</b>											
1	Billed measured household	MI/d	2	14.52		14.76		0.00		0.00	
2	Billed measured non-household	MI/d	2	129.32		124.68		134.05			
3	Billed measured	MI/d	2	143.84		139.44		134.05			
4	Billed unmeasured household	MI/d	2	296.15		306.61		311.07		N/C	
5	Billed unmeasured non-household	MI/d	2	41.73		24.48		20.80			
6	Billed unmeasured	MI/d	2	337.88		331.09		331.87			
<b>B WATER DELIVERED - COMPONENTS</b>											
7	Estimated water delivered per unmeasured non-household	l/prop/d	2	840.98	B4	803.30	B4	784.61	B4		
7a	Estimated water delivered per unmeasured household	l/prop/d	2	434.10		443.29	B4	481.59	B3		
8	Per capita consumption (unmeas'd h'hold - excl s/pipe leakage)	l/h/d	2	145.07	B3	145.18	B3	158.97	B3		
9	Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2	158.88		158.34		0.00			
10	Underground supply pipe leakage (unmeas'd households)	l/prop/d	2	67.19		63.58		65.97			
11	Underground supply pipe leakage (ext. metered households)	l/prop/d	2	0		0.00		32.98			
12	Underground supply pipe leakage (other metered h'holds)	l/prop/d	2	0		0.00		0.00			
13	Underground supply pipe leakage (void properties)	l/prop/d	2	67.19		63.58		65.97			
14	Meter under-registration (measured households)	MI/d	2	0.45		0.53		0.00			
15	Meter under-registration (measured non-households)	MI/d	2	5.78		5.53		9.84			
16	Distribution system operational use	MI/d	2	9.12		4.97		4.72			
17	Water taken legally unbilled	MI/d	2	8.76		25.09		29.37			
18	Water taken illegally unbilled	MI/d	2	0.97		2.48		1.21			
19	Water taken unbilled	MI/d	2	9.74		27.57		30.58			
20	Water delivered (potable)	MI/d	2	305.89		498.10		496.50			
21	Water delivered (non-potable)	MI/d	2	0		0.00		0.00			
22	Water delivered (non-standard rates: potable)	MI/d	2	491.46		4.20		13.90			
23	Water delivered (non-standard rates: non-potable)	MI/d	2	0		0.00		0.00			
24	Distribution losses	MI/d	2	118.74		111.38		131.49			
25	Total leakage	MI/d	2	168.75	B3	156.52	B3	180.93	B4		
26	Distribution input	MI/d	2	619.32	B2	614.45	B2	632.71	B2		
27	Bulk supply imports	MI/d	2	0		0.00		0.00			
28	Bulk supply exports	MI/d	2	0		0.22		0.34			
29	Water treated at own works to own customers	MI/d	2	619.32		614.45		632.37			
30	Overall water balance	cg			B2		B2		B3		
<b>C SECURITY OF SUPPLY</b>											
31	Security of supply index - company's planned levels of service	nr	0	N/C		-26		42			
32	Security of supply index - reference levels of service	nr	0	N/C		-26		42			

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## Introduction

The water delivered components for NI Water have been assessed and produced using the methodology described in Chapter 10 of the Northern Ireland Authority for Utility Regulation (NIAUR) Annual Information Return Reporting Requirements and Definitions Manual 2009. In accordance with the chapter's requirements, a Table 10 has been completed with this the accompanying commentary.

NI Water has followed the guidance in Chapter 10 and 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. In addition, the estimate of distribution losses uses the Integrated Flow Method, with the resultant total leakage checked using the Minimum Night Flow Method. A Maximum Likelihood Estimation, using the squares method, is applied for the reconciliation adjustments to the components of the water balance.

In summary, the outputs of the water balance are that the Integrated Flow Method of leakage assessment has given a figure of 201.21 MI/d for total leakage and the Minimum Night Flow Method has provided a figure of 170.74 MI/d. When the resulting imbalance between the two methods of 30.47 MI/d is compared to the Distribution Input figure of 635.56 MI/d, it provides a percentage discrepancy of 4.79%. As this is within the 5% tolerance set to enable a Maximum Likelihood Estimation method to be applied, using the squares method, NI Water arrive at a reconciled leakage figure of 180.92 MI/d.

When compared to the AIR08 figures, the imbalance has decreased by 1.27 MI/d from 31.74 MI/d. This has also assisted in the decrease of the percentage discrepancy below the critical 5% threshold, reducing by 0.38 % from 5.17 %. A rise has occurred in the reconciled leakage of 24.42 MI/d, from the previous year's 156.50 MI/d. There are a number of explanatory factors for this which will be discussed in greater detail throughout the commentary.

NI Water has undertaken substantial work in 2008/09 in relation to the water balance. The reported level of leakage has increased but now reflects an improving confidence of the actual situation within NI Water. The step change in leakage can be attributed to:

- Challenging circumstances in maintaining leakage level due to the adverse weather condition suffered over the prolonged winter months.
- Changes in the methodologies being applied, to move towards industry best practice, in a number of components contained within both the Integrated Flow and Minimum Night Flow Methods for the assessment of leakage levels.

- Improvements in data quality through the ongoing programme of cleansing and enhancing both the robustness and reliability of the various data sets that feed into the water balance assessment.

Progress on the latter points has mainly been driven by the water balance review initiative. NI Water identified a number of issues with the AIR08 submission. Concerns were raised by both the reporter and the regulator with regards to the reliability of the water balance due to the discrepancy threshold of 5% being exceeded. The regulator permitted the reconciled leakage figure to be used on the premise that a water balance action plan be compiled and quarterly updates provided on progress. Crowder Consulting were commissioned to carry out this review of the water balance. A list of the key areas that came under investigation and have had subsequent amendments made are provided below:

- The configuration of distribution input meters has been rationalised to reflect with greater accuracy the water entering the distribution system. This has led to the reclassification of some of the distribution input as water taken unbilled legally, where water is used at water treatment works and sourced downstream of distribution input meters. It also incorporates the commissioning of new PPP water treatment works and the decommissioning of a number of borehole sourced water treatment works.
- As recommended by the reporter in AIR09, the reclassification of customers has been applied to the consumption from farms, which are now accounted for within measured non-household as opposed to measured household as in the AIR08 submission.
- The introduction of a method to account for consumption on newly measured non-households (new development and unmeasured properties that have had meters installed), whilst awaiting RAPID (NI Water's customer billing system) to calculate a consumption from meter readings.
- Improvements have been made to the data availability and methodologies applied for the domestic consumption monitors, providing more robust figures on PCC values.
- Better accounting of water taken unbilled legally has been made, particularly at wastewater treatment works, where a programme of meter installations is ongoing and feeding into RAPID.
- Better accounting of water taken unbilled illegally has been made particularly for consumption at void non-household properties as a result of the work carried out by the Customer Services Directorate.
- The introduction of a set of interim meter under-registration figures specific to NI Water to replace the previous GB industry averages that were being used.

- The assessment of underground supply pipe leakage has been updated and incorporated into the water balance.
- The method by which non-household night use allowances are used within the minimum night flow analysis has been amended as an interim measure to provide a more robust approach to this calculation.
- The household night use allowance has been updated from an industry default to a company specific figure for NI Water.
- The hour to day factor value has been updated from an industry default to a company specific figure based on a limited sample. This is an interim measure until all the hour to day factors are evaluated in time for AIR10.
- The method of estimating trunk mains and service reservoir leakage has been amended to tie in with common industry practice.
- The introduction of a confidence limit, to be applied to distribution input, and amendments made to the bottom up leakage and unmeasured non-household use values.
- The Maximum Likelihood Estimation has been changed from a linear to a squares method.

The progress outlined above is the product of the continued efforts of NI Water on a number of areas as set out in the Water Balance Action Plan. On commencement of the review it was communicated to the regulator that the programme of work, based on initial estimates, would take 2 years to complete. As a result, the above improvements are the result of the first phase of work. In AIR10, it is perceived that NI Water will make progress on a number of ongoing initiatives that will further improve the assessments of the water delivered components. The scale of the work being undertaken is considerable as it represents a review of every component of the water delivered. The completion of a number of projects to improve the assessment of these components in such a short timescale is a challenging target. When compared to the England & Wales companies this type of work was completed over a number of years with continual improvements being made year on year. It is hoped that on completion of the action plan that NI Water will be able to have a robust assessment of the water delivered components comparable to that of England and Wales companies.

On conclusion of the two year programme of work, it should not be assumed that further work will not be required. It may potentially be foreseen that there will be additional issues which will arise and will require addressing. An example of this would be the introduction of the new leakage management software over the next couple of years. The existing legacy systems are restrictive in the functionality that they provide and as such hinder progress towards use of industry best practice methods. The introduction of new

leakage management software will address these matters but at the same time will impact the leakage estimate to some degree, which at this moment in time cannot be determined.

## **1. Lines 1 to 3 – Billed Measured Household and Non-Household Volumes**

### **1.1 Line 1 – Billed Measured Household**

For AIR09, in accordance with the recommendation of the reporter (AIR08), and in order to comply with reporting requirements, the household element of farms has not been classed as billed measured households. It has been classed as billed measured non-households and an appropriate adjustment has been made to the resident population in other lines of the table. No value is therefore reported for billed measured households.

### **1.2 Line 2 – Billed Measured Non-Household**

The reported value for water delivered to non-households has increased from 124.68 MI/d to 134.05 MI/d. It should be noted that the AIR09 includes the household element of farm use. For AIR08, the household element of farm use (14.76 MI/d) was reported as billed measured household. The water delivered to non-households, therefore, actually decreased by 5.39 MI/d.

Billed measured non-household volumes have been determined from total meter consumption as sourced from RAPID (NI Water's Customer Billing System) and does not include test meter volumes, trade effluent volumes, free supplies or NI Water supplies.

The number of measured non-households excluding voids, exclusive of non-household test meters, has increased from 64363 in AIR08 to 66645 in AIR09. The AIR09 figure, inclusive of 2121 non-household test meters, is 68766, as reported in Table 7 Line 9. The consumption of non-household test meters is included in legal use unbilled.

A non-household meter under-registration (MUR) value of 8.10% has been added to billed measured non-household use. This figure has been provided as the result of an NI Water project, carried out by the Customer Services Directorate, to determine the age and condition of the NI Water's meter stock.<sup>i</sup>

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).

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- Use of a Company specific MUR value instead of an England and Wales average value.

- Inclusion of domestic element of farm use to comply with reporting guidelines.

Work in progress includes:

- Investigation of non-household test meters with a view to considering their future use.

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

### **1.3 Line 3 – Billed Measured**

This is the summation of lines 1 and 2.

## **2. Lines 4 to 6 – Billed Unmeasured Household and Non-Household Volumes**

### **2.1 Line 4 – Billed Unmeasured Household**

The reported value for Billed Unmeasured Household volume for AIR09 is 311.07 Ml/d. This is an increase on the AIR08 value of 306.61 Ml/d. The increase in this value is due to the increase in the meter under-registration percentage applied. This has increased from 3.90% in AIR08 to 6.52% in AIR09.

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<sup>iv</sup>. The household population figure is sourced from the Northern Ireland Statistics and Research Agency (NISRA). Adjustments are made to this household population figure to account for:

- Non-Household Population – Sourced from the NISRA 2001 population census.
- Unconnected Properties Population – The number of unconnected properties is sourced from the Northern Ireland Housing Executive (NIHE) report<sup>ii</sup>. The population of unconnected properties is determined by multiplying this number by the average occupancy rate from NISRA.
- Farm Population – The population of farms is now 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).

Underground Supply Pipe leakage has been applied to the billed unmeasured household volume component of this calculation.

A meter under registration factor of 6.52% 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.<sup>iii</sup> In previous submissions a value of 3.9% has been used, based on an average value for Water Companies in England and Wales.

It is not possible to present a meaningful current year figure for line 4 owing to the procedure used to derive the PCC value. The PCC data is collated on a monthly basis and will vary owing to a range of factors such as weather and time of year. Regression analysis is applied to data collected over the 12 month reporting period and a single PCC value derived for use in line 4 and the company Water Balance.

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- A major survey was carried out of the Domestic Consumption Monitor Areas in the spring of 2008. This survey covered a total of 5371 properties in 109 of the 115 areas. The survey involved actual counts of types of properties in each area, counts of vacant properties in each area and the completion of survey questionnaires by each household. These questionnaires indicated occupancy, use of appliances at night and customer awareness of water saving devices. The survey questionnaires had an excellent return with an 85% response rate. From this survey, NI Water was able to update the domestic consumption monitor with up-to-date populations and property numbers. From this survey NI Water were also able to recalculate the occupancy rate for all four types of property and hence, using data from NISRA regarding the percentages of different house types throughout Northern Ireland, calculate an overall occupancy rate. The overall occupancy rate was calculated as 2.49. This is close to the NISRA calculated occupancy rate of 2.50 for 2007/08. Figures for 2008/09 are not yet available but the general trend may be downwards.
- Use of an interim Company specific MUR value, instead of an England and Wales average value.
- Replacement of 19 of the domestic consumption monitor meters that were over 5 years old.
- Use of a multi-regression analysis based on the four property types included in the PCC monitor instead of calculating an arithmetic mean of the PCC of all domestic consumption monitor areas.<sup>iv</sup>
- The previous practice of carrying forward figures from previous months when a domestic consumption monitor meter failed to report was stopped. Only actual recorded values are used. There are no estimates.
- All domestic consumption monitor areas where the average PCC over the year was 200 l/hd/d or more were investigated. In cases where residual leakage could be identified, this leakage was estimated and the value used to re-calculate the PCC value for the area.<sup>v</sup>
- Test meter consumption has been removed from the calculation. In previous submissions a volume had been calculated for households with higher than average consumptions using test meters.

Planned Work includes:

- Continued programme of replacing meters over 5 years old.
- Re-survey of 1000 properties in domestic consumption monitor areas each year.



- Rationalisation of the domestic consumption monitor areas. Some areas that are considered to be unsuitable on the basis of size or topology will be removed and new areas introduced.

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

## **2.2 Line 5 – Billed Unmeasured Non-Household**

The reported value for Billed Unmeasured Non-Household for AIR09 is 20.80 MI/d. The value reported in AIR08 was 24.48 MI/d

Billed Unmeasured Non-Household Volumes have been calculated by using an allowance for unmeasured households of 263 m<sup>3</sup>/prop/yr, this is then multiplied by the total number of unmeasured non-households, sourced from RAPID.

During the course of the AIR09 reporting year a considerable exercise has been undertaken to reduce the number of unmeasured non-households. This has resulted in a large number of these unmeasured non-households being metered and moving into the measured category. Additionally a number have been identified as site meters served through a primary meter.

An exercise has also been carried out to investigate occupancy of properties that have previously been classed as void unmeasured non-households. This exercise discovered that 3740 void unmeasured non-households, classified as voids, were actually occupied. These properties have now been included in the unmeasured non-household property count.

There has been an overall reduction in the number of unmeasured non-households. The number, excluding voids, has decreased from 28365 in AIR08 to 26177 in AIR09. The AIR09 figure includes the 3740 reclassified “occupied voids”. These figures do not include 4205 test meters. The number, including the 4205 test meters, for AIR09, is 30381, excluding voids.

The consumption of the test meters is included in legal use unbilled.

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 MUR value of 8.10% is applied.

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- Reducing the number of unmeasured non-households.
- The use of an interim Company specific MUR value instead of an England and Wales average value.

The confidence limit for unmeasured non-household use has been increased from 10% to 15% for AIR09. This figure has been increased because there has been a major exercise during the reporting year by the Customer Services Directorate to re-categorise a large number of unmeasured non-households as measured non-households. The non-households have not been targeted for re-classification by size. However, it is considered that there is a greater uncertainty associated with the estimation of unmeasured non-household use than in previous years.

### **2.3 Line 6 – Billed Unmeasured**

This is the summation of lines 4 and 5.

### **3. Lines 7 to 30 – Water Delivered Components**

#### **3.1 Line 7 – Estimated Water Delivered Per Unmeasured Non-Household**

The post MLE figure for estimated water delivered per unmeasured non-household for AIR09 is 784.61 l/prop/d. The figure reported for AIR08 was 803.30 l/prop/d.

The allowance for unmeasured non-household properties has been calculated as being 263 m<sup>3</sup>/prop/yr. The figure used for AIR08 was 270 m<sup>3</sup>/prop/yr. The unmeasured non-households were split into various property types and aligned to a breakdown of the measured non-households property types. Metered consumption data (Source: RAPID) for the various property types, for the period from 1 April 2008 to 31 March 2009, was then used to determine an average allowance for the unmeasured properties in each category.

The top 10% of measured customers, representing high volumetric users, were removed and the bottom 10%, which included zero readings, were also removed. Therefore, based on the 80/20 process, an average consumption figure was calculated for each category to give an overall allowance of 263 m<sup>3</sup>/prop/yr for the unmeasured non-household properties. This is consistent with the calculation of non-household unmeasured use for AIR08.

This figure compares favourably with the 2007/08 industry average for England and Wales, which is 308.10 m<sup>3</sup>/prop/yr (843.6 l/prop/d)<sup>vi</sup>. The figure of 263 m<sup>3</sup>/prop/yr is higher than that used for the 2009/10 Scheme of Charges which is 165 m<sup>3</sup>/prop/yr. The AIR09 figure is an assessment of the volumetric usage of water by non-household unmeasured properties during the 2008/09 year while the figure used in the Scheme of Charges was estimated for the 2009/10 year.

The number of unmeasured non-household property numbers has been reduced. However, the metering programme did not target the higher volumetric users and therefore the mid year estimates do not indicate a significant reduction in the allowance for unmeasured non-households. As this exercise reaches its conclusion, it is envisaged there is likely to be a greater degree of alignment between the water balance and future scheme of charges.

As the unmeasured non-household test meter volumes are not included in water delivered to unmeasured non-households then the number of test meters is not included in the divisor in this calculation.

#### **3.2 Line 7a – Estimated Water Delivered Per Unmeasured Household**

The post MLE figure for estimated water delivered per unmeasured household for AIR09 is 481.59 l/prop/d. The figure reported for AIR08 was 443.29 l/prop/d.

### **3.3 Line 8 – Per Capita Consumption (Unmeasured Household - Excluding Supply Pipe Leakage)**

The post MLE figure for PCC for AIR09 has been reported as 158.97 l/hd/d. The figure reported for AIR08 was 145.18 l/hd/d; this was not corrected for meter under-registration and was also pre MLE adjusted. The equivalent PCC figure for AIR09 has been calculated as 141.53 l/hd/d.

The post MLE figure is relatively high when compared with figures for Water Companies in England and Wales. However, it should be noted in England and Wales there is a greater degree of water efficiency measures undertaken with companies experiencing considerable water stress in their areas.

NI Water has 115 domestic consumption monitors set up specifically to monitor unmeasured household consumption. These sites are small (average size of 49 properties), permanently bounded, monitored for leakage, and flows into them are recorded by meters. NI Water has 87% GSM flow logger coverage of these areas. The remainder are monitored through manually downloaded loggers.

The average (pre MLE) PCC figure has been calculated as 141.53 l/hd/d. This assessment is based on 12 months consumption data from 101 of the 115 sites. This is a reduction from the figure reported for AIR08. Crowders Per Capita Consumption Report for 2008/09 details the PCC calculation in more detail<sup>vii</sup>.

An interim MUR value of 6.52% 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. In previous submissions an England and Wales average of 3.9% has been used.

A number of issues were identified with the domestic consumption monitor meters and a total of 19 meters were replaced primarily, in the latter half of the year. Meters older than 5 years were prioritised. NI Water has recognised that there is still work to be done in replacing unreliable meters. This work will continue in 2009/10.

NI Water have undertaken a major review of its domestic consumption monitor areas by completing a property and population survey, through dispatching household questionnaires to all properties located within a domestic consumption monitor area. This information has been used to update the area property counts and populations, recalculate occupancy rates for all household types and to produce an average occupancy rate. The information has also been incorporated into the AIR09 PCC Monitor.

NI Water does recognise that there is a need to carry out an extensive review of its domestic consumption monitor areas to ensure that they are in accordance with best practise.

### **3.4 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.

### **3.5 Lines 10 to 13 – Underground Supply Pipe 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'. Supply Pipe Leakage for NI Water has been assessed for AIR09 as 49.44 MI/d.<sup>viii</sup> The unit values are 65.97 l/prop/d for unmeasured, other households and void properties, with a value of 32.98 l/prop/d being calculated for externally measured households.

The unit figures are higher than those reported by Water Companies in England and Wales. However, it should be considered that there is no subsidised or free supply pipe repair policy, whereas in England and Wales, water companies have had such initiatives for more than a decade. In addition, it appears that NI Water has much longer lengths for supply pipes when again compared to England and Wales, at twice the average length. The total value of 49.37 MI/d is approximately 27% of total leakage. This figure is comparable to those reported by water companies in England and Wales.

From the "Ofwat Service and Delivery Report 07/08" it can be ascertained 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. This is the assumption that has been made in the estimation of per property values for underground supply pipe leakage in NI Water. Since, in NI Water, the unmeasured non-household use is based on the measured non-household use, this assumption will also be applied to the unmeasured non-household.

To convert the total underground supply pipe leakage volume to the required l/prop/d figure, the total SPL volume has been divided by the sum of the number of unmeasured household properties, the number of void properties and half of the total number of non-household properties. The resulting value is the figure in l/prop/d for underground supply pipe leakage for internally measured and other properties. The resulting figure is divided by two as an estimate for underground supply pipe leakage on externally measured properties. The SPL calculation for NI Water is detailed in the NI Water Supply Pipe Leakage Assessment Report for 2008/09 (carried out by Crowders).

NI Water has begun a policy of red bunging void non-households. A mid-year estimate of the number of red bunged unmeasured non-households has therefore been deducted from the number of void unmeasured non-households before the calculation of supply pipe losses.

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- A complete review of the estimation of underground supply pipe leakage following the guidelines of the UKWIR report 'Towards Best Practice for the Assessment of Supply Pipe Leakage'.
- Red bunging of void non-households.

Work in progress includes:

- Red bunging of void non-households.

Planned work includes:

The possible introduction of a confidence limit for use in the MLE process. Currently the supply pipe leakage is part of billed consumption in the Water Balance and MLE process. It is likely that the error on SPL is greater than that on billed consumption.

### **3.6 Lines 14 to 15 – Meter Under-Registration**

The meter under-registration figures for AIR09 have been amended as an interim measure to replace the previous England and Wales company averages that were being used. The England and Wales figures were sourced from the Ofwat publications. An interim MUR figure of 8.10% is to be applied to the non-household consumption for AIR09; this replaces the previous AIR08 figure of 4.90 %. An interim MUR figure of 6.52% is to be applied to the household consumption for AIR09; this replaces the previous AIR08 figure of 3.90%.

There have been two studies that have been ongoing to assess these interim values of MUR. For the non-household MUR, a major piece work being carried out by Customer Service Directorate, which has provided a source for the interim value. They had commissioned a study to review the stock of revenue meters and to develop a possible replacement policy. As a result of the data collected on meter models, sizes and ages, it was possible to obtain a MUR figure from the consultant who had carried out this work. It should be noted that the MUR has been based on a limited sample size and further work will have to be completed. These values will be updated for AIR10 when further test data specific to NI Water will be used to ascertain a new set of MUR values.

For the household MUR, the leakage function commissioned WRc to carry out a project to make an appropriate evaluation. This study used the domestic consumption monitor meters to provide an interim assessment of the household MUR values based on a desktop analysis. Information was gathered on the domestic consumption monitor area meters, including the meter model, size and age. These along with consumption profiles were analysed in conjunction with historic test data that WRc had available. These

values will be updated for AIR10 when further test data specific to NI Water will be used to ascertain a new set of MUR values.

Full details of these studies can be found in the report produced by WRc for the households and Himsley Meter Revenue Services for the non-households.

### **3.7 Line 16 – Distribution System Operational Use**

The reported value of Distribution System Operational Use (DSOU) for AIR09 is 4.72 MI/d. The value reported for AIR08 was 4.97 MI/d.

A review of DSOU was undertaken for AIR08. The methodology adopted has been used again for AIR09. This included a review of the components that make up DSOU, such as service reservoir cleaning; mains renewal; repair flushing; water and chlorine sampling.

NI Water have assessed their DSOU volumes based on company specific data supplied by metered consumption data for 2008/09 (Source: RAPID) and company estimates.

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

### **3.8 Lines 17 to 19 – Water Taken Unbilled**

The reported Water Taken Unbilled figure has increased from 24.32 MI/d in AIR08 to 30.58 MI/d in AIR09.

NI Water has carried out a review of water taken unbilled. This has included:

- For AIR09 the volume of water used by 8 WTWs has been included in Water Taken Legally Unbilled. In previous submissions this has been subtracted from distribution input.
- Obtaining information from the Northern Ireland Fire & Rescue Service, water used at WwTWs which has been banded based on Ofwat's methodology, metered water used at NI Water depots and offices, an assessment of unmetered NI Water depots and offices.
- An exercise has been undertaken with respect to metering waste water treatment works. The method used for the assessment of water used at waste water treatment works is consistent with AIR08.
- Metered WwTW and SPS consumptions have been determined from total metered consumptions as sourced by RAPID.
- Unmetered WwTW consumptions have been assessed on the average consumption of metered WwTWs within each Ofwat PE category (Bands 1 to 6).

- Unmetered SPS consumptions have been assessed on the average consumption of metered SPSs.
- WwTW numbers and bandings have been sourced from NIAMP2 studies within NI Water
- SPS numbers with automatic screens have been sourced from the Wastewater M&E maintenance schedule
- The consumption of non-household test meters has been included in Water Taken Legally Unbilled. The number of non-household test meters has decreased slightly. The non-household test meter consumption has been assessed as 7.34 MI/d, including MUR, pre MLE. It is possible that for AIR10 the next reporting year the test meter category will no longer exist.
- A volume has been calculated for zero reading meters. This volume is 2.17 MI/d, pre MLE and is included in Water Taken Legally Unbilled. Customer Services have investigated a sample of zero reading meters and have estimated that 16% are incorrectly reading zero.<sup>ix</sup> No fault was found with the meters, i.e. not jammed or otherwise faulty. A calculation has therefore been carried out using 16% of the total number (4806) of zero reading meters and a consumption figure of 2.61 m<sup>3</sup> per day. The consumption figure was estimated for AIR08.<sup>x</sup>
- A survey carried out by a NI Water contractor called Enterprise identified 5900 non-household properties that do not exist on any corporate systems<sup>xi</sup>. A confidence grade of C4 has been applied to this figure. In view of this an allowance has been calculated for 75% of this number i.e. 4425 properties. These properties have been allocated the unmeasured non-household allowance of 263 m<sup>3</sup>/prop/yr, equating to 3.45 MI/d. The total amount for these properties has been allocated to the Water Taken Unbilled Legally. These properties are currently under investigation.

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- Re-assessing WwTW and SPS volumes
- Assessing usage by zero reading meters
- Reducing the number of test meters

Work in progress includes:

- An ongoing programme to meter all WwTW sites and SPS sites with automatic screens.
- Investigation of test meters with the view to considering their future use.



- Investigation of the extra non-households found as a result of the surveys.

### **3.9 Line 20 – Water Delivered (Potable)**

All potable water supplied by NI Water is calculated as the sum of lines 3, 6 and 19.

### **3.10 Line 21 – Water Delivered (Non-Potable)**

There are no non-potable supplies to NI Water customers.

### **3.11 Line 22 – Water Delivered (Non-Standard Rates: Potable)**

Non-standard rates are applied to volumes of consumed water greater than 100,000m<sup>3</sup>/yr.

There are 28 customers eligible for the non-standard rates but only 19 customers have consumed more than 100,000m<sup>3</sup>.<sup>xii</sup>

The post MLE total volume of potable water delivered at non-standard rates is 13.90 MI/d, which also includes a MUR adjustment of 8.1%.

### **3.12 Line 23 – Water Delivered (Non-Standard Rates: Non-Potable)**

There are no non-standard rates for non-potable supplies to NI Water customers.

### **3.13 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 AIR09 are estimated to be 131.48 MI/d. This is an increase on the AIR08 figure of 111.38 MI/d.

### **3.14 Line 25 – Total Leakage**

Total leakage is the sum of distribution losses and underground supply pipe leakage. The reported figure for total leakage for AIR09 is 180.92 MI/d. The reported figure for AIR08 was 156.52MI/d.

Total leakage is also calculated using an MNF methodology. For AIR09 reported pre MLE MNF method leakage is 170.74MI/d. The figure reported for AIR08 was 152.45 MI/d.

NI Water has an extensive DMA network (approx. 1040 DMAs) covering 99% of all properties in Northern Ireland. Over 80% of these DMAs are monitored with electromagnetic meters with a direct link to the company telemetry system. The remaining DMAs are monitored through mechanical meters and GSM/standard flow loggers. GSM loggers have an automatic link to the

Company's telemetry system. Standard loggers are downloaded on a monthly basis and MNF data input into the telemetry system.

NI Water uses their Telemetry Data Monitoring System (TDMS) application to interface with the telemetry and logged data and its subsequent processing to produce DMA minimum night flow values. The TDMS system also acts as a repository for the DMA attributes such as property counts, mains lengths and AZNPs. The TDMS system has a number of functionality limitations that hinder a more robust analysis of the minimum night flows. As a result NI Water is currently in the process of procuring a new leakage management system to mitigate the restrictions of the current system. As yet, it is still to be determined when the new system will be made available but it is anticipated to be within a two year period.

Data from other corporate systems is used in TDMS. Using the DMA meter configurations held within TDMS, a minimum night flow is calculated for the DMA. This is based on an actual minimum recorded between 00:00 and 06:00 of the DMA inlet meter, with deductions made at the concurrent time for the outlet meters (including continuously monitored customers). Minimum Night Flow and DMA attributes are then extracted from the system on a monthly basis in to MS Excel spreadsheets to perform leakage calculations.

DMA minimum night flow (MNF) is determined using a 20<sup>th</sup> percentile method. Minimum night flows are recorded on a daily basis. The 20<sup>th</sup> percentile of a month's data is then identified. The MNF values for each DMA are then aggregated to resource zone level. Night use allowances for household and non-household properties, for each resource zone, are subtracted from the aggregated Minimum Night Flow (MNF) values to calculate a night leakage figure for each resource zone. Night use allowances are currently 2.48 l/prop/h for household properties and 8 l/prop/h for non-household properties (The household value has changed from AIR08 when 1.7 l/hr was used. The household night use figure has been calculated by Crowders using the logged data from the domestic consumption monitor areas). The non-household night use figure is from the WRc Managing Leakage Suite of Reports. The non-household night use allowance is currently being reviewed to develop company specific figures.

The leakage has been calculated at resource zone level to accommodate the shortcomings of the current non-household night use model. As all non-households are allocated the same night use allowance, regardless of size and usage, this can lead to under/over estimation of leakage at DMA level. In some cases this can lead to "negative" leakage. By aggregating the night use to resource zone level and subtracting this value from the aggregated minimum night flows then the under/over estimation is balanced out.

One of the significant changes from previous years is that the hour to day factor has been changed from 20 to 22.5. This interim figure of 22.5 has been used in the leakage calculation. This has been reviewed this year by Crowders to replace the value of 20 that had been used in the previous

submissions and will be updated again for AIR10 as more pressure data becomes available.

The leakage assessments for each resource zone are summed and added to Service Reservoir (SR) & Trunk Main (TM) leakage assessments to give a company leakage level.

Service Reservoir and Trunk Main leakage assessments have been reviewed this year. In both cases the recognised industry default values of 0.33% of capacity per year for service reservoir losses and 0.2 m<sup>3</sup>/km/year of age per year for trunk mains losses. Service reservoir capacities amount to a total of 1371.75 ML. Service reservoir leakage is therefore estimated as 4.53 ML/d, an increase on the AIR08 figure of 3.39 ML/d<sup>xiii</sup>. Trunk mains lengths amount to a total of 2425km (Source: NI Water Corporate GIS). The average age of the trunk mains has been determined as 28.17 years. The trunk mains leakage is therefore estimated as 13.66 ML/d<sup>xiv</sup>. This is an increase on the value submitted in AIR08, which was 3.77 ML/d. The trunk mains length estimate is the best available at the current time. It will be reviewed and refined. The identification of trunk mains within NI Water is a complex procedure.

MNF method leakage is then averaged for the 12 month period.

The net effect of the major changes made to the calculation of MNF method leakage are:

- Change to household night use coefficient = approximately - 10ML/d
- Change to hour to day factor = approximately + 17.5 ML/d
- Change to trunk mains and service reservoir losses = + 11 ML/d

The net effect, due to the changes made, is therefore an additional 18.5 ML/d.

NI Water has used a confidence limit of 15% for MNF Method Leakage in the MLE calculations. This is an increase from the 5% used in AIR08. The reporter (AIR08) suggested that an increase in the confidence limit for MNF method leakage would not be unreasonable.

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- Determining an interim value for household night use of 2.48 l/prop/h. This value replaces the value of 1.7 l/prop/h used in previous submissions.
- Introducing a short term solution to the problem of under/over estimation of non-household night use within DMAs due to the use of a non-household night use allowance of 8 l/prop/h for all non-households.

- Determining an interim value for hour to day factor of 22.5. This value replaces the value of 20 used in previous submissions.
- Re-estimating service reservoir and trunk mains losses.

Work in progress includes:

- A large scale non-household night use survey and analysis that will provide a night use model based on the recommendations of the UKWIR report. (99/WM/08/26, "Estimating Leakage from Night Flow Analysis".
- Gathering and analysis of logged pressure data to improve the reliability of the hour to day factor estimate.
- Obtaining a better estimate for trunk mains lengths.

Planned work includes:

- Re-analysing the flow data from the domestic consumption monitor areas to improve the estimation of household night use.
- Introducing an improved method of determining MNF.

NI Water feels that the use of a 15% confidence is appropriate. Crowders carried out an exercise to determine an appropriate confidence limit for MNF method leakage that supports this value.<sup>xv</sup>

### **3.15 Line 26 – Distribution Input**

#### **Distribution Input**

The distribution input figure for AIR09 has been calculated as a post MLE figure of 632.71. As the previous year did not include a confidence limit being applied to distribution input, then the pre MLE figure for AIR08 of 614.45 MI/d should be compared with the pre MLE figure for AIR09, 635.56 MI/d, an increase of 21.11 MI/d. The change is as a result of the water balance review which recognised significant reconfiguration and subsequent rationalisation of distribution input meters undertaken.

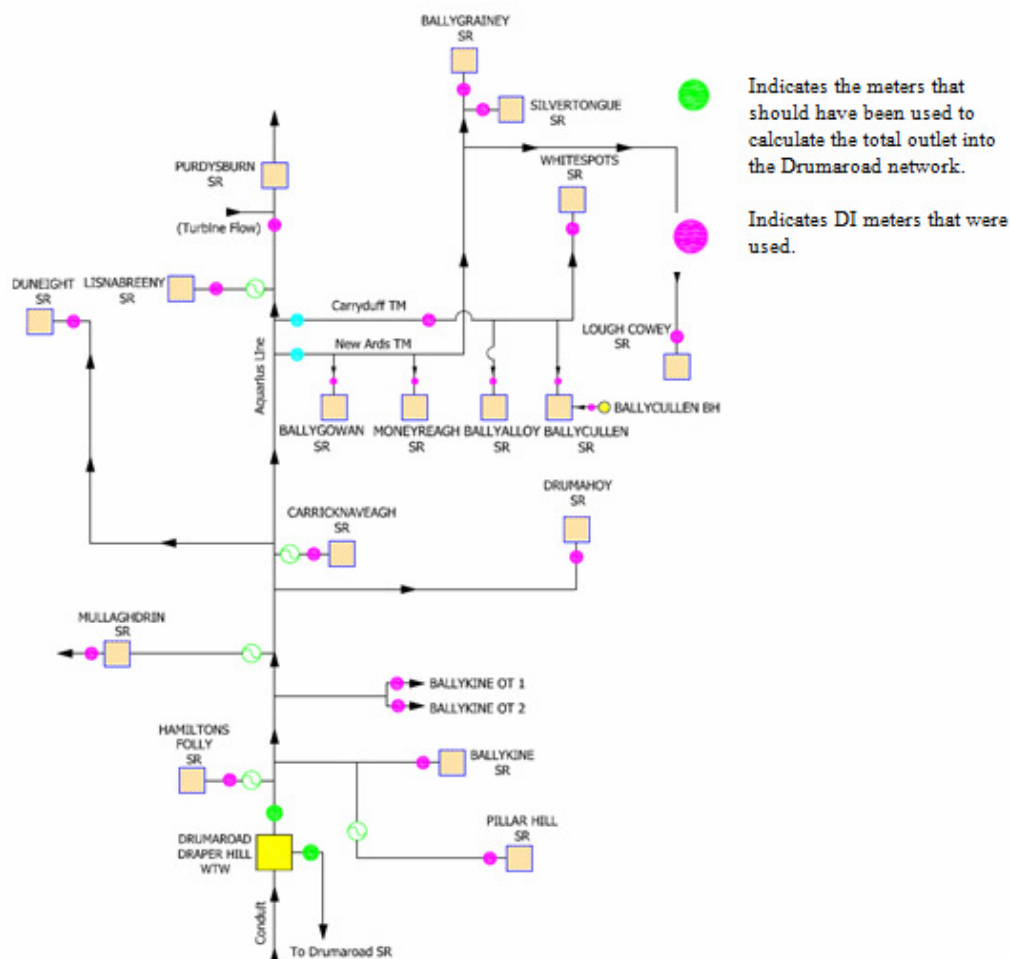
One of the key areas of the water balance review was a comprehensive examination of the reporting of distribution input. The purpose of the project was to ensure that the recording of distribution input was of the highest accuracy as deemed possible, the following considerations were made to fulfil this aim:

- To review and confirm the use of the existing set of meters for distribution input reporting.
- Where possible rationalise the meters being used to ensure that the correct number of meters were being used.

- The production of a new distribution input reporting template to replace the existing suite of reports.
- Produce schematics showing the distribution input meters and primary downstream trunk main pipe work.
- Perform meter balances for all distribution input meters against available downstream meters.
- Inspection of all distribution input meters to ensure they were in good working condition and actions taken where this was not the case.
- Calibration of all distribution input meters in accordance with industry best practice to ensure the signal configuration was in good working order and where not corrective measures taken.
- Produce an inventory of all flow meters including calibration details

It was envisaged that the investigations would be completed in a short timeframe; however, a large number of issues surfaced as the project proceeded leading to a number of fundamental changes being applied to the method of reporting distribution input. The key findings of this study can be summarised as follows:

- In the Drumaroad Supply source area, a total of 22 meters were used to record the distribution input instead of 2 meters, which resulted in a shortfall of 20.7Ml/d. The DI report has been updated accordingly.



**Figure 1 Drumaroad WTW DI Meter Configuration**

- As the result of using the 22 meters downstream of Drumaroad approximately 92 km of mains including the Aquarius pipeline was not included in the DI calculation. With the use of the 2 meters at Drumaroad WTP the entire network is now included.
- During an investigation of the shortfall it was discovered that 1 of the 2 meters measuring the flow into the Ards Resource Zone was being bypassed, this equated to an under-recording in the Ards Resource Zone but did not affect the overall DI figure.
- The inclusion of the meter at Drumaroad WTW and subsequent investigation of Ards and Downpatrick Resource Zones also led to the identification of a leaking pressure sustaining valve that equated to approximately 1 Ml/d when averaged over the year.
- There has been the abandonment of the following sources Balmoral, Kilwee, The Hollows, Bellsiz Road, Hullstown, Barbour Wells, Ballycullen, Drumabest, Alcrossagh, Buckna, Lough Cowey and Ballasalagh. These abandonments have taken place at various times through the year and the DI reporting has been updated accordingly.

Ballycullen has not been included in the overall DI figure which could have increased the output figure by 0.1 to 0.3 Ml/day over the period 2008/09. If verified it will be included in the DI Verification Report.

- There has been the inclusion of the measurement of supply to Rathlin Island, which required 2 flow meters to be added to the DI report. Furthermore, 2 additional meters went on to the DI reporting to avoid a potential double counting issue between sources at Altnahinch and Killylane.
- The change to PPP management at a number of WTW has resulted in a change in flow meters used at each of the sites but no actual decrease in meter numbers. The affected sites include Dunore Point, Ballinrees, Castor Bay and Moyola.
- All meters have been calibrated to the required accuracy as set out in best practice guidelines.
- The introduction of a new daily distribution input report, which is inclusive of the entire NI Water area rather than the old daily report format, which provided a separate suite of reports for each of the old four divisional areas.
- The new report has been accompanied with detailed schematics, which is to be used as a reference to the report.
- It is the intention of NI Water to give consideration to the introduction of a meter verification exercise in the near future. This will determine the accuracy of meter flows being recorded and determine if any value bias should be applied.
- A confidence interval has been introduced for AIR09 of 2.13%, as recommended by the study carried out by WRc.

It can be seen from the above findings that the effort involved in identifying them was considerable but has provided a solid platform for reporting robust and reliable distribution figures. The net effect of the above exercise is a reduction in the number of meters used for DI reporting from 113 to 74.

NI Water now monitors their distribution input through these 74 meters from 32 WTW across the company. All of these meters are on telemetry and some are also on GSM loggers as a back up. The data is fed through the company's telemetry system into TDMS. A daily report of distribution input is produced from TDMS into an MS Excel spreadsheet. The yearly values are derived by averaging these daily values each month over the twelve month period covering AIR09.

During the reporting year the steps that have been taken to improve the reliability of this estimate include:

- Reconfiguration and rationalisation work as described above.
- Introduction of a new single daily distribution input report.
- Introduction of a 2.13% confidence interval on distribution input.

The above work has been an extensive exercise and should ensure the robustness and confidence in the DI figures going forward.

Planned work includes:

- The introduction of a distribution input meter verification exercise.

### **3.16 Line 27 to 28 – Bulk Supply Imports / Exports**

There are no bulk imports of water to NI Water.

There are 72 small exports to the Republic of Ireland. These exports are 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 0.34 MI/d and includes an MUR adjustment of 8.1%.<sup>xvi</sup>

### **3.17 Line 29 – Water Treated At Own Works to Own Customers**

With the exception of the 72 small exports above, all water treated at its own works is used by NI Water's own customers. The post MLE volume amounts to 632.37 MI/d and includes an MUR adjustment of 8.1%.



#### 4. Overall Water Balance

Table 1 Water Balance Table

<i>Water Balance April 2008 - March 2009</i>						
<i>NIW</i>	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	131.37	10%	172.57	8.8%	2.68	134.05
Billed Unmeasured HH	297.34	10%	884.12	45.1%	13.73	311.07
Billed Unmeasured NHH	20.65	15%	9.60	0.5%	0.15	20.80
SPL	49.44					49.44
DSOU	4.70	25%	1.38	0.1%	0.02	4.72
Water Taken Unbilled	29.73	25%	55.22	2.8%	0.86	30.58
Sum of components	605.08					632.71
Distribution Input	635.56	2%	183.26	9.3%	2.85	632.71
<b>Top Down Leakage</b>	<b>201.21</b>					
<b>BU Leakage</b>	<b>170.74</b>	15%	655.90	33.4%	10.19	<b>180.92</b>
<b>Imbalance (mld)</b>	<b>30.47</b>			100.0%		
<b>% Imbalance</b>	<b>4.79%</b>					<b>501.23</b>

There is an overall imbalance of 30.47 MI/d, 4.79% of the distribution input. The imbalance reported for AIR08 was 31.74 MI/d, 5.17% of the distribution input.

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 2009, the confidence grade applied to the NI Water's water balance is B3.

NI Water has made some changes to the error estimates applied to the water balance for AIR09. An error estimate of 2.13% has been applied to the distribution input for the first time. This was the result of a desktop study carried out by WRC<sup>vi</sup>. The error estimate for the MNF methodology bottom up leakage has been increased from 5% to 15% in accordance with the reporter's recommendation from AIR08. The error estimate for the Billed Unmeasured Non-Household Use has been increased from 10% to 15%. As explained earlier this has been done because of the large scale exercise of reclassifying a large proportion of unmeasured non-households as measured non-households.

In addition to the above the MLE method has been changed from the linear method to the squares method, again in accordance with the reporter's recommendation from AIR08.

## 5. 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 several years ago and the current confidence grading for their water balance are shown in Table 1.

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.

Unmeasured Non-household Water Delivered has a confidence grade of B4. This component has been calculated based on the allowance for unmeasured non-household properties (calculated based on measured non-household consumption data). An error estimate of 15% has been applied to this component in the MLE calculations.

Total Leakage has a confidence grade of B4. A 15% error estimate has been applied to BU Leakage in the MLE calculation.

Distribution Input has a confidence grade of B2. The sum of components and the distribution input balance to less than 5%. A 2.13% error estimate has been applied to DI in the MLE calculation.

In accordance with the definition provided by NIAUR the Overall Water Balance has a confidence grade of B2. The water balance components reconcile with measured distribution input to less than 5%. However the Company recognises that there are significant issues to be resolved as identified in AIR08 and these will be addressed in 2009/10. NI Water therefore considers that an overall grade of B3 is more appropriate.

The grades allocated above will be reviewed in future years as the Water Balance processes are refined and the data quality improved.

### Table 2 Water Delivered Components Confidence Grades

<b>Component</b>	<b>Reliability Bands</b>				<b>Accuracy Bands</b>						
	A	B	C	D	1 ≤1%	2 1-5%	3 5-10%	4 10-25%	5 25-50%	6 50-100%	X
Unmeasured Household Per Capita Consumption (l/head/d)											
Unmeasured Non-Household Water Delivered (l/prop/d)											
Total Leakage (MI/d)											
Distribution Input (MI/d)											
Overall Water Balance											

## 6. Security of Supply

There has been a significant increase in the SOSI figure being returned for 2009 compared to the -26 figure returned in 2008. The main reason for the significant improvement is the availability of the additional water provided by the coming on line of the upgrade works which are associated with PPP.

The forecast index score for 2010 is 44 rising to 77 in the first year of PC10 with the introduction of additional water from the river Strule.

### Security of supply Index

This calculation of Security of Supply Index (SOSI) is based on the method set out in Ofwat's letter RD 03/02 issued on 8 March 2002.

The following sources of data and assumptions have been used:

- The definition of the water resource zones conform to the EA definition and remains unchanged from "Water Resource Strategy (WRS) 2002, Review of Recent Published Data, Revision B"
- WAFU has been calculated using the EA definition.
- WAFU results as included in the "Water Resource Strategy (WRS) 2002 Review of Recent Published Data, Revision B", shown in Section 3.6 have been used.
- There are no bulk imports from other companies.
- There are no bulk exports from other companies.
- The dry year distribution input factors prepared in the WRS 2002 for each water resource zone have been used.
- The available headroom has been updated as appropriate based on recent data by subtracting the dry year distribution input from the WAFU for each water resource zone.
- A uniform Target Headroom has been used based on the UKWIR report 98/WR/13/1 "A practical method for converting uncertainty in to headroom". This is consistent with the WRS. The target headroom has been increased to 7.74% of WAFU for 2008-09 in accordance with the results from WRS.
- The surplus/deficit between target and available headroom has been updated as appropriate based on recent data.
- The percentage deficit has been updated as appropriate based on recent data.
- The zonal population has been updated based on NISRA (2006) population predictions.
- The percentage of total population with headroom deficit has been updated as appropriate based on recent data.
- The zonal index and security of supply index has been updated as appropriate based on recent data.

### Distribution Input

The figures for distribution input used in the calculation have been taken from the figures provided by NIW Leakage Section.

**Assessment of Target Headroom**

The UKWIR methodology (98/WR/13/1) for estimating target headroom has been used in this calculation. This establishes a methodology for use at resource zone level. Target Headroom is assessed with regard to eight supply-related factors and three demand-related factors. The assessment used comes from the WRS and the following describes the assessment of these factors and the resultant Target Headroom.

Strictly the headroom methodology is designed to be applied to each resource zone, and particularly when supply-related issues are considered. However, the WRS identified that the zonal differences are minor and therefore assessed Target Headroom as the same for all resource zones. This is reasonable for comparative purposes at this stage of the overall assessment.

**Supply-Related Factors****Factor S1 Vulnerable Surface Water Licenses**

This allows for a license that may be revoked or reduced because of a threat to:

- Minimum residual river flows.
- Environmental in-river or estuary needs.
- Surface water features such as lakes and wetlands.
- A license where the rate of abstraction may need to be reduced in order to allow an increase in residual river flows.

The calculation was based on the WRS headroom where no licensing and environmental flows were in force, the S1 score is zero. However, an allowance has been included to cover the risk associated with future licensing and setting of environmental flows before the planning horizon.

Assuming:

- A greater than 70% chance that licensing will reduce or revoke abstraction volumes (upper assumption). on the basis that a number of major impounding reservoirs have little or no compensation flow.
- More than 10% of water available for use (WAFU) is from such vulnerable sources (high assumption).

The S1 score at 2029-30 is assessed as 10 out of 10.

**Factor S2 Vulnerable Groundwater Licenses**

As with S1, this allows for a license that may be revoked or reduced because of a threat to:

- Minimum residual river flows.
- Environmental in-river or estuary needs.
- Surface water features such as lakes and wetlands.

- A license where the rate of abstraction may need to be reduced in order to allow an increase in residual river flows.

NIW currently plans to abandon all groundwater sources by 2009 when Castor Bay PPP comes on line. This means that, at the planning horizon, there will be no groundwater abstraction and therefore no uncertainty. Consequently  $S2 = 0$  for 2029-30.

### **Factor S3 Time-Limited Licenses**

This refers to licenses that will expire by a given date and may not be renewed (all or in part) at a future date. The WRS assumptions have been used in this assessment.

Assuming:

- A 0% to 30% chance that licensing will stop or limit abstraction from some sources (lower assumption).
- Greater than 15% of water available for use (WAFU) is from such vulnerable sources (upper assumption).

The S3 score at 2029-30 is assessed as 1.5 out of 15.

### **Factor S4 Bulk Transfers**

This strictly refers to the uncertainty surrounding bulk transfers to a resource zone from a source owned by another water company. Currently the transfer of water between water companies is insignificant and this is unlikely to change over the period up to 2030. As there are no inter company exports or imports, and none are planned, the 2029-30 score for S4 is zero. Schemes currently being developed and implemented for long term supplies do not include or assume any need for imports.

### **Factor S5 Gradual Pollution Causing A Reduction In Abstraction**

This refers to surface and ground water sources, which are vulnerable to, or at risk from, gradual pollution and may therefore no longer be economic to maintain. Uncertainty relates to:

- Inherent vulnerability of a source to gradual pollution.
- Rate at which abstraction will gradually decrease due to gradual pollution.

Assuming:

- A 30% to 70% chance that abstraction at surface water sources will be reduced/lost due to gradual pollution.
- Greater than 15% of WAFU is affected by gradual pollution by 2029-30.

The S5 score at 2029-30 is assessed as 8 out of 15.

**Factor S6 Accuracy Of Supply-Side Data**

This is to reflect the accuracy of the data used in determining WAFU, and particularly:

- The length of the data record used with respect to coverage of design droughts.
- The spatial resolution of the data used.
- The reliability of the data used.
- The extent to which artificial influences within the resource zone affect the accuracy of the data.

Generally there are gaps in data and the length of the data record is short, introducing uncertainty that the most severe historical drought may not have been identified. Except for the former Eastern Division where the data record is from 1975, the:

- Average or typical length of gauged and/or level records used in calculating WAFU is less than 10 years; component score = 2.
- Sufficiency of data is assessed as average (i.e. good data except in one or two aspects such as completeness, coverage, measurement accuracy, but not naturalisation of the record); component score = 1.
- Sufficiency of flow naturalisation used in calculating WAFU is assessed as average (i.e. naturalised records for which the user is confident except possibly during low flow periods); component score = 0.5.
- The quality of data is improving but, ironically, due to the abandonment of groundwater sources and the introduction of the Castor Bay PPP, the length of currently available data records applicable to 2029-30 is less for several items than for the current status.

Given the above, the S6 score is assessed as 3.5 out of 5 throughout the planning horizon. This has been applied to all resource zones.

**Factor S7 Single Source Dominance And Critical Periods**

This refers to domination by a single source (impounding or pumped storage reservoir, borehole(s) abstracting from a single aquifer, or a river abstraction) and limited storage.

Uncertainty may be from:

- Extent to which supply from a single source can be guaranteed.
- Source type characteristics/available storage.
- Effect of resource zone critical period on risk inherent in single source dominance.

Bulk transfers are not included under S7. Overall we assess the S7 score as 0 out of 15.

**Factor S8 Uncertainty Of Climate Change On Yield**

This covers uncertainty in the variation in WAFU under the different climate change scenarios, and in the accuracy of the forecasts in the relevant scenarios. The WRS assessment used the maximum spread of WAFU at the planning horizon as 3.4 Ml/d or 4% in the former Northern Division, i.e. 15% for the case of three high forecasts and one low forecast the S8 score in 2029-30 is assessed as 1 out of 10.

There has been no recent new modelling of climate change by NIW so the S8 score of 1 out of 10 used for the WRS has been retained.

**Demand-related factors****Factor D1 Accuracy Of Sub-Component Data**

Uncertainty is for:

- Reliability of data used in base year and forecast demand estimates.
- Accuracy of base year demand estimate.

The score is based on:

- Reliability band of data.
- Reconciliation of the water balance.

The D1 score as in the WRS remains at 4.5 out of 5 through the planning period.

**Factor D2 Demand Forecast Variation**

Uncertainty is for:

- Population growth.
- Economic activity.
- Per-capita consumption.
- Market trends.
- Water Service policy.
- Effectiveness of demand management measures.

The score is related to two factors:

- Whether the best estimate forecast tends to the upper or lower forecast.
- The spread between forecasts as a percentage of WAFU.

The demand forecast, D2, score remains unchanged at 4 out of 15.

**Factor D3 Uncertainty Of Climate Change On Demand**

Uncertainty arises from:

- Variation between demand forecasts for different climate change scenarios.
- Confidence with which demand can be predicted for individual climate change scenario.

The demand forecast, D3, score remains unchanged at 2.5 out of 5.

A summary of the assessed scores is shown in Table 1.

**Table 1 Assessed Target Headroom Scores**

Ref	Factor	1999-00	2029-30	Max score
		Probable	Probable	
S1	Vulnerable surface water licenses	0	10	10
S2	Vulnerable groundwater licenses	0	0	10
S3	Time limited licenses	0	1.5	15
S4	Bulk transfers	1	0	5
S5	Gradual pollution reducing abstraction	0	8	15
S6	Accuracy of supply-side data	3.5	3.5	5
S7	Single source dominance/critical periods	0	0	15
S8	Uncertainty of climate change on yield	0	1	10
D1	Accuracy of sub-component data	4.5	4.5	5
D2	Demand forecast variation	0	4	15
D3	Uncertainty of climate change on demand	0	2.5	5
	Total score	6.7	27	80

The total score is calculated by:

$$S1 + S2 + S3 + S4 + S5 + (S6^2 + S7^2 + S8^2 + D1^2 + D2^2 + D3^2)^{0.5}$$

From the Score to Target Headroom Conversion Chart provided in the UKWIR methodology, Target Headroom is determined to be:

Method	1999-00	2029-30
Probable assessment	5.7% WAFU	12.5% WAFU

Using the above results, the target headroom for 2008-09 is estimated to be 7.74% WAFU.



**DRY YEAR distribution input ADJUSTMENT FACTOR**

Detailed calculations were carried out as an integral part of the WRS 2002 to derive the dry year distribution input adjustment factors for each water resource zone.

These initially used the standard methodology at that time in England and Wales for base year determination. This was to assess the level of demand which is just equal to the maximum annual average which can be met without the introduction of demand restrictions at any time during the year. Using this methodology, it is expected that dry year demand is greater than normal year demand, and the dry year adjusted distribution input is not lower than the 1999/2000 distribution input. This methodology did not prove to be practical in the circumstances in Northern Ireland and the WRS Team therefore adopted the following method of determining appropriate dry year adjustment factors in each resource zone.

The dry year of record in each resource zone was identified by taking the highest ratio of the months April to September and October to March. The Base Year Distribution Input was increased by a factor (F) calculated from:

$$F = \frac{\text{Ratio of summer over winter months of dry year}}{\text{Ratio of summer over winter months in 1999-00}}$$

The results are summarised in Table 2.

**Table 2      Assessed Dry Year Distribution Input Adjustment Factors**

<b>Resource Zone</b>	<b>Dry Year Distribution Input Adjustment Factor (F)</b>
Ballinrees	1.108
Altnahinch	1.079
Ballymena	1.127
Antrim/Larne	1.108
Magherafelt/Cookstown	1.107
Dungannon	1.186
Craigavon	1.117
Newry	1.112
Lough Ross	1.103
Armagh	1.168
Eastern General/Belfast	1.091
Lough Cowey	1.200
Faughan/Altnaheglish	1.141
Derg/Bradán/Lough Macrory	1.003
Killyhevlin	1.360

In the WRS 2002 these factors were applied to the Demand for each resource zone to arrive at the 'dry year' Base Year forecast. This methodology was dependent on the length of record in each resource zone. Earlier historical events may have been more severe but data was not available. However the 1995 (significant dry year) event was available in all records.

This main assumption is that the WRS report year is considered to be a 'normal' year, and that the dry year adjustment can be applied to each resource zone distribution input as shown in Table 2.

This assumption is valid with the limited data available but should be reviewed as part of an overall review of the WRS 2002 strategy forecasts, in particular in light of advancements in leakage reductions and the reduced distribution input figures.

### **Deriving the Security of Supply Index**

The steps used in the calculation are as follows.

#### **Step 1**

The distribution input figures (column 6) were obtained from the daily distribution input figures provided by NIW Leakage Section. Water available for use (WAFU) shown in column 2 as reported in the WRP updates has been used. There are no bulk imports (column 3) and exports (column 4).

The target headroom figures (column 8) have been calculated as 7.74% of WAFU.

Dry year distribution input (column 5) has been calculated from distribution input figures (column 6) multiplied by the dry year distribution input factors shown in Table 2.

The available headroom has been calculated as the sum of column (2) and column (3), minus column (4) and minus column (5).

#### **Step 2**

The proposed index is based on the difference between the available headroom (column 7) and the target headroom (column 8) in each zone. This 'surplus/deficit' (column 9) has then been expressed in column 10 as a percentage of the sum of dry year distribution input and target headroom.

This, therefore, gives a measure of the size of the deficit/surplus in relation to the demand that expected during a dry year plus the target headroom required.

#### **Step 3**

The population figures for each zone (column 11) with a headroom deficit have been expressed in column (12) as a percentage of the company total population where a deficit exists. Where the zone is not in deficit, zero has been entered in column 12.

Assessment of the population was based on population figures for Northern Ireland published by Northern Ireland Statistics and Research Agency (NISRA) for 2008. The overall population was distributed between the supply zones on the basis of the District Council population split.

This therefore, gives a measure of the size of the surplus/deficits in relation to the demand during a dry year plus the necessary headroom.

**Step 4**

The zonal scores were then derived and multiplied by the percentage of population with headroom deficit by the squared deficit. This means that the index is a function of the square of the deficit, so that large deficits affecting small zones weigh in the overall index. The product for each zone is then multiplied by 100 to produce the overall score.

**Step 5**

The final company wide security of supply index was then calculated as:  
 $(1 - \text{overall total zonal index score}) \times 100$

The resulting score was rounded down to the nearest whole number.

**Table 10 – PPP**

The Alpha Contract is a bulk water provision Contract and therefore has no input into the distribution network of NI Water.

As such the input to Line 26 will be zero.

The Alpha Sites receive their potable water for internal use via NI Water distribution mains, and the input to Line 29 will be zero.

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**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES**

**SECURITY OF SUPPLY INDEX - PLANNED LEVEL OF SERVICE**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	WAFU (EA definition) (MI/d)	Bulk imports (MI/d)	Bulk exports (MI/d)	Dry year distribution input (MI/d)	Reporting year distribution input (MI/d)	Dry year available headroom (MI/d)	Target headroom (MI/d)	Surplus/ deficit (MI/d)	Percentage deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit2 x % population affected x 100)	Security of supply index
Ballinrees	25.90	0.00	0.00	19.45	17.55	6.45	2.00	4.45	20.75%	64.817	0%	0.000	
Altnahinch	17.83	0.00	0.00	14.72	13.64	3.11	1.38	1.73	10.76%	45.158	0%	0.000	
Ballymena	26.65	0.00	0.00	27.30	24.22	-0.65	2.06	-2.71	-9.23%	70.826	4%	0.034	
Antrim/Larne	36.20	0.00	0.00	33.49	30.23	2.71	2.80	-0.10	-0.27%	96.208	5%	0.000	
Magherafelt	29.90	0.00	0.00	29.44	26.59	0.46	2.31	-1.85	-5.82%	67.184	4%	0.013	
Dungannon	5.80	0.00	0.00	6.16	5.19	-0.36	0.45	-0.80	-12.18%	9.812	1%	0.008	
Craigavon	77.60	0.00	0.00	80.84	72.37	-3.24	6.01	-9.24	-10.64%	172.874	10%	0.110	
Newry	54.50	0.00	0.00	50.90	45.77	3.60	4.22	-0.61	-1.12%	91.638	5%	0.001	
Lough Ross	7.50	0.00	0.00	7.07	6.41	0.43	0.58	-0.15	-1.97%	8.789	0%	0.000	
Armagh	22.80	0.00	0.00	21.33	18.26	1.47	1.76	-0.29	-1.27%	36.653	2%	0.000	
Eastern General /Greater Belfast	313.50	0.00	0.00	286.08	262.22	27.42	24.26	3.15	1.02%	812.921	0%	0.000	
Lough Cowey	3.70	0.00	0.00	3.72	3.10	-0.02	0.29	-0.31	-7.65%	7.747	0%	0.003	
Faughan	59.80	0.00	0.00	51.19	44.86	8.61	4.63	3.99	7.14%	134.105	0%	0.000	
Bradán	31.00	0.00	0.00	40.89	37.07	-9.89	2.40	-12.29	-28.39%	89.739	5%	0.408	
Killyhevlin	35.80	0.00	0.00	34.78	25.57	1.02	2.77	-1.75	-4.65%	65.150	4%	0.008	
<b>Total</b>	<b>748.48</b>	<b>0.00</b>	<b>0.00</b>	<b>707.33</b>	<b>633.05</b>					<b>1773.620</b>		<b>0.585</b>	<b>42</b>

**Table 10a (i) – Security of Supply Index - Planned Level of Service**

The security of supply index has been calculated based on information in the 2002-2030 Water Resource Strategy (WRS) with WAFU and distribution input information updated to reflect actual conditions for 2008/09.

NI Water believes there is a need to update the WRS to reflect current conditions and work to undertake a complete revision has commenced in May 2009 with the intention of having a draft plan complete by mid-2010. It is likely that the new water resource management plan will revise the current number of water resource zones as well as updating the approach to calculating target headroom. Output from the WRMP will increase the confidence for future reported SOSI calculations.

The index has moved considerably from that calculated for 2007/08, which was -26, to the 42 reported for 2008/09. The main reason for the improvement is the availability of additional water through the PPP Alpha schemes coming into service during 2008. Overall the WAFU has increased from 732.52Ml/d to 748.48Ml/d.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES**

**SECURITY OF SUPPLY INDEX - REFERENCE LEVELS OF SERVICE**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	WAFU (EA definition) (MI/d)	Bulk imports (MI/d)	Bulk exports (MI/d)	Dry year distribution input (MI/d)	Reporting year distribution input (MI/d)	Dry year available headroom (MI/d)	Target headroom (MI/d)	Surplus/ deficit (MI/d)	Percentage deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit2 x % population affected x 100)	Security of supply index
Ballinrees	25.90	0.00	0.00	19.45	17.55	6.45	2.00	4.45	21%	64.817	0%	0.000	
Altnahinch	17.83	0.00	0.00	14.72	13.64	3.11	1.38	1.73	11%	45.158	0%	0.000	
Ballymena	26.65	0.00	0.00	27.30	24.22	-0.65	2.06	-2.71	-9%	70.826	4%	0.034	
Antrim/Larne	36.20	0.00	0.00	33.49	30.23	2.71	2.80	-0.10	0%	96.208	5%	0.000	
Magherafelt	29.90	0.00	0.00	29.44	26.59	0.46	2.31	-1.85	-6%	67.184	4%	0.013	
Dungannon	5.80	0.00	0.00	6.16	5.19	-0.36	0.45	-0.80	-12%	9.812	1%	0.008	
Craigavon	77.60	0.00	0.00	80.84	72.37	-3.24	6.01	-9.24	-11%	172.874	10%	0.110	
Newry	54.50	0.00	0.00	50.90	45.77	3.60	4.22	-0.61	-1%	91.638	5%	0.001	
Lough Ross	7.50	0.00	0.00	7.07	6.41	0.43	0.58	-0.15	-2%	8.789	0%	0.000	
Armagh	22.80	0.00	0.00	21.33	18.26	1.47	1.76	-0.29	-1%	36.653	2%	0.000	
Eastern General /Greater Belfast	313.50	0.00	0.00	286.08	262.22	27.42	24.26	3.15	1%	812.921	0%	0.000	
Lough Cowey	3.70	0.00	0.00	3.72	3.10	-0.02	0.29	-0.31	-8%	7.747	0%	0.003	
Faughan	59.80	0.00	0.00	51.19	44.86	8.61	4.63	3.99	7%	134.105	0%	0.000	
Bradan	31.00	0.00	0.00	40.89	37.07	-9.89	2.40	-12.29	-28%	89.739	5%	0.408	
Killyhevlin	35.80	0.00	0.00	34.78	25.57	1.02	2.77	-1.75	-5%	65.150	4%	0.008	
<b>Total</b>	<b>748.48</b>	<b>0.00</b>	<b>0.00</b>	<b>707.33</b>	<b>633.05</b>					<b>1773.620</b>		<b>0.585</b>	<b>42</b>

**Table 10a (ii) – Security of Supply Index - Reference Level of Service**

The security of supply index has been calculated based on information in the 2002-2030 Water Resource Strategy (WRS) with WAFU and distribution input information updated to reflect actual conditions for 2008/09. There has been no separate assessment for a reference level of service and this has been reported on the same basis as the planned level of service. This issue will be addressed in the new water resource management plan.

NI Water believes there is a need to update the WRS to reflect current conditions and work to undertake a complete revision has commenced in May 2009 with the intention of having a draft plan complete by mid-2010. It is likely that the new water resource management plan will revise the current number of water resource zones as well as updating the approach to calculating target headroom. Output from the WRMP will increase the confidence for future reported SOSI calculations.

The index has moved considerably from that calculated for 2007/08, which was -26, to the 42 reported for 2008/09. The main reason for the improvement is the availability of additional water through the PPP Alpha schemes coming into service during 2008. Overall the WAFU has increased from 732.52Ml/d to 748.48Ml/d.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 11 NON FINANCIAL MEASURES  
WATER SERVICE ACTIVITIES (NIW Only)**

DESCRIPTION			UNITS	DP	1 BASE YEAR SBP 2006-07CG		2 REPORTING YEAR -1 2007-08CG		3 REPORTING YEAR 2008-09CG	
A ASSET BALANCE AT APRIL 1										
1	Total length of mains	km	2		25921.72	C3	25972.00	B3	26067.07	B3
B CHANGES DURING REPORT YEAR										
2	Mains renewed (Total)	km	2		239.87	B3	136	A2	288.62	C2
3	Mains relined (Total)	km	2		10.05	B3	0	A2	0.00	A2
4	Mains cleaned (total)	km	2				8259 jobs	C5	1925.35	B4
5	Distribution mains cleaned for quality (Total)	km	2				0	A2	96.41	C5
6	New mains (Total)	km	2		199.18	B3	238	A2	354.01	C2
7	Mains abandoned and other changes (Total)	km	2		148.9	B3	259	A2	360.48	C2
8	Lead communication pipes replaced - quality (Total)	nr	0						168	B3
9	Lead communication pipes replaced - maintenance or other (Total)	nr	0				659	B3	385	B3
10	Communication pipes replaced - other (Total)	nr	0				9809	B4	8801	B3
11	Mains bursts per 1000km	nr	0				139	C3	141	B3
C ASSET BALANCE AT MARCH 31										
12	Total length of mains	km	2		25972.00	B3	26067.07	B3	26349.22	B3
D DISTRIBUTION STUDIES										
13	Cumulative number of distribution zone studies completed	nr	0		22	A1	30	A1	46	A1
14	Distribution zone studies ongoing	nr	0		27	A1	21	A1	19	A1
15	Total distribution zones identified for study	nr	0		71	A1	71	A1	71	A1
16	Cumulative % distribution zone studies completed	%	1		31	A1	42.3	A1	64.8	A1
17	Percentage population/properties - completed studies	%	1		31	A1	43.1	A1	60.8	A1
E OTHER WATER SERVICE ACTIVITIES										
18	Length of aqueducts refurbished for maintenance	km	2							
19	Substantive refurb. work - dams & impounding reservoirs (maintenance)	nr	0							
20	Number of existing water treatment works refurbished for maintenance	nr	0							
21	Capacity of refurbished water treatment works for maintenance	MI/d	3							
22	Number of new or enhanced water treatment works for quality	nr	0							
23	Distribution input of new or enhanced water treatment works for quality	MI/d	0							
24	Number of pumping stations refurbished for maintenance	nr	0							
25	Number of service reservoirs & water towers refurbished for maintenance	nr	0							
26	Number of household meters renewed	nr	0							
27	Number of security related improvements	nr	0							
28	Environmental impact - number of investigations	nr	0							
29	Environmental impact - number of options appraisals	nr	0							
30	Other environmental improvements	nr	0							



**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 11 NON FINANCIAL MEASURES  
WATER SERVICE ACTIVITIES (PPP Only)**

DESCRIPTION	UNITS	DP	1		2		2	
			BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
			2006-07	CG	2007-08	CG	2008-09	CG
<b>A ASSET BALANCE AT APRIL 1</b>								
1 Total length of mains	km	2					0.00	A2
<b>B CHANGES DURING REPORT YEAR</b>								
2 Mains renewed (Total)	km	2					0.00	A1
3 Mains relined (Total)	km	2					0.00	A1
4 Mains cleaned (total)	km	2					0.00	A1
5 Distribution mains cleaned for quality (Total)	km	2					0.00	A1
6 New mains (Total)	km	2					16.42	A2
7 Mains abandoned and other changes (Total)	km	2					0.00	A1
8 Lead communication pipes replaced - quality (Total)	nr	0						
9 Lead communication pipes replaced - maintenance or other (Total)	nr	0						
10 Communication pipes replaced - other (Total)	nr	0						
11 Mains bursts per 1000km	nr	0					0.00	A1
<b>C ASSET BALANCE AT MARCH 31</b>								
12 Total length of mains	km	2					16.42	A2
<b>D DISTRIBUTION STUDIES</b>								
13 Cumulative number of distribution zone studies completed	nr	0						
14 Distribution zone studies ongoing	nr	0						
15 Total distribution zones identified for study	nr	0						
16 Cumulative % distribution zone studies completed	%	1						
17 Percentage population/properties - completed studies	%	1						
<b>E OTHER WATER SERVICE ACTIVITIES</b>								
18 Length of aqueducts refurbished for maintenance	km	2						
19 Substantive refurb. work - dams & impounding reservoirs (maintenance)	nr	0						
20 Number of existing water treatment works refurbished for maintenance	nr	0						
21 Capacity of refurbished water treatment works for maintenance	MI/d	3						
22 Number of new or enhanced water treatment works for quality	nr	0						
23 Distribution input of new or enhanced water treatment works for quality	MI/d	0						
24 Number of pumping stations refurbished for maintenance	nr	0						
25 Number of service reservoirs & water towers refurbished for maintenance	nr	0						
26 Number of household meters renewed	nr	0						
27 Number of security related improvements	nr	0						
28 Environmental impact - number of investigations	nr	0						
29 Environmental impact - number of options appraisals	nr	0						
30 Other environmental improvements	nr	0						

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 11 NON FINANCIAL MEASURES  
WATER SERVICE ACTIVITIES (Total)**

DESCRIPTION	UNITS	DP	1 BASE YEAR SBP 2006-07 CG		2 REPORTING YEAR -1 2007-08 CG		3 REPORTING YEAR 2008-09 CG	
<b>A ASSET BALANCE AT APRIL 1</b>								
1 Total length of mains	km	2	25921.72	C3	25972	B3	26067.07	B3
<b>B CHANGES DURING REPORT YEAR</b>								
2 Mains renewed (Total)	km	2	239.87	B3	136	A2	288.62	C2
3 Mains relined (Total)	km	2	10.05	B3	0	A2	0.00	A2
4 Mains cleaned (total)	km	2			8259 jobs	C5	1925.35	B4
5 Distribution mains cleaned for quality (Total)	km	2			0	A2	96.41	C5
6 New mains (Total)	km	2	199.18	B3	238	A2	370.43	C2
7 Mains abandoned and other changes (Total)	km	2	148.9	B3	259	A2	360.48	C2
8 Lead communication pipes replaced - quality (Total)	nr	0					168	B3
9 Lead communication pipes replaced - maintenance or other (Total)	nr	0			659	B3	385	B3
10 Communication pipes replaced - other (Total)	nr	0			9809	B4	8801	B3
11 Mains bursts per 1000km	nr	0			139	C3	141	B3
<b>C ASSET BALANCE AT MARCH 31</b>								
12 Total length of mains	km	2	25972	B3	26067.07	B3	26365.65	B3
<b>D DISTRIBUTION STUDIES</b>								
13 Cumulative number of distribution zone studies completed	nr	0	22	A1	30	A1	46	A1
14 Distribution zone studies ongoing	nr	0	27	A1	21	A1	19	A1
15 Total distribution zones identified for study	nr	0	71	A1	71	A1	71	A1
16 Cumulative % distribution zone studies completed	%	1	31	A1	42.3	A1	64.8	A1
17 Percentage population/properties - completed studies	%	1	31	A1	43.1	A1	60.8	A1
<b>E OTHER WATER SERVICE ACTIVITIES</b>								
18 Length of aqueducts refurbished for maintenance	km	2						
19 Substantive refurb. work - dams & impounding reservoirs (maintenance)	nr	0						
20 Number of existing water treatment works refurbished for maintenance	nr	0						
21 Capacity of refurbished water treatment works for maintenance	MI/d	3						
22 Number of new or enhanced water treatment works for quality	nr	0						
23 Distribution input of new or enhanced water treatment works for quality	MI/d	0						
24 Number of pumping stations refurbished for maintenance	nr	0						
25 Number of service reservoirs & water towers refurbished for maintenance	nr	0						
26 Number of household meters renewed	nr	0						
27 Number of security related improvements	nr	0						
28 Environmental impact - number of investigations	nr	0						
29 Environmental impact - number of options appraisals	nr	0						
30 Other environmental improvements	nr	0						

**Table 11 – Water Service Activities****General**

NIW intends to replace/rehabilitate approximately 1.3% of the watermain network on an annual basis. This is equivalent to 915 km over the 3 year period of 2007/08, 2008/09 and 2009/10.

One of the main drivers for the watermain 'rehab' project is water quality. The rehab programme is driven by a priority scoring. The coarse information used at the outset to define zonal study priority is further refined to determine exact construction priority. These work packages are then further split into high and low priority areas. At each stage more information has been gathered to ensure that the most accurate and up to date information is utilised.

**Line 1 – Total length of mains**

The value for line 1 is taken from line 12 of AIR08 i.e. 26067.07km.

**Lines 3- 11**

Information is compiled by summation of separate returns from Networks Water and E&P.

**Lines 2, 3, 6, 7, 8, 9, & 10.**

All E&P information for these lines is compiled from E&P contract management information monthly returns. This is an accurate measurement of the actual lengths of watermain 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 – E&P returns for these lines have a confidence grade A2.

**Line 2 - Mains Renewed**

The E&P figure is 287.14 km with a Confidence Grade of A2.

**Networks Water**

Data for line 2 was not captured by Networks Water for report period 2007/08.

Detailed data for period September 2008 – March 2009 was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

Data capture for length of mains renewed commenced in September 2008 and extrapolation used for period April 2008 – August 2008.

**Mains Renewed per km**

Function	Total before Extrapolation	Total after Extrapolation	Difference
Networks	0.865	1.483	0.618 (42%)

**Confidence Grade C5**

When monthly data was not recorded extrapolation was used therefore reliability band is C. The percentage of extrapolated data equates to 42%, therefore the accuracy band is 5.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

**Line 3 - Mains Relined**

No mains were relined by E&P during the reporting year and at present this operation is not carried out by Networks Water.

**Line 4 - Mains Cleaned per km**

EP does not undertake this function as part of construction projects.

**Networks Water**

Detailed data for reporting period was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

The recorded units were number of fire hydrant flushes which are then converted from units to km using the factor of 0.156.

2008 information return was 8259 flushings (after extrapolation)

2009 information return is 12342 flushings = **1925.35 kms**

This gives an increase of 142% in the total number of flushings. A flushing programme using Maintenance Scheduled tasks (MST's) has been established and Work Orders are automatically generated and sent to the Field Operators. This information is captured on the MWM system.

**Confidence Grade: B4**

As per audit recommendations the number of flushings has been converted to km. Increase in Confidence Grade from C5 – B4.

The number of flushings has been captured for the complete year using base information from MWM and then converted to km using the factor of 0.156

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

**Line 5 - Distribution Mains cleaned for quality**

EP does not undertake this function as part of construction projects.

**Networks Water**

Data for line 5 was not captured by Networks Water for report period 2007/08.

Detailed data for period August 2008 – March 2009 was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

Data capture for length of mains renewed commenced in August 2008 and extrapolation used for period April 2008 – July 2008. The recorded units were number of fire hydrant flushes which are then converted from units to km using the factor of 0.156.

Distribution Mains cleaned for quality

Function	Total before Extrapolation	Total after Extrapolation	Difference
Networks	64.27	96.41	32.14 (33.34%)

#### Confidence Grade: C5

When monthly data was not recorded extrapolation was used therefore reliability band is C. The percentage of extrapolated data equates to 33%, therefore the accuracy band is 5.

#### Future Reporting

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

#### Line 6 - New Mains

The E&P figure is 351.47 km with a Confidence Grade of A2.

#### Networks Water

Data for line 6 was not captured by Networks Water for report period 2007/08.

Detailed data for period October 2008 – March 2009 was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

Data capture for length of mains renewed commenced in October 2008 and extrapolation used for period April 2008 – September 2008.

#### New Mains per km

Function	Total before Extrapolation	Total after Extrapolation	Difference
Networks	1.27	2.54	1.27 (50%)

#### Confidence Grade C5

When monthly data was not recorded extrapolation was used therefore reliability band is C. The percentage of extrapolated data equates to 50%, therefore the accuracy band is 5.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly Reporting using MWM as a source for base information.

**Line 7 - Mains abandoned and other changes**

The E&P figure is 469.35 km with a Confidence Grade of A2.

**Networks Water**

Data for line 7 was not captured for report period 2007/08.

Detailed data for period October 2008 – March 2009 was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

Data capture for length of mains renewed commenced in October 2008 and extrapolation used for period April 2008 – September 2008.

**Mains abandoned and other changes per km**

Function	Total before Extrapolation	Total after Extrapolation	Difference
Networks	0.75	1.50	0.75 (50%)

**Confidence Grade C5**

When monthly data was not recorded extrapolation was used therefore reliability band is C. The percentage of extrapolated data equates to 50%, therefore the accuracy band is 5.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

The figure on Line 7 has been reduced by 110.37km. This is an adjustment to ensure the asset balance at the start of the year, held in GIS, with additions and removals recorded by E&P and Networks Water matches the asset balance, held in GIS, at the end of the year.

It is recognised that these records are not wholly complete or accurate and that there are known missing records from GIS, which are unaccounted for.

The difference in the value for the length of mains may be due to a number of reasons:

- Data cleansing exercises that have been carried out on the data i.e. unknown pipe sizes now populated and spuriously high or low pipe sizes being fixed to reflect actual sizes,
- Mains in different bands being taken out of service,
- Mains in particular bands being replaced with different pipe sizes that would make them fall into other bands,

- New records being added to GIS to reflect new or historical mains,
- Time lag between records and drawings being added to the GIS system.

**Line 8 - Lead Communication pipes replaced – quality**

No lead communication pipes were replaced by E&P during the reporting year.

**Networks Water**

Data capture for lines 8 & 9 was combined for reporting period 2007/08.

Detailed data for reporting period was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period. Number of Lead Communication pipes replaced = **168**.

**Confidence Grade B3**

The number of pipes replaced has been captured for the complete year using base information from MWM.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

**Line 9 - Lead Communication pipes replaced – maintenance / other**

The E&P figure is 284 km with a Confidence Grade of A2.

**Networks Water**

Data capture for lines 8 & 9 was combined for reporting period 2007/08.

Detailed data for reporting period was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period. Number of Lead Communication pipes replaced = **101**.

**Confidence Grade B3**

The number of pipes replaced have been captured for the complete year using base information from MWM.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

**Line 10 - Communication pipes replaced – other**

The E&P figure is 7808 with a Confidence Grade of A2.

**Networks Water**

Detailed data for reporting period was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

2007 information return was 2513

2008 information return was 5093

2009 information return is 993

The E&P Mains Rehabilitation Programme has contributed to the reduction in Communication Pipes replaced by Networks Water in the current reporting year.

**Confidence Grade B4**

The number of pipes replaced have been captured for the complete year using base information from MWM.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

**Line 11 Mains bursts per 1000km**

The specified unit for Line 11 is Mains Bursts per 1000km. NIW do not currently record Mains Bursts per 1000km but record the number of Mains Bursts jobs. This will be converted using the "Figure of Potable Mains Length" for NIW. (26,625.6kms)

Detailed data for reporting period was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period. The totals for Networks Water were then converted from units to bursts/km.

**Leakage Data**

A figure for mains repair was also obtained from the Leakage function using source information from their Leakage Activities Database (LAD) with supplementary information from MWM.

**Number of Burst Mains**

Activity	Number
Networks Water	2288
Leakage	1476
<b>Total</b>	<b>3764</b>

**Calculation of Mains Bursts per 1000kms**

Total Burst Mains divided by Total length of mains multiplied by 1000:

$$3764 / 26,625.6 = 0.1414 \times 1000 = 141.38$$

**Total Bursts per 1000kms = 141**



2007 information return was 5054  
2008 information return was 3611  
2009 information return was **3764**

### Proportion of Bursts within Line 11 detected by Proactive Methods.

The number of Mains Repairs carried out by Networks Water Function was **2288**.

The number of Mains Repairs carried out by Leakage Function was **1476**.

The total number of Mains Repairs carried out by NIW was **3764**.

Active Leakage Control accounted for 39% of the total number of Mains Repairs carried out by NIW.

### Confidence Grade B3

The number of bursts for Networks Water have been captured for the complete year using base information from MWM plus information captured by the Leakage function.

### Future Reporting

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

#### NETWORKS WATER

##### Grand Summary for AIR09

LINE No	CATEGORY	Unit	Code	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total	AIR09
11b-2	Mains Repair (excluding waste detection)	no	320	158	149	158	113	126	128	149	195	278	263	208	171	2096	141
11b-3	Mains Repair (due to waste detection)	no	320	1	7	31	18	12	22	11	12	28	33	14	3	192	
10b-6	Communication Pipes Replaced other	no	321	106	60	68	61	61	64	53	107	44	52	147	170	993	993
8b-7	Lead Communication Pipes Replaced (Quality)	no	326	3	12	14	12	11	7	12	21	10	17	27	22	168	168
9b-8	Lead Communication Pipes Replaced (Maintenance)	no	326	10	6	8	12	5	10	3	3	24	17	3	0	101	101
4b-9	Mains Cleaning (Jobs Completed)	no	324	800	896	972	1083	1054	1373	1211	1176	1157	1232	776	612	12342	1925.4
5b-34	Mains Cleaned for Quality (Jobs Completed)	no	324	0	0	0	0	6	51	63	46	65	66	37	78	412	96.41
2b-35	Mains Renewed (Like for like) Mts	m	200	0	0	0	0	0	235	210	200	140	0	0	80	865	1.483
6b-36	New Mains (Replacement Upsizing) Mts	m	200	0	0	0	0	0	0	600	200	200	270	0	0	1270	2.54
7b-37	Mains Abandoned Mts	m	200	0	0	0	0	0	0	500	0	100	150	0	0	750	1.5
3b-38	Mains Relined Mts	m	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0

#### NETWORKS WATER

##### Grand Summary for AIR09

LINE No	CATEGORY	Unit	Code	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Total	Total 08	Extrapolate	AIR09
11b-2	Mains Repair (excluding waste detection)	no	320	158	149	158	113	126	128	149	195	278	263	208	171	2096	2162		141
11b-3	Mains Repair (due to waste detection)	no	320	1	7	31	18	12	22	11	12	28	33	14	3	192			
10b-6	Communication Pipes Replaced other	no	321	106	60	68	61	61	64	53	107	44	52	147	170	993	5093		993
8b-7	Lead Communication Pipes Replaced (Quality)	no	326	3	12	14	12	11	7	12	21	10	17	27	22	168			168
9b-8	Lead Communication Pipes Replaced (Maintenance)	no	326	10	6	8	12	5	10	3	3	24	17	3	0	101			101
4b-9	Mains Cleaning (Jobs Completed)	no	324	800	896	972	1083	1054	1373	1211	1176	1157	1232	776	612	12342	8259		1925.4
5b-34	Mains Cleaned for Quality (Jobs Completed)	no	324	0	0	0	0	6	51	63	46	65	66	37	78	412	No data	618	96.41
2b-35	Mains Renewed (Like for like) Mts	m	200	0	0	0	0	0	235	210	200	140	0	0	80	865	No data	1483	1.483
6b-36	New Mains (Replacement Upsizing) Mts	m	200	0	0	0	0	0	0	600	200	200	270	0	0	1270	No data	2540	2.54
7b-37	Mains Abandoned Mts	m	200	0	0	0	0	0	0	500	0	100	150	0	0	750	No data	1500	1.5
3b-38	Mains Relined Mts	m	200	0	0	0	0	0	0	0	0	0	0	0	0	0	No data		0

### Line 12 – Total length of mains (at 31 March 2009)

The value of 26349.22km has been extracted from NI Water digital data which is held in the NIMS MapInfo GIS.

The confidence grade B3 reflects the degree of inaccuracy and lack of completeness of this information in the NIMS MapInfo GIS.

**Lines 13 – Cumulative number of distribution studies**

NIW's zonal studies conform to industry best practice and have been audited on several occasions.

This value is derived from the number of zones studied year by year against a total of 71 no. zones in Northern Ireland with start/finish dates held on the following spreadsheet. 46 no. zonal studies have been completed since the start of the Zonal study programme. The latter is highlighted in yellow in the table below.

Confidence grade A1 reflects actual zonal study report.

<b>Zonal Studies Start &amp; Completion Dates (31 March 2009)</b>			
<b>Zone</b>	<b>Area</b>	<b>Start Date</b>	<b>Completion Date</b>
Craigavon West	SE	11/11/99	Aug-01
B'mena Borough	NW	20/04/00	Dec-02
Silent Valley	SE	16/07/01	Jan-Mar 04
Fofanny Newry	SE	16/07/01	Jan-Mar 04
Camlough	SE	10/10/01	Jan-Mar 04
Ballinrees West	NW	07/01/02	Apr-Jun 03
Breda South	SE	20/03/01	Oct-02
Cityside	NW	09/08/00	Oct-04
Castor Bay/Armagh	NW	18/12/02	Feb-06
Seagahan	NW	18/12/02	Feb-06
Clay Lake	NW	18/12/02	Feb-06
Ards North	SE	24/06/03	Nov-05
Lough Cowey	SE	24/06/03	Nov-05
Bangor Outer	SE	24/06/03	Nov-05
Castor Bay/Magheraliskmisk	SE	19/11/03	Nov-05
Altnahinch	NW	04/06/01	Feb-03
Drumabest	NW	05/06/01	Feb-03
Ballinrees East	NW	07/01/02	Apr-Jun 03
Ballinrees Central	NW	07/01/02	Apr-Jun 03
Dungonnell	NW	30/05/01	Jan-05
North Tyrone	NW	10/05/01	May-Jun 06
South West	NW	10/05/01	May-Jun 06
Tardree	NW	04/09/03	Mar-09
Dunore West	NW	04/09/03	Mar-09
Lough Fea	NW	23/04/01	Dec-07
Castlereagh	SE	19/05/02	Nov-07
Purdysburn East	SE	19/05/02	Nov-07
Castor Bay Shanmoy	NW	12/11/02	Ongoing
Altmore/Gortlenaghan	NW	12/11/02	Ongoing
Newtownards Town	SE	02/11/04	Dec-07
Ballintemple	SE	02/07/02	Ongoing
Lough Ross	SE	02/07/02	Ongoing
<b>Zone</b>	<b>Area</b>	<b>Start Date</b>	<b>Completion</b>

			<b>Date</b>
Fofanny B'bridge	SE	05/04/01	Dec-07
Castor Bay/Banbridge	SE	05/04/01	Dec-07
Carmony East	NW	04/07/01	Mar-08
Waterside	NW	04/07/01	Mar-08
Moyola	NW	01/10/01	Ongoing
Lisburn Town	SE	29/04/03	Jan-08
Lisburn Rural	SE	29/04/03	Jan-08
Mid Down	SE	02/11/04	Feb-09
Ballygowan	SE	02/11/04	Feb-09
Comber	SE	02/11/04	Feb-09
Craigavon North	SE	19/11/03	Feb-08
Craigavon South	SE	19/11/03	Feb-08
Limavady	NW	19/05/04	Sep-08
North East	NW	19/05/04	Sep-08
South	NW	06/01/03 (Hyder Jan 08)	Ongoing
South East	NW	06/01/03 (Hyder Jan 08)	Ongoing
N Down/Bangor	SE	01/04/06	Jan-08
South Down	SE	15/06/07	Mar-09
Downpatrick	SE	15/06/07	Mar-09
Newcastle	SE	15/06/07	Mar-09
Mourne Coastal	SE	15/06/07	Mar-09
Breda North	SE	22/02/08	Ongoing
Belfast East	SE	22/02/08	Ongoing
Hollywood	SE	22/02/08	Ongoing
Dunmurry	SE	Jul-08	Ongoing
Lisburn South Rural	SE	Jul-08	Ongoing
Ballywonard/Dunanney	SE	Jun-08	Ongoing
Ballysillan/Ballyaghagan	SE	Jun-08	Ongoing
West Belfast rural	SE	Jun-08	Ongoing
Omagh	NW	Jul-08	Ongoing
Dunore East	NW	2009/10	
Killylane	NW	2009/10	
Lough Mourne	SE	05/02/09	Ongoing
Carrickfergus	SE	05/02/09	Ongoing
Newtownabbey	SE	05/02/09	Ongoing
Whiterock	SE	2009/10	
Ballygomartin/Purdysburn West	SE	2009/10	
Oldpark	SE	2009/10	
Ballygomartin North	SE	2009/10	
<b>KEY</b>			
Started/finished	46		
Started/ongoing	19		
Programmed to start	6		
Remaining zones to start	0		

**Line 14 – Distribution zone studies ongoing**

The number of zonal studies ongoing, 19 no., is taken from the above Table as held by the Project Management team.

**Line 15 – Total distribution zones identified for study**

Total zones identified for study encompasses the 71 no. Distribution Zones in Northern Ireland.

**Line 16 – Cumulative % distribution zone studies completed**

The percentage figure is calculated from the Zonal studies completed (46 no.) compared to the number of zones to be studies (71 no.). Figures from above Table.

**Line 17 – Percentage population / properties – completed studies**

The population for zones is calculated using the zone boundaries which are applied to the POINTER address database and the NISRA population projections, as described in the commentary for the Leakage Table.

The 60.8% accounts for updated studies up to 31 March 2009.

**PPP Only****Lines 1, 2, 3, 6, 7, 11 and 12**

Under the terms of its contract with Northern Ireland Water, the PPP provider (Dalriada) was contracted to Design, Build, Finance and Operate (DBFO) a Link Main Facility between the Castor Bay Water Treatment Works and Forked Bridge Delivery Points.

This represented an efficiency opportunity for NIW as there was previously a fully manned and separate Water Treatment Works at Forked Bridge but by virtue of the Link Mains.

Forked Bridge became an unmanned delivery outlet linked by means of the DBFO Link Mains to the Castor Bay Water Treatment Works. Castor Bay was in turn upgraded in both quality and quantity of water to be able to support Forked Bridge.

The DBFO Link Main was duly completed over the course of 2008 and, following a series of Acceptance Tests, was certified as having achieved Service Commencement in accordance with the terms of the Contract on 16 December 2008. By granting Service Commencement, NIW confirmed that the Link Mains had been built - and was demonstrated as being able to operate - in accordance with the specification as outlined in the Contractors Proposals. The total length of the DBFO Link Main is 16424 m.

There are 2 delivery point flow meters at Castor Bay and 2 delivery point flow meters at Forked Bridge. As described in table 10 these flowmeters provide highly accurate and reliable measurements of the water entering in to the distribution system. This includes - in the case of Castor bay and Forked Bridge - a measurement of the water entering and exiting the DBFO Link Mains.

Should there be a failure of the DBFO Link Main a significant discrepancy would be immediately apparent in the flow meter readings. The level in the balance tank at Forked Bridge would also fall leading to an alarm over telemetry. This would also have the effect of under delivery of Qcall to NIW initiating an alert on the NIW systems. There have been no such alarms and no bursts over the period that the DBFO Link Mains has been in operation.

In common with the Water Treatment Works Dalriada Water Limited are obligated to carry out extensive annual programmes of pro-active maintenance which are submitted to NIW for their approval on an annual basis. Through this mechanism there is an ongoing focus on the integrity and reliability of all assets including the DBFO Link Mains.

# **NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

## **ANNUAL INFORMATION RETURN - TABLE 11A NON FINANCIAL MEASURES WATER SERVICE SERVICEABILITY INDICATORS (NIW Only)**

DESCRIPTION		1		2	
		NUMBER OF WTWs		OUTPUT FOR CALENDAR YEAR	CG
A	WATER TREATMENT WORKS - TURBIDITY	UNITS	DP	UNITS	DP
1	95%ile greater than or equal to 0.5NTU	nr	0	MI/d	2
2	95%ile less than 0.5NTU	5		8.57	A2
3	Turbidity not recorded	30		612.10	A2
4	Total	0		0.00	A2
		35		620.67	A2

# **NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

## **ANNUAL INFORMATION RETURN - TABLE 11A NON FINANCIAL MEASURES WATER SERVICE SERVICEABILITY INDICATORS (PPP Only)**

DESCRIPTION		1		2	
		NUMBER OF WTWs		OUTPUT FOR CALENDAR YEAR	CG
A	WATER TREATMENT WORKS - TURBIDITY	UNITS	DP	UNITS	DP
1	95%ile greater than or equal to 0.5NTU	nr	0	MI/d	2
2	95%ile less than 0.5NTU	0		0.00	A2
3	Turbidity not recorded	0		0.00	A2
4	Total	0		0.00	A2

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 11A NON FINANCIAL MEASURES  
WATER SERVICE SERVICEABILITY INDICATORS (Total)**

DESCRIPTION		1		2	
		NUMBER OF WTWs		OUTPUT FOR CALENDAR YEAR	CG
A	WATER TREATMENT WORKS - TURBIDITY	UNITS	DP	UNITS	DP
1	95%ile greater than or equal to 0.5NTU	nr	0	MI/d	2
2	95%ile less than 0.5NTU	5		8.57	A2
3	Turbidity not recorded	30		612.10	A2
4	Total	0		0.00	A2
		35		620.67	A2



**Table 11a – Water Service Serviceability Indicators****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 of 8 non-compliant small water treatment works/sources.

The turbidity compliance at WTWs has improved in 2008 with 42 exceedances of the limit in 2008, compared to 50 in the equivalent period in 2007.

For the purposes of this return following new guidance from NIAUR, NI Water has assessed the 5 Alpha PPP sites as part of the overall NI Water input. The new guidance states:

- The WTW performance should be reported in one 'input' table only. If NI Water operated the WTW for the majority of the year it should be reported in the 'NI Water only' table (vice versa if it was operated by the PPP concessionaire for the majority of the year).
- Full year data should be used for determining the works performance (i.e. irrespective of whether the works was operated by NI Water or the PPP concessionaire).

**2008 PPP Sites reported as NI Water Sites**

Site Code	Site Name		Site Code	Site Name
W1301P	Moyola PPP	reported as	W1301	Moyola
W1701P	Ballinrees PPP	reported as	W1701	Ballinrees
W2308P	Castor Bay PPP	reported as	W2308	Castor Bay
W3301P	Dunore Point PPP	reported as	W3301	Dunore Point
W3315P	Forked Bridge Works PPP	reported as	W3315	Forked Bridge Works

If the sites were assessed individually, using the contractual handover date as the end of year date, the 95%ile figures would be as below:

Site Code	Site Name	Start Date	End Date	95%ile
W1301	Moyola	01-Jan-08	09-Sep-08	0.54
W1301P	Moyola PPP	10-Sep-08	31-Dec-08	0.10
W1701	Ballinrees	01-Jan-08	11-Oct-08	0.40
W1701P	Ballinrees PPP	12-Oct-08	31-Dec-08	0.13
W2308	Castor Bay	01-Jan-08	17-Dec-08	0.40
W2308P	Castor Bay PPP	18-Dec-08	31-Dec-08	0.11
W3301	Dunore Point	01-Jan-08	17-Dec-08	0.30
W3301P	Dunore Point PPP	18-Dec-08	31-Dec-08	0.11
W3315	Forked Bridge 95%ile	01-Jan-08	17-Dec-08	0.50
W3315P	Forked Bridge PPP 95%ile	18-Dec-08	31-Dec-08	0.11

This clearly shows the immediate effect of the PPP works coming into service, including W1301 Moyola avoiding breaching the 0.5 NTU limit for the year but instead having an overall 95%ile of 0.4 NTU.

#### **Lines 1 – 4**

The data used for the estimation of average flow at WTWs in Table 11a lines 1 - 4 was supplied from operations leakage metering. This data was estimated prior to 2005 to allow the scheduling of audit samples to meet regulatory requirements during the year. This scheduling was audited by DWI. For the purposes of scheduling from 2007, an estimate of expected daily throughput by works was received from operational scientists in order to populate the LIMS system for frequency of sampling. 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.

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 were included. This led to the exclusion of 8 sites which were put out of service during the reporting period, with 35 other sites reported on. In its Drinking Water Quality Report for 2008, NI Water has reported overall on 43 sites.

#### **2008 WTW Excluded from calculations**

<b>Site Code</b>	<b>Site Name</b>	<b>Reason</b>
W1705	Drumabest Borehole	Out of service at year end
W3391	Forked Bridge / Lagan Valley Boreholes Poleglass	Out of service at year end
W3392	Mourne / Lagan Valley Boreholes Breda	Out of service at year end
W3501	Ballysallagh Works	Out of service at year end
W3505	Lough Cowey	Out of service at year end
W3593	Mourne / Ards Boreholes at Ballycullen Low	Out of service at year end
W3595	Mourne / Ards Boreholes at Whitespots	Out of service at year end
W3786	Forked Bridge / Barbour Boreholes at Northern	Out of service at year end
<b>Count</b>	<b>8 Sites</b>	

- All works which were sampled for audit purposes during 2008 were included in assessment. Standby WTWs were not included in these calculations, as no audit samples were lifted during the monitoring period.
- Only scheduled, compliant samples from were included in calculations – no adhoc or survey included and no results from online monitors.
- The data was captured and retrieved using Water Service's UKAS audited LIMS (Laboratory Information Management System).
- For results less than the limit of detection, 50% of the LOD was used in the calculated assessment.
- The 95%ile compliance was calculated using standard MS Excel formulae, with all reported audit analyses included for each site,

e.g. =PERCENTILE(K2:K366,0.95) where cell K2 is the first cell in the data range and K366 is the last cell in the data range.

### 2008 WTW Included in calculations

Site Code	Site Name	ML/d	95%ile	> 0.5NTU	MI/d > 0.5	MI/d <= 0.5
W1301	Moyola	14.58	0.4	0		14.58
W1302	Lough Fea	11.87	0.3	0		11.87
W1303	Dungonnell	9.05	0.3	0		9.05
W1307	Buckna Borehole	1.57	0.2	0		1.57
W1310	Glarryford Borehole	4.02	0.2	0		4.02
W1501	Killylane	11.51	0.3	0		11.51
W1701	Ballinrees	19.61	0.4	0		19.61
W1702	Altnahinch	8.06	0.2	0		8.06
W1704	Alcrossagh Borehole	2.63	0.2	0		2.63
W1706	Rathlin Borehole	0.11	0.7	1	0.11	
W2308	Castor Bay	83.11	0.4	0		83.11
W2501	Altmore	3.90	0.985	1	3.90	
W2509	Clay Lake	3.92	0.4	0		3.92
W2512	Gortlenaghan Borewell	0.98	2.235	1	0.98	
W2514	Seagahan	10.99	0.4	0		10.99
W2515	Shanmoy Borewell	2.67	0.6	1	2.67	
W2706	Camlough	4.48	0.5	0		4.48
W2801	Fofanny (New Works)	39.38	0.2	0		39.38
W2802	Carron Hill (New works)	6.26	0.2	0		6.26
W3301	Dunore Point	111.68	0.3	0		111.68
W3315	Forked Bridge Works	15.07	0.5	0		15.07
W3317	Dorisland	29.55	0.4	0		29.55
W3320	Creighton's Green	0.56	0.3	0		0.56
W3801	Drumaroad WTW	118.64	0.3	0		118.64
W4301	Carmony	20.13	0.5	0		20.13
W4306	Caugh Hill	22.25	0.4	0		22.25
W4324	Stradreagh	0.91	0.545	1	0.91	
W4326	Brishey	0.98	0.3	0		0.98
W4501	Derg	12.40	0.2	0		12.40
W4513	Lough Bradan	7.94	0.4	0		7.94
W4523	Lough Macrory	11.64	0.2	0		11.64
W4541	Glenhordial	4.27	0.3	0		4.27
W4542	Lenamore Springs	0.41	0.245	0		0.41
W4701	Killyhevlin	23.91	0.3	0		23.91
W4722	Belleek	1.66	0.2	0		1.66
<b>Count</b>	<b>35 Sites</b>	<b>620.67</b>	<b>Count</b>	<b>5</b>	<b>8.57</b>	<b>612.10</b>

**ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES**  
**WATER EXPLANATORY FACTORS - (NIW Only)**

<b>A</b>	<b>SOURCE TYPES AND PUMPING</b>		
1	Impounding reservoirs		
2	River abstractions		
3	Boreholes		
4	Source types and pumping; total		
5	Average pumping head - total	m.hd	1

<b>C</b>	<b>POTABLE MAINS</b>		
13	Potable mains (nominal bore)	km	2

UNITS	DP	UNITS	DP	UNITS	DP
nr	0	Prop'n (0-1)	3	Prop'n (0-1)	3
18					
6					
14					
38		0		0	
N/C					

21101.41	3737.48	1285.02	225.31
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**ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES**  
**WATER EXPLANATORY FACTORS - (PPP Only)**

<b>A</b>	<b>SOURCE TYPES AND PUMPING</b>		
1	Impounding reservoirs		
2	River abstractions		
3	Boreholes		
4	Source types and pumping; total		
5	Average pumping head - total	m.hd	1

UNITS	DP	UNITS	DP	UNITS	DP
nr	0	Prop'n (0-1)	3	Prop'n (0-1)	3
1					
3					
0					
4		0		0	
N/C					

TOTAL PROP'N OF D.I.	TOTAL NR OF WORKS
-------------------------	----------------------

UNITS	DP	UNITS	DP
Prop'n (0-1)	3	nr	0
		0	
		0	
		0	
		0	
		4	
0.000			
		4	

		16.42	
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**ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES**  
**WATER EXPLANATORY FACTORS - (Total)**

<b>A</b>	<b>SOURCE TYPES AND PUMPING</b>		
1	Impounding reservoirs		
2	River abstractions		
3	Boreholes		
4	Source types and pumping: total		
5	Average pumping head - total	m.hd	1

<b>C</b>	<b>POTABLE MAINS</b>		
13	Potable mains (nominal bore)	km	2

UNITS	DP	UNITS	DP	UNITS	DP
nr	0	Prop'n (0-1)	3	Prop'n (0-1)	3
19		0.514		0	
9		0.458		0	
14		0.028		0	
42		1		0	
113.67					

UNITS	DP	UNITS	DP
Prop'n (0-1)	3	nr	0
0.013		10	
0		0	
0.015		4	
0.377		14	
0.595		14	
1			
		42	

21101.41	3737.48	1301.444	225.307
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**Table 12 – Water Explanatory Factors****Lines 1-4 and 6-12 Source Types and Treatment Types (NIW only)**

This information is based on information obtained from the Water Supply Section. The 38 NIW only sources (including Forked Bridge) considered for this return were in service for part or all of the AIR09 period.

The following boreholes were out of service, hence no abstraction, during the past year:

- Lesters Dam
- Glenburn

There have been no changes to treatment processes or types of any of the other sources since AIR08.

The PPP sources are as follows, and hence are excluded from this 'NIW only' table:

- Moyola WTW
- Ballinrees WTW – (which has 3 feeds i.e. Ballinrees Impounding Reservoir, Ballinrees River Abstraction and Altikerragh Impounding Reservoir - however Ballinrees WTW is viewed as being one source)
- Castor Bay WTW
- Dunore Point WTW

**Lines 1-4 and 6-11 Distribution Input (Total )**

These cells have not been completed in the 'NIW only' or the 'PPP only' tables as PPP does not supply into the distribution system and hence the PPP section does not have such information. The distribution input information obtained from the Leakage Section pertains to both NIW and PPP sources.

It should be noted that although PPP is reporting on 4 source types, as only these can supply into the distribution system. Altikeeragh Impounding Reservoir feeds only into Ballinrees WTW. In addition Ballinrees WTWs has 2 feeds i.e. an impounding reservoir and a river abstraction, but the river abstraction feeds into the impounding reservoir. Hence since Ballinrees WTW can only receive flow from Ballinrees Impounding Reservoir, there is only one source in accordance to the NIAUR AIR09 Chapter 12 guidance i.e. 'If a treatment works receives water from a reservoir that has been filled by another reservoir then this would be classified as one reservoir source.' Altikeeragh Impounding Reservoir and Ballinrees river abstraction cannot feed directly into the WTWs.

Hence the distribution input information from Leakage Section pertains to the 42 sources.

Leakage Section provided the Distribution Input of 635.56MI/d (which is the pre Maximum Likelihood Estimate leakage DI value) against the 42

impounding reservoirs, river abstractions and borehole sources, as identified by Water Supply Section.

The Distribution Input has been given a Confidence Grade of B2.

However it should be noted that a more recent adjusted Distribution Input of 633MI/d (which is the post Maximum Likelihood Estimate leakage DI value) has been received from Leakage Section and has been used for the derivation of the Average Pumping Head.

Due to the fact that the 633MI/d was adjusted only to resource zone level, it was not possible to apply it to the individual sources for the distribution proportion in lines 1 to 4, and 6 to 11.

Although the Water Supply Section had listed the Ballycullen Boreholes as in service for part of the AIR09 period, Leakage Section had not provided a Distribution Input for them. Leakage Section has advised that the Ballycullen Boreholes had produced an average of 1.707MI/day (equating to 0.337MI/day during the AIR09 period) until 10 June 2008, the latter being the last date on which flows were available. Leakage Section has stated that it has not made any amendments to the overall DI figure of 635.56MI/d, to take account of the Ballycullen Boreholes, but would make reference to the latter in their commentary. Hence with reference to Table 12, the Ballycullen Boreholes has been counted as a borehole with zero D.I. It should be noted however that the addition of the 0.337MI/day would have minimal effect on the overall proportional D.I..

#### **Line 5 – Average pumping head**

The Average Pumping Head of 113.67m has been computed on the basis of all NIW and PPP sources combined.

Efforts for the AIR09 Average Pumping Head calculation were centred on using a greater proportion of the completed DZS area data. A large portion of the western region study areas and several of the eastern study areas have been included in the calculation since AIR08.

#### **Distribution Pump Data in Master Pump Table**

The Average Pumping Head for NI Water Ltd. has been determined using distribution pump data collected from field test data and 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. Calibrated network model data/field test data is currently not available for all areas of Northern Ireland as not all study areas have been completed under the Detailed Zonal Study Framework.

Where field test data was supplied in the 2008 Return, data from the now completed calibrated network model has replaced the field test data in the Master Pump Table. This is the case for the Moyola Zone.

Additional zones; Downpatrick, Mourne Coastal, South Down, Newcastle,



South and South East, have been completed to field test stage since AIR08 and field test data has now been included in the Master Pump Table. These zones have also been incorporated into the Average Pumping Head calculation for AIR09.

Aside from the above changes, there have been no further updates to the distribution pump data obtained from the DZSC's for completed zonal study areas. The models, and hence data from the models, still represent the best data available for these areas. In future returns, the confidence in old models will decrease as network and usage changes occur in Northern Ireland. The models will eventually become obsolete and an alternative source of distribution pump data will be required.

Where calculated mean lift and average ADD flow cannot be obtained from a suitable network model or where flow and pressure data from field test installations is missing, no estimation of these parameters has been included for distribution pumps in the Master Pump Table.

### **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 Ltd. 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 Data Monitoring System (TDMS),
- Direct readings of dials from pump sites,
- Record Drawings for pump lift,
- NIW Total Flow Calculations for WTW in NI.

Supply pump data collection in AIR09 focused on where significant changes to the network have been put into effect since AIR08. No further update to the data obtained on lift and flow for pumps within supply was obtained from NI Water Ltd. for inclusion in the AIR09 return (data used remains unchanged from AIR08 return except for eastern region).

Data is available for all supply pumps in Northern Ireland; however, all supply pumping requires matching to the distribution pumping fed by it to allow division by the distribution input for that area. Therefore, any missing portions of distribution pump data causes difficulties in the matching of this data.

### **Distribution Input**

In the eastern region of NI, Silent Valley supplies the vast proportion of the Zonal Study Areas. As most of the eastern region has not been completed by Zonal Studies, separating the complex Silent Valley supply into the discrete zones is difficult. To include the completed DZS study areas, it has been necessary to abstract the DI for these eastern zones from the network model for use in the calculation. The DI for all northern, southern and western zonal study areas have been extracted from the NI Water DI breakdown for resource zones. The total DI in the NI Water DI Table is 633MI/day.

As a result of missing distribution pump data from incomplete detailed zonal studies, the DI to incomplete zones has been excluded from the Average Pumping Head calculation. Therefore, the total DI used in the calculation is 420.93Ml/day (320.60Ml/day extracted directly from the NI Water DI breakdown for resource zones and 100.33Ml/day from eastern division models where current detailed DI for each DZS Zone is not available).

In future returns, to ensure accuracy when updating the DI flow data for the current year it will be necessary to update the distribution pump flow and lift data relating to the respective current DI. Also, given changes in the system over a year, the average DI for each resource zone should be taken over a suitably representative period of current operation to ensure the most accurate figures in the calculation.

### **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. These models may be historic and may not portray the best representation of the current day situation.

Leakage reduction and changes to the system subsequent to the field test and model construction will not be 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 WTWs/sources in NI are current 2009 figures which may not accurately match pump data available from the older network models.

### **Confidence Grade**

Distribution pump data has been taken from available calibrated network models, therefore, confidence in the data obtained is reasonably good; **B3**. Calibrated network models represent the best source of distribution pump data currently available.

Water Resource and Treatment pump data has been taken from a variety of sources:

- TDMS (various periods of analysis based on staff supplying data); **C4**.
- Direct readings from pumps by site staff (care must be taken as snap shot may not be fully representative of average day figures); **B4**.
- Record drawings / Site Staff Experience (head calculated as difference in pipe invert levels on drawings); **B4**
- Distribution Input data obtained from NI Water Ltd personnel; **A3**.

When the supply and distribution data source confidence grades are combined for the Average Pumping Head Calculation, the overall confidence grade is **B4**, given the variety of sources and periods of data used. The application of B4 reflects the increased coverage for the Average Pumping

Head Calculation since AIR08, for which the AIR08 Reporter recommended C5.

### **Future Improvements**

Data taken from record drawings/site supervision staff regarding pump lift for high and low lift pumps in WTWs could be improved if pressure gauges were available up- and downstream of the pumps and could be recorded via TDMS.

Until the whole of NI is completed by DZSC's, the quantity of distribution pumps which can be fully matched with supply remains limited, particularly in eastern region of NI.

### **Line 13 – Potable mains**

The values for the lengths of potable mains have been extracted from NI Water digital data which is held in the NIMS MapInfo GIS. It is recognised that these records are not wholly complete or accurate and that there are known missing records from GIS, which are unaccounted for.

The difference in the value for the lengths of mains may be due to a number of reasons:

- Data cleansing exercises that have been carried out on the data i.e. unknown pipe sizes now populated and spuriously high or low pipe sizes being fixed to reflect actual sizes,
- Mains in different bands being taken out of service,
- Mains in particular bands being replaced with different pipe sizes that would make them fall into other bands,
- New records being added to GIS to reflect new or historical mains.

### **PPP Table**

#### **Water Available For Use**

Table 12 requires reporting on a Distribution Input basis, the PPP Contractor does not supply to NI Water Customers, therefore this table is not applicable to PPP. However data has been provided, not on a Distribution Input basis but on a Water Available For Use basis.

Under the terms of its contract with Northern Ireland Water, the PPP provider (Dalriada Water Limited) was contracted to design, build, operate and maintain four new water treatment works. The construction of the works commenced in the summer of 2006 and all sites began operations during the 2008/09 year.

The water treatment works are located at Dunore Point, Castor Bay, Moyola and Ballinrees. With the exception of Ballinrees the water treatment works use Lough Neagh as the source of their water whereas Ballinrees has two feeds of water – River Bann and the Ballinrees Impounding Reservoir. Ballinrees Impounding Reservoir is partially fed from Altikeeragh Impounding Reservoir. However Ballinrees WTWs is viewed as having one source as the river

abstraction and Altikeeragh Impounding Reservoir feed into Ballinrees Impounding Reservoir, and cannot feed directly to the WTW.

Dalriada analyses its water source types and volumes as follows:

**Lough Neagh Sources**

Dunore 130MI/d (47,450MI per annum)

Castor Bay 105MI/d (38,325MI per annum)

Moyola 14MI/d (5,110MI per annum)

**Ballinrees Impounding Reservoir Source**

Ballinrees 12MI/d (4,380MI per annum)

**River Bann Source**

Ballinrees 12MI/d (4,380MI per annum)

Dalriada is a bulk potable drinking water provider to Northern Ireland Water. The volume of water that the works are responsible for providing into the NIW distribution system is measured in accordance with the methodology described for Table 10 but on average circa 275 million litres per day is provided, this being approximately 40% of all the potable drinking water needs of Northern Ireland.

Northern Ireland Water, once it has received the potable drinking water, in turn, distributes this to its customers through its network.

All of the water treatment works have been designed to operate to the highest possible industry standards and deploy state of the art treatment processes in order to do so.

All of the PPP treatment works involve the following processes as detailed below:

Water Treatment	Waste Water and Sludge Treatment	Chemical Storage and Dosing
<b>Raw water pumping</b>	<b>Wastewater storage</b>	<b>Sulphuric acid</b>
<b>Acid dosing</b>	<b>Settlement and thickening of washwater</b>	<b>Aluminium Sulphate</b>
<b>Pre ozone dosing and contact</b>	<b>Thickened sludge storage</b>	<b>Lime</b>
<b>Coagulant dosing and flash mixing</b>	<b>Transportation of thickened sludge</b>	<b>Orthophosphoric acid</b>
<b>Flocculation</b>	<b>Sludge dewatering*</b>	<b>Chlorine gas</b>
<b>Dissolved air flotation</b>	<b>Sludge cake drying*</b>	<b>Ozone</b>
<b>pH correction</b>		<b>Polyelectrolyte</b>
<b>Primary Filtration</b>		
<b>Post ozone dosing and contact</b>		
<b>GAC absorption</b>		
<b>pH correction and chlorination</b>		
<b>Manganese removal</b>		
<b>Final chlorination</b>		
<b>Phosphate dosing for plumbosolvency control</b>		
<b>Clear water storage</b>		
<b>Pumping and gravity flow of final water to supply</b>		
<b>Flow Meters at the Delivery Points</b>		

\* No sludge dewatering or drying to be undertaken at Moyola.

The water treatment works therefore deploy a multi-stage treatment process. All sites use activated carbon and Ozone addition as part of their treatment process. This therefore satisfies the Table 12 definition of a W4 category of treatment type at each PPP works.

In order to achieve Service Commencement at each water treatment works Dalriada had to demonstrate that it had successfully tested all aspects of the treatment process. The Testing & Commissioning Reports describe how this was executed and by granting Service Commencement, NIW confirmed that the Treatment Works had been built – and were demonstrated as being able to operate – in accordance with the specification in the contract.

Under the terms of its contract with Northern Ireland Water, Dalriada was also contracted to Design, Build, Finance and Operate (DBFO) a Link Main Facility between the Castor Bay Water Treatment Works and Forked Bridge Delivery Points. This represented an efficiency opportunity for NIW as there was previously a fully manned and separate Water Treatment Works at Forked Bridge but by virtue of the Link Mains, Forked Bridge became an unmanned delivery outlet which was linked by means of the DBFO Link Mains to the Castor Bay Water Treatment Works. Castor Bay was in turn upgraded in both quality and quantity of water to be able to support Forked Bridge.

The DBFO Link Main was duly completed over the course of 2008 and, following a series of Acceptance Tests, was certified as having achieved Service Commencement in accordance with the terms of the Contract on 16 December 2008.

The total length of the DBFO Link Main is 16424m and has a nominal diameter of 600mm and an operating pressure of 16bar.

Across all of its Water Treatment Works Dalriada Water Limited are obligated to carry out extensive annual programmes of pro-active maintenance which are submitted to NIW for their approval on an annual basis. Through this mechanism there is an ongoing focus on the integrity and reliability of all assets.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 13 NON FINANCIAL MEASURES  
SEWERAGE PROPERTIES & POPULATION**

DESCRIPTION				1		2		3	
				BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
				2006-07	CG	2007-08	CG	2008-09	CG
<b>A</b>	<b>PROPERTIES</b>								
1	Households properties connected during the year	000	3	5.078	C4	6.380	C4	7.447	C3
2	Non-households properties connected during the year	000	3	5.859	B4	1.319	B3	0.723	C3
<b>B</b>	<b>BILLING</b>								
3	Households billed unmeasured sewage	000	3	539.625	C4	533.506	C4	564.052	C3
4	Households billed measured sewage	000	3	25.639	C4	25.616	C4	0.000	C3
5	Households billed sewage	000	3	565.264	C4	559.122	C4	564.052	C3
6	Non-households billed unmeasured sewage	000	3	48.690	B2	30.638	B2	27.881	C3
7	Non-households billed measured sewage	000	3	50.420	B2	38.002	B2	32.063	C3
8	Non-households billed sewage	000	3	99.110	B2	68.640	B2	59.944	C3
9	Void properties	000	3	39.104	C4	38.357	C4	39.469	C3
<b>C</b>	<b>POPULATION</b>								
10	Total connected population	000	3	1,464.617	C4	1495.054	C4	1366.330	C4

**Table 13 – Sewerage Properties and Population**

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:

- **Properties (Lines 1 & 2)**  
Reports properties connected during the year.
- **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.
- **Population (Line 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 for the tariff and charging analysis and determination (sewerage collected unit cost).

**Definition of billed properties**

Domestic customers were originally due to be charged for water and sewerage charges from April 2007. However this has been deferred.

Where reference is made in Table 13 to 'billed' household and 'billed' non-household, this is taken as the provision of sewerage services to customers whether they are billed directly (non-domestic customers) or payment is made through subsidy by DRD (domestic customers).

In April 2008, 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.

**Classification of Farms**

As in Table 7, for AIR08, farms had been classified and reported as 'billed' households on the principle of their status and allocation of 'domestic allowance'. Under NIAUR guidelines, farms should be classified as billed non-households and NIW have rectified this for AIR09.

**Data Sources and data validation**

For AIR08, it was assumed that 84% of households and 89% of non-households were connected to the public sewerage system. For AIR09, NIW is able to report actual figures based on information/data contained in 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 initiatives such as the universal non-domestic metering programme or actions co-ordinated by the data integrity project (to confirm and cleanse data on voids, site meters and duplicates).

The new connection application form was updated during the year to allow the customer classification to be determined at the start of the process. However, approximately 10% of new connections had been classified as “unknown” - these have been split between household and non-household on a pro-rata basis i.e. 92% of unknown connections were assigned to households and 8% to non-households.

Data on property counts and classifications are reported monthly and reconciled with other data collection activities, such as the metering programme.

Data on population is obtained from Northern Ireland Statistics and Research Agency (NISRA).

### **NIW Non-Household Metering Programme**

During the AIR09 period, NIW continued the application of its universal non-domestic metering policy, surveying all unmeasured non household properties to determine if a meter could be installed on the premises.

This work has resulted in a significant decrease in the number of unmeasured non-household properties during the year, as shown in the table below:

	<b>01 April 2008</b>			<b>At 01 April 2009</b>		
<b>Non-Household</b>	<b>Gross</b>	<b>Occupied</b>	<b>Void</b>	<b>Gross</b>	<b>Occupied</b>	<b>Void</b>
Unmeasured	35347	27190	8157	25601	17423	8178

These reductions were reflected as increases in measured non-households and site metered properties for sewerage purposes.

### **Voids**

These surveys also confirmed if the property was occupied or void, as NIW were concerned with the apparently high % of voids in this category – reported as 32% at the start of the year. At time of reporting on AIR09, the void data had not been uploaded into the customer billing database. Records from surveys indicate that the total number of void ‘non-household unmeasured properties was 4428 and not 8178 as reported, although it will not be possible to determine the ‘sewerage’ status of these properties until this upload is completed. NIW will seek guidance from the Reporter on how best to report these figures.

**Test Meters**

NIW has a significant number of meters classified as 'test' from its legacy databases. Of the 11,500 in total, 7024 have been investigated and 1993 test meters have been identified (through the Data Integrity Project) that should be attributed to the non-domestic measured category and billed retrospectively to April 2007 – these properties will also attract sewerage charges.

These have been subtracted from the test meter account but have not yet been updated on Rapid. For the purposes of the Annual Information Reporting, these have been subtracted manually and added to the non-households billed measured sewerage category.

**Site Metered Properties**

As part of the ongoing data checks, NIW has been investigating site meters (multiple properties being charged through a single meter, such as business parks and industrial estates). To ensure that these meters are not double counted, they are no longer included in Table 13 property counts (although NIW still retain this information for customer record and charging purposes).

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 14 NON FINANCIAL MEASURES

### SEWAGE COLLECTED

DESCRIPTION				1		2		3	
				BASE YEAR SBP 2006-07		REPORTING YEAR -1 2007-08		REPORTING YEAR 2008-09	
				CG		CG		CG	
A SEWAGE - VOLUMES									
1	Volume unmeasured household sewage	MI/d	2	233.51	C4	244.67	B3	257.99	C3
2	Volume unmeasured non-household sewage	MI/d	2	39.64	B4	20.70	B4	18.05	C3
3	Volume unmeasured sewage	MI/d	2	273.15	C4	265.37	B4	276.04	C3
4	Volume measured household domestic sewage	MI/d	2	11.45	C4	11.78	C3	0.00	A1
5	Volume measured non - household domestic sewage	MI/d	2	86.36	C3	79.17	C3	53.34	B3
6	Volume trade effluent	MI/d	2	36.49	B2	26.25	C3	18.44	C4
7	Volume waste water returned	MI/d	2	407.45	C4	382.57	C3	347.82	B4

**Table 14 – Sewage Collected****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.

**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.

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 average non domestic unmeasured usage is based on 265m<sup>3</sup> per property and 30.5k properties. The 2009/10 tariff calculations assumed 20.4k non domestic unmeasured properties and that this lower number resulted in a reduction of the average consumption to 165m<sup>3</sup> per property. The difference in the numbers of properties (AIR compared to tariff submission, 30.5k & 20.4k respectively) is largely due to a reduction in the overall number in voids 2.5k, the inclusion in the AIR of test meters 4.3k and the averaging basis used in AIR.

**Line 5 - Volume measured non-household domestic sewage**

The reported sewerage figure calculation is different from 2007/08 as 2008/09 is the first year measured sewerage charges were introduced for non domestic customers. Sewerage volume is a direct calculation from water volume minus at least 5% which is an estimated Non return to sewer (NRTS) element however customers may apply for further NRTS allowance.

The figure for line 5 was derived from the actual billed water consumption

from April 2008 – March 2009 of 44,700,523m<sup>3</sup>. The sewerage consumption is calculated using the same as the proportion observed in the finance and regulation “2009/10 tariff model” used to calculate tariffs and set budget. As per the Tariff model sewerage consumption is assumed to be 46% of total water consumption.

The reason for this method of calculation is because sewerage charges were only introduced on 1 April 2008 and as bills are issued up to 6 months in arrears, the first half of the year billings only had an element of sewerage volume for the period relating to 2008/09.

Measured sewerage consumption for non-household customers in 2008/09 was 20,562,240m<sup>3</sup>. Converted to megalitres per day of 56.34 Ml/d.

This line has been allocated a confidence grade of B3 as we did not have an actual full year sewerage charges billings.

### **Line 6 – Trade Effluent**

When the trade effluent policy was first introduced it was decided that only those companies which were industrially de-rated or premises which were rate exempt e.g. nursing homes, would be subject to trade effluent charges.

Sampling concentrated on those companies which were subject to charges and there was virtually no sampling of those trade effluent premises which were consented but not liable to charges. Because these companies are not billed there is no information on the volume of trade effluent discharged to sewer.

The annualised volume for 2008/09 was taken from the PC10 Table 8-10. The original source was Crystal Alliance’s trade effluent flow charging information taking into account allowances such as that for staff, from their Rapid system for the period April 2008 to November 2008. This was then annualised to reflect the 12-month period from April 2008 to March 2009.

The PC10 table also took into account an estimate of the trade effluent volume from premises which were consented but have never been charged.

This was the agreed starting point in developing the PC10 trade effluent information; hence it has been used in AIR09 to ensure consistency between the two pieces of work.

The total volume for each trader was then summated and divided by 365 and adjusted to give the result in Ml/day.

The fall in volume per day over 2006/07 and 2007/08 will be a factor of a real fall due to extensive closure of high volume industry e.g. textile, a high volume user (500,000m<sup>3</sup>/y) closing in 2008, and improvement in data quality. The previous confidence grades would appear to be too generous.

### **Line 6 – Confidence Grade**

The annual information on total volume is based on extrapolation from 8 months billing data.

Estimates based on consented volumes have been made for those dischargers who are consented but not charged as there is no trade effluent volume data available.

A confidence grade of C4 would be appropriate.

**Line 7 – Volume of waste water returned**

This line is based on the summation of lines 3, 4, 5 and 6. The components of this calculation received confidence grades of C3, A1, B3 and C4 respectively. As C4 was the lowest confidence grade for a component, this line has been allocated a confidence grade of C4.

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES SEWAGE TREATMENT (NIW Only)

			1		2		3			
DESCRIPTION			UNITS	DP	BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
					2006-07	CG	2007-08	CG	2008-09	CG
A	SEWAGE - LOADS									
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1	26316	B2			4484.0	C4	
2	Total load receiving secondary treatment (BOD/year)	tonnes	1	44575.8	C3			45024.1	C3	
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	516.7	C3			377.8	C3	
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	1234.5	C3			473.2	C3	
5	Total load entering sewerage system (BOD/year)	tonnes	1	48754.3	C3			46431.4	C5	
6	Equivalent population served (resident)	000	2	2226.22	C3			2088.64	C5	
7	Equivalent population served (resident) (numerical consents)	000	2	2034.9	C3			2024.99	C5	
B	SEWERAGE - SERVICE FACILITIES									
8	Number of sewage treatment works	nr	0	1097	A2			1056	A2	
9	Treatment capacity available (BOD5/day)	tonnes	1	132	D3			133.9	D3	
10	Number of STWs providing nutrient removal	nr	0	19	A2			22	A2	
11	Equivalent population served by STWs providing nutrient removal	000	2	1058.85	C3			1180.49	C3	
12	Number of STWs providing pathogen reduction	nr	0	4	A2			2	A2	
13	Equivalent population served by STWs providing disinfection	000	2	24.56	C3			79.18	C3	
C	SEWAGE - SLUDGE DISPOSAL									
14	Percentage unsatisfactory sludge disposal	%	2	0%	A1			0.00	A1	
15	Total sewage sludge produced	tt ds	1	38	B3			38.0	B3	
16	Total sewage sludge disposal	tt ds	1	38	B3			38.0	B3	
17	Additional sewage sludge arising from new quality obligations since 2005	tt ds	1	3.1	D3			0.0	A1	

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES SEWAGE TREATMENT (PPP Only)

			1		2		3			
DESCRIPTION			UNITS	DP	BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
					2006-07	CG	2007-08	CG	2008-09	CG
A SEWAGE - LOADS										
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1			N/C		N/C		
2	Total load receiving secondary treatment (BOD/year)	tonnes	1			1880		3331.0	A2	
3	Total load receiving primary treatment only (BOD/year)	tonnes	1			0		0.0	A1	
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1			0		663.0	B5	
5	Total load entering sewerage system (BOD/year)	tonnes	1							
6	Equivalent population served (resident)	000	2			78		152.00	A2	
7	Equivalent population served (resident) (numerical consents)	000	2					152.00	A2	
B SEWERAGE - SERVICE FACILITIES										
8	Number of sewage treatment works	nr	0			1		2	A1	
9	Treatment capacity available (BOD5/day)	tonnes	1			12.44		17.5	B4	
10	Number of STWs providing nutrient removal	nr	0			1		2	A1	
11	Equivalent population served by STWs providing nutrient removal	000	2			102		152.00	A2	
12	Number of STWs providing pathogen reduction	nr	0			0		1	A1	
13	Equivalent population served by STWs providing disinfection	000	2			0		68.00	A2	
C SEWAGE - SLUDGE DISPOSAL										
14	Percentage unsatisfactory sludge disposal	%	2			0				
15	Total sewage sludge produced	ttds	1			0.8				
16	Total sewage sludge disposal	ttds	1			0.8				
17	Additional sewage sludge arising from new quality obligations since 2005	ttds	1			0.0				



# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES SEWAGE TREATMENT (Total)

SEWAGE TREATMENT (Total)				1		2		3	
DESCRIPTION		UNITS	DP	BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
				2006-07	CG	2007-08	CG	2008-09	CG
A SEWAGE - LOADS									
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1			4919.93	C3	4484.0	C4
2	Total load receiving secondary treatment (BOD/year)	tonnes	1			43690.2	C3	48355.1	C3
3	Total load receiving primary treatment only (BOD/year)	tonnes	1			482.3	C3	377.8	C3
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1			444.1	C3	1136.2	C5
5	Total load entering sewerage system (BOD/year)	tonnes	1			46877	C3	46431.4	C5
6	Equivalent population served (resident)	000	2			2120.9	C3	2240.64	C5
7	Equivalent population served (resident) (numerical consents)	000	2			2054.7	C3	2176.99	C5
B SEWERAGE - SERVICE FACILITIES									
8	Number of sewage treatment works	nr	0			1058	A2	1058	A2
9	Treatment capacity available (BOD5/day)	tonnes	1			132.1	D3	151.4	D4
10	Number of STWs providing nutrient removal	nr	0			18	A2	24	A2
11	Equivalent population served by STWs providing nutrient removal	000	2			960.1	C3	1332.49	C3
12	Number of STWs providing pathogen reduction	nr	0			1	A2	3	A2
13	Equivalent population served by STWs providing disinfection	000	2			28.4	C3	147.18	C3
C SEWAGE - SLUDGE DISPOSAL									
14	Percentage unsatisfactory sludge disposal	%	2			0.00	A1	0.00	A1
15	Total sewage sludge produced	ttds	1			38.4	B2	38.0	B3
16	Total sewage sludge disposal	ttds	1			38.4	B2	38.0	B3
17	Additional sewage sludge arising from new quality obligations since 2005	ttds	1			1.5	B3	0.0	A1

**Table 15 – Sewage Treatment****NIW Only****Line 1 – Trade Effluent**

When the trade effluent policy was first introduced it was decided that only those companies which were industrially de-rated or premises which were rate exempt e.g. nursing homes, would be subject to trade effluent charges.

Companies which discharged less than 5000m<sup>3</sup>/y were charged at standard rate.

Companies which paid rates were not subject to trade effluent charges.

Sampling concentrated on those companies which were subject to charges and there was virtually no sampling of those trade effluent premises which were billed at standard charge or consented but not liable to charges. Because the latter companies are not billed there is no information on the volume and strength of trade effluent discharged to sewer other than the consented values.

This has resulted in a situation where there is only significant analytical data for the larger dischargers, hence in calculating total loadings it is necessary to make an assumption and in this case it is that where there is no analytical data, the trade effluent will be standard strength.

The annualised volume for 2008/09 was taken from the PC10 Table 8-10. The original source was Crystal Alliance's trade effluent flow charging information taking into account allowances such as that for staff, from their Rapid system for the period April 2008 to November 2008. This was then annualised to reflect the 12-month period from April 2008 to March 2009.

The PC10 table also took into account an estimate of the trade effluent volume from premises which were consented but have never been charged.

This was the agreed starting point in developing the PC10 trade effluent information, hence it has been used in AIR09 to ensure consistency between the two pieces of work.

For those traders that were sampled, actual BOD results were used in the calculation of BOD loadings. A standard sewage strength result was used in the calculation of BOD loadings for the remaining traders and was obtained by averaging the results of inlet samples taken on a monthly basis from the twelve major works.

Each trader's loading in kg was summated to give the total loading in tonnes per year and divided by 365.

All trade effluent discharges to the NIW sewerage system have been included regardless of whether they are treated at a NIW or PPP WwTW.

**Additional comments**

Due to the lack of control work in the past compliance with consents is poor. In addition NI Water trade effluent charges are historically low thus there was little incentive for companies to install onsite treatment.

Both factors would result in the percentage trade effluent loading contribution to Northern Ireland WwTW being higher than the rest of the UK. However the increased control currently being exercised and increasing charges to a realistic level are incentives to reduce strength and hence the percentage loading should decrease.

**Confidence Grade**

While the BOD figures for the larger sampled companies would rate as A1 for analysis, there would be less confidence about how representative the sampling regime is e.g. would 12 samples a year give a true reflection of the annual organic load.

Assumptions are made for the BOD of those companies which are not sampled i.e. as they are charged at standard strength they are assumed to be standard strength.

The annual information on total volume is based on extrapolation from 8 months billing data.

Estimates based on consented volumes have been made for those dischargers who are consented but not charged as there is no trade effluent volume data available.

A confidence grade of C4 would be appropriate.

**Lines 2-13 – General Comment**

It should be noted that the banding of the WwTWs is based on the latest set of Populations Equivalents i.e. PEs (minus the allowance for the tourist population) held by the Asset Performance Team. An extensive exercise has been carried out during the past year to update the theoretical based PEs through desk top studies and some on ground investigations. PEs computed by others and on behalf of others within NIW, have also been considered and adopted by the Asset Performance Team. As a consequence of this work the PEs for a large number of WwTWs have been updated in the last year.

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 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.

As a consequence of PEs being updated during the past year it is not feasible

to highlight all the differences in a line by line basis.

It has not been possible to extract sludge tanker import information, from within the organisation, to include within the PEs.

### **Lines 2-13 – Confidence Grades**

The confidence grades of the data in lines 2-4 remain as C3, as although the PE confidence has been re-assessed as C5 there is greater confidence in process categories for the WwTWs.

The confidence grades of the data in lines 5–7 have been changed from C3 in AIR08 to C5 in AIR09, as a result of the work carried out with Jacobs who developed a Growth Model for NIW, in line with the model they developed for Scottish Water. Through consultations with Jacobs and their understanding of the theoretical methodology used by both NIW and Jacobs staff during the past year, their informed opinion was that the PEs could warrant only a C5 grading. NIW recognises the need to improve these PEs grades through targeted flow and load surveys, although the PE reviews carried out during the past year have been very comprehensive, and was in line with PE values held by others within the organisation.

The confidence grades of the data in lines 8-13 remain as in AIR08, due to the confidence in the other information associated with the population of these lines.

The table below shows the changes in WwTWs receiving secondary treatment since AIR08 for Line 2:

<b>WwTWs receiving secondary treatment since AIR08</b>	<b>WwTWs no longer receiving secondary treatment since AIR08</b>
Cloughey – Upgrade since AIR08 Ballywalter – Upgrade since AIR08 Strangford – Upgrade since AIR08 Carrowclare – Upgrade since AIR08 Anville Crescent – Incorrectly not included in AIR08	Raholp – pumpaway since AIR08 Bellanaleck – pumpaway since AIR08 Drumahoe – pumpaway since AIR08 Newcastle Rd(58-66) – Water Order Consent withdrawn from NIEA, as WwTWs owned by NIHE

The table below shows the changes in WwTWs receiving primary treatment only since AIR08 for Line 3:

<b>WwTWs no longer receiving Primary Treatment only since AIR08</b>
Gransha Rd (10-12) – Now gravitates to Moneyreagh Moyad Cottages (1-4) – Now gravitates to Kilcoo Pinehill Rd (7-9) – WwTWs decommissioned

There have been no changes in the number of WwTWs receiving preliminary treatment only since AIR08 for Line 4.

The table below shows the changes in numbers of WwTWs since AIR08 that affects load entering the system for Line 5:

<b>WwTWs no longer reported on since AIR08</b>	<b>WwTWs newly reported on since AIR08</b>
Millisle – pumpaway since AIR08 Donaghadee – pumpaway since AIR08 Bangor – pumpaway since AIR08 Raholp – pumpaway since AIR08 Bellanaleck – pumpaway since AIR08 Drumahoe – pumpaway since AIR08 Gransha Rd (10-12) – Now gravitates to Moneyreagh Moyad Cottages (1-4) – Now gravitates to Kilcoo Pinehill Rd (7-9) – WwTWs decommissioned Newcastle Rd (58-66) – Water Order Consent withdrawn from NIEA, as WWTWs owned by NIHE	Anville Crescent – Water Order Consent applied for in AIR09 period Dunmore Cottages – Water Order Consent applied for in AIR09 period

The table below shows the changes in WwTWs reported upon for Line 7:

<b>New numeric WwTWs for AIR09</b>	<b>WwTWs no longer numeric WwTWs for AIR09</b>
Portavogie – Previously did not have a numeric consent Carrowclare – Previously did not have a numeric consent	Bangor – Pumpaway since AIR08 Donaghadee – Pumpaway since AIR08

#### **Line 8 – Number of Sewage treatment works**

The number of WwTWs of 1056, on this line differs from the total of 1076 as shown in Table 17c, as the former does not include the screened outfalls (7 No.) and the unscreened outfalls (13 No.), as per the definition for this line.

#### **Line 9 – Treatment capacity available (BOD5/day)**

The table below shows the changes in design information for a number of WwTWs since AIR08:

<b>Name of WwTWs</b>	<b>AIR08 Design PE</b>	<b>AIR09 Design PE</b>	<b>Difference since AIR08 (-ve indicates AIR08 PE is greater)</b>
Ballywalter	Not known	2115	2115

<b>Name of WwTWs</b>	<b>AIR08 Design PE</b>	<b>AIR09 Design PE</b>	<b>Difference since AIR08 (-ve indicates AIR08 PE is greater)</b>
Cloughy	Not known	1480	1480
Gransha Rd (10-12)	6	Gravity Away	-6
Greenisland	Not Known	14000	14000
Pinehill Rd (7-9)	6	Decommissioned	-6
Raholp	280	Pumpaway	-280
Strangford	Not known	1800	1800
Ballymaguigan	150	102	-48
Belleek (Armagh)	400	605	205
Moyad Cottages (1-4)	12	Gravity Away	-12
Cullaville	400	343	-57
Dromore (Down)	4027	8685	4658
Farmacaffley	80	68	-12
Hilltown	2400	2389	-11
Mullaghmore	140	160	20
Warrenpoint	10500	16195	5695
Bellaneck	298	Pumpaway	-298
Derrylin	650	1969	1319
Drumahoe	8000	Pumpaway	-8000
Drumnakilly	64	280	216
Glenmornan	35	267	232
Killen	180	551	371
Letterbreen	25	513	488
Limavady	13300	15722	2422
Park	322	1087	765
Sion Mills	3350	4950	1600
Newcastle Rd (58-66)	15	NIHE Owned	-15
Carrowclare	Not Known	280	280
		<b>Total</b>	<b>28921</b>

**Lines 10 & 11**

The number of works, 22, with nutrient removal reflects those required by EHS to have nitrogen or phosphorus removal.

The table below shows the additional WwTWs with nutrient removal since AIR08:

<b>WwTWs with Nutrient removal since AIR08</b>
Downpatrick
Dunmurry
Lisburn
Newtownbreda (Ballyrickard)

The table below shows the differences in these lines 10 and 11 from AIR08:

<b>Name of WwTWs</b>	<b>Nutrient Removal (Nitrogen /Phosphorus)</b>	<b>AIR08 Actual PE</b>	<b>AIR09 Tourist PEs</b>	<b>Change in Overall PE from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Antrim (WwTW)	Phosphorus	92780	56410	-36370	PE has been updated since AIR08
Armagh (WwTW)	Phosphorus	30300	26332	-3968	PE has been updated since AIR08
Ballyclare	Phosphorus	17577	18703	1126	PE has been updated since AIR08
Ballymena (WwTW)	Phosphorus	111305	119128	7823	PE has been updated since AIR08
Ballynacor	Phosphorus	50000	102815	52815	PE has been updated since AIR08
Banbridge (WwTW)	Phosphorus	19655	21720	2065	PE has been updated since AIR08
Belfast (WwTW)	Nitrogen	318985	354484	35499	PE has been updated since AIR08
Bullays Hill	Phosphorus	45037	51139	6102	PE has been updated since AIR08
Carrickfergus (WwTW)	Nitrogen	33324	31973	-1351	PE has been updated since AIR08
Cookstown (WwTW)	Phosphorus	33852	20764	-13088	PE has been updated since AIR08
Downpatrick (WwTW)	Nitrogen & Phosphorus	0	17033	17033	Nitrogen/Phosphorus standard new for AIR09
Dungannon	Nitrogen & Phosphorus	50810	46711	-4099	PE has been updated since AIR08
Dunmurry	Nitrogen & Phosphorus	0	53573	53573	Nitrogen/Phosphorus standard new for AIR09
Enniskillen	Phosphorus	23255	24630	1375	PE has been updated since

Name of WwTWs	Nutrient Removal (Nitrogen /Phosphorus)	AIR08 Actual PE	AIR09 Tourist PEs	Change in Overall PE from 08 to 09 (-ve signifies a decrease)	Reason for change
					AIR08
Garrison (WwTW)	Phosphorus	555	896	341	PE has been updated since AIR08
Lisburn (New Holland)	Nitrogen & Phosphorus	0	63000	63000	Nitrogen/Phosphorus standard new for AIR09
Lisnaskea (WwTW)	Phosphorus	4045	6378	2333	PE has been updated since AIR08
Magherafelt (WwTW)	Phosphorus	23022	14446	-8576	PE has been updated since AIR08
Newtownbreda (WwTW)	Nitrogen & Phosphorus	0	39427	39427	Nitrogen/Phosphorus standard new for AIR09
Seagoe (WwTW)	Phosphorus	21400	15000	-6400	PE has been updated since AIR08
Tandragee	Phosphorus	8590	7864	-726	PE has been updated since AIR08
Whitehouse	Nitrogen	75644	88061	12417	PE has been updated since AIR08
	<b>Totals</b>	<b>960136</b>	<b>1180487</b>	<b>220351</b>	

**Lines 12 & 13**

Newtownards (Ballyrickard) WwTWs is the only additional works which has been identified as requiring pathogen reduction i.e. which possess a microbiological standard from EHS i.e. 20,000fc/100ml. This gives a total of 2 WwTWs including Larne.

Name of WwTWs	AIR 08 Actual PE	AIR09 Tourist PEs	Change in Overall PE from 08 to 09 (-ve signifies a decrease)	Reason for change
Newtownards (Ballyrickard)	0	50870	50870	Disinfection new for AIR09
Larne (WwTW)	28439	28310	-4690	PE updated since AIR08
<b>Total</b>	<b>28439</b>	<b>79180</b>	<b>46180</b>	



**Line 14 – Percentage unsatisfactory sludge disposal**

There is no record of any unsatisfactory disposal. Confidence Grade A1.

**Line 15 – Total Sewage sludge produced**

This is the total sewage sludge produced for 2008/09 (tds) as recorded monthly by WW Area Sludge Officers (reconciled using the SLS) and presented in the monthly Sludge Management Report along with indigenous at Belfast WwTW, cake to incineration and an estimated quantity of WwTW's grit & screenings removed as part of the treatment process and disposed of under Tender C018.

Transfer of indigenous sludge from Belfast WwTW to Incinerator continues to be recorded monthly (copy attached) resulting in a confidence grade of B3.

**Line 16 – Total sewage sludge disposal**

As Line 15.

**Line 17 – Additional sewage sludge arising from new quality obligations since 2005**

There has been no significant increase in the quantity of sewage sludge produced from new quality obligations during 2008/09. Confidence Grade A1.

**PPP Only****Introduction**

The sites being reported as PPP sites are both analysed in accordance with Industry Standard methodology and by an accredited laboratory.

- The Kinnegar Contract is based on Flow and Load and is sampled both Influent and Effluent on a daily basis. Therefore, there is no need to convert COD to BOD as it is measured. A fully integrated Scada system is available on the site to supplement the information recording and archiving. NI Water has complimentary systems that provide comparison data to enable a high degree of certainty to be obtained in regard to analytical and process data. The PE data is derived from an annual requirement to establish the DWF, to facilitate the Monthly Invoice calculation.
- The North Down / Ards Component of the Omega Contract is based on Flow and the Effluent is sampled on a Compliance Date requirement based on both the WOC and the Contract. A fully integrated Scada system is available on the site to supplement the information recording and archiving. NI Water has complimentary systems that provide comparison data to enable a high degree of certainty to be obtained in regard to analytical and process data. The PE data has been derived from Flow and Load surveys engaged to assist the design of the project and these have been utilised to facilitate the WOC parameters enforced by the NIEA.
- Equivalent PE where referenced (Lines 6,7,11 &13), are calculated (as a requirement of the Contracts) on an annual basis. The last derived figures have been submitted.

**Line 1**

Trade Effluent Data is being supplied via the NIW Trade Effluent Section to cover all of Northern Ireland (PPP sites included).

**Line 2**

This figure now includes the loading received at Kinnegar and North Down (reason for increase - Kinnegar 1836 tonnes; North Down 1495 tonnes).

**Line 4**

This is calculated as the difference between the Total Flow to the Works minus the Total Flow to Treatment at the same loading as the Flow to Treatment. This is the overflow value difference between TFTW and TFTT accredited as being the same influent strength as suggested by results - over estimate due to dilution.

**Line 6 & 7**

This PE is derived from the average BOD per day divided by 60g/head and includes North Down (68k) & Kinnegar (84k).

**Line 9**

This is based on the design limitation detailed in Schedule 2 Table 2.2 Category A parameters BOD 10.8 tonnes per day (Kinnegar). The reason for this being different from the previous years is that this was supplied to previous NIW Contract Managers by CCWL via a Spreadsheet. The NDA figure is 6.7 tonnes; this figure was supplied by the Contractor.

**Lines 10-13**

This PE is derived from the average BOD per day divided by 60g/head and includes North Down (68k) & Kinnegar (84k).

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 16 NON FINANCIAL MEASURES  
SEWERAGE SERVICE ACTIVITIES (NIW Only)**

			1		2		3	
DESCRIPTION	UNITS	DP	BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
			2006-07	CG	2007-08	CG	2008-09	CG
<b>A ASSET BALANCE AT APRIL 1</b>								
1 Total length of sewers	km	2	13911.23	B3	14263.62		14319.50	B3
2 Total length of "critical" sewers	km	2	1321	C5	2467		2469.01	C4
<b>B CHANGES DURING REPORT YEAR</b>								
3 New "critical" sewers (Total)	km	2	0	C3	2.01	A2	13.04	D3
4 "Critical" sewers - inspection by CCTV/man entry (Total)	km	2	5.58	C3	5.471	A3	31.06	C4
5 "Critical" sewers - renovated (Total)	km	2	2.79	C3	1.821	A3	3.15	A3
6 "Critical" sewers - replaced (Total)	km	2	0	C3	3.609	A3	2.81	A3
7 Abandoned "critical" sewers and other changes (Total)	km	2	0	C3	0	A2	-407.05	C4
8 New "non-critical" sewers (Total)	km	2	54.97	C3	41.105	A3	135.88	B3
9 "Non-critical" sewers - renovated (Total)	km	2	1.54	C3	1.134	A3	0.75	A3
10 "Non-critical" sewers - replaced (Total)	km	2	N/C		8.914	A3	5.42	A3
11 Abandoned "non-critical" sewers and other changes (Total)	km	2	N/C		0.994	A3	410.24	A3
12 Sewer collapses per 1,000km	nr	1	86.4	C4	47.3	B4	96.3	C5
13 Sewer blockages per 1,000km	nr	1	1536.4	C4	1181.0	B4	1936.4	C5
<b>C ASSET BALANCE AT MARCH 31</b>								
14 Total length of sewers	km	2	14263.62	B3	14319.5	B3	14465.23	B3
15 Total length of "critical" sewers	km	2	1355	C5	2469.01	C4	2889.10	C4
<b>D INTERMITTENT DISCHARGES</b>								
16a Number of unsatisfactory intermittent discharges excluding CSOs (EHS)	nr	0			441	C4	85	A2
16b Number of unsatisfactory intermittent discharges CSOs (EHS)	nr	0			408	C4	270	A2
17a Number of intermittent discharges excluding CSOs	nr	0			1377	B4	1391	B4
17b Number of CSOs	nr	0			799	B4	814	B4
<b>E DRAINAGE AREA PLANS</b>								
18 Cumulative number of drainage area plans completed	nr	0			49	A1	54	A1
19 Number of drainage area plan studies in progress at the report end of the report year	nr	0			30	A1	28	A1
20 Total sewerage drainage areas	nr	0			109	A2	109	A2
21 Cumulative % drainage area plan studies completed	%	1			45	A1	49.5	A1
22 % population/properties covered by completed studies	%	1			43	A2	46.0	A2
<b>F OTHER SEWERAGE SERVICE ACTIVITIES</b>								
23 Number of intermittent discharges refurbished for maintenance	nr	0						
24 Number of sewage treatment works refurbished for maintenance	nr	0						
25 P.e. of refurbished sewage treatment works for maintenance	000	0						
26 Number of new or enhanced sewage treatment works for quality	nr	0						
27 P.e. of new or enhanced sewage treatment works for quality	000	0						
28 First time sewerage - number of schemes completed	nr	0						
29 First time sewerage schemes - properties	nr	0						
30 Number of sludge treatment works refurbished for maintenance	nr	0						
31 Number of pumping stations refurbished for maintenance	nr	0						
32 Number of sea outfalls refurbished for maintenance	nr	0						
33 Number of investigations completed related to the quality programme	nr	0						

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 16 NON FINANCIAL MEASURES  
SEWERAGE SERVICE ACTIVITIES (PPP Only)**

DESCRIPTION	UNITS	DP	1		2		3	
			BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
			2006-07	CG	2007-08	CG	2008-09	CG
<b>A ASSET BALANCE AT APRIL 1</b>								
1 Total length of sewers	km	2			0		10.40	A2
2 Total length of "critical" sewers	km	2			0		10.40	A2
<b>B CHANGES DURING REPORT YEAR</b>								
3 New "critical" sewers (Total)	km	2			10.40		0.00	A1
4 "Critical" sewers - inspection by CCTV/man entry (Total)	km	2			10.40		0.00	A1
5 "Critical" sewers - renovated (Total)	km	2					0.00	A1
6 "Critical" sewers - replaced (Total)	km	2					0.00	A1
7 Abandoned "critical" sewers and other changes (Total)	km	2					0.00	A1
8 New "non-critical" sewers (Total)	km	2					0.00	A1
9 "Non-critical" sewers - renovated (Total)	km	2					0.00	A1
10 "Non-critical" sewers - replaced (Total)	km	2					0.00	A1
11 Abandoned "non-critical" sewers and other changes (Total)	km	2					0.00	A1
12 Sewer collapses per 1,000km	nr	1					0.0	A1
13 Sewer blockages per 1,000km	nr	1					0.0	A1
<b>C ASSET BALANCE AT MARCH 31</b>								
14 Total length of sewers	km	2			10.40		10.40	A2
15 Total length of "critical" sewers	km	2			10.40		10.40	A2
<b>D INTERMITTENT DISCHARGES</b>								
16a Number of unsatisfactory intermittent discharges -excluding CSOs (EHS)	nr	0						
16b Number of unsatisfactory intermittent discharges - CSOs	nr	0						
17a Number of intermittent discharges excluding CSOs	nr	0						
17b Number of CSOs	nr	0						
<b>E DRAINAGE AREA PLANS</b>								
18 Cumulative number of drainage area plans completed	nr	0						
19 Number of drainage area plan studies in progress at the report end of the report year	nr	0						
20 Total sewerage drainage areas	nr	0						
21 Cumulative % drainage area plan studies completed	%	1						
22 % population/properties covered by completed studies	%	1						
<b>F OTHER SEWERAGE SERVICE ACTIVITIES</b>								
23 Number of intermittent discharges refurbished for maintenance	nr	0						
24 Number of sewage treatment works refurbished for maintenance	nr	0						
25 P.e. of refurbished sewage treatment works for maintenance	000	0						
26 Number of new or enhanced sewage treatment works for quality	nr	0						
27 P.e. of new or enhanced sewage treatment works for quality	000	0						
28 First time sewerage - number of schemes completed	nr	0						
29 First time sewerage schemes - properties	nr	0						
30 Number of sludge treatment works refurbished for maintenance	nr	0						
31 Number of pumping stations refurbished for maintenance	nr	0						
32 Number of sea outfalls refurbished for maintenance	nr	0						
33 Number of investigations completed related to the quality programme	nr	0						

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 16 NON FINANCIAL MEASURES  
SEWERAGE SERVICE ACTIVITIES (Total)

DESCRIPTION	UNITS	DP	1		2		3	
			BASE YEAR SBP 2006-07		REPORTING YEAR -1 2007-08		REPORTING YEAR 2008-09	
			CG		CG		CG	
<b>A ASSET BALANCE AT APRIL 1</b>								
1 Total length of sewers	km	2						14329.90 B3
2 Total length of "critical" sewers	km	2						2479.41 C4
<b>B CHANGES DURING REPORT YEAR</b>								
3 New "critical" sewers (Total)	km	2						13.04 D3
4 "Critical" sewers - inspection by CCTV/man entry (Total)	km	2						31.06 C4
5 "Critical" sewers - renovated (Total)	km	2						3.15 A3
6 "Critical" sewers - replaced (Total)	km	2						2.81 A3
7 Abandoned "critical" sewers and other changes (Total)	km	2						-407.05 A2
8 New "non-critical" sewers (Total)	km	2						135.88 B3
9 "Non-critical" sewers - renovated (Total)	km	2						0.75 A3
10 "Non-critical" sewers - replaced (Total)	km	2						5.42 A3
11 Abandoned "non-critical" sewers and other changes (Total)	km	2						410.24 A3
12 Sewer collapses per 1,000km	nr	1						96.3 C5
13 Sewer blockages per 1,000km	nr	1						1936.4 C5
<b>C ASSET BALANCE AT MARCH 31</b>								
14 Total length of sewers	km	2						14475.63 B3
15 Total length of "critical" sewers	km	2						2899.50 C4
<b>D INTERMITTENT DISCHARGES</b>								
16a Number of unsatisfactory intermittent discharges excluding CSOs (EHS)	nr	0						85 A2
16b Number of unsatisfactory intermittent discharges CSOs (EHS)	nr	0						270 A2
17a Number of intermittent discharges excluding CSOs	nr	0						1391 B4
17b Number of CSOs	nr	0						814 B4
<b>E DRAINAGE AREA PLANS</b>								
18 Cumulative number of drainage area plans completed	nr	0						54 A1
19 Number of drainage area plan studies in progress at the report end of the report year	nr	0						28 A1
20 Total sewerage drainage areas	nr	0						109 A2
21 Cumulative % drainage area plan studies completed	%	1						49.5 A1
22 % population/properties covered by completed studies	%	1						46.0 A2
<b>F OTHER SEWERAGE SERVICE ACTIVITIES</b>								
23 Number of intermittent discharges refurbished for maintenance	nr	0						
24 Number of sewage treatment works refurbished for maintenance	nr	0						
25 P.e. of refurbished sewage treatment works for maintenance	000	0						
26 Number of new or enhanced sewage treatment works for quality	nr	0						
27 P.e. of new or enhanced sewage treatment works for quality	000	0						
28 First time sewerage - number of schemes completed	nr	0						
29 First time sewerage schemes - properties	nr	0						
30 Number of sludge treatment works refurbished for maintenance	nr	0						
31 Number of pumping stations refurbished for maintenance	nr	0						
32 Number of sea outfalls refurbished for maintenance	nr	0						
33 Number of investigations completed related to the quality programme	nr	0						

**Table 16 – Sewerage Service Activities****NIW only****General**

NIW is targeting investment to maintain and achieve stable serviceability – e.g. the Belfast Sewers Project – Sewer Rehab. The work carried out to date has been almost exclusively the repair of collapsed or partially collapsed sewers.

Critical sewers are identified using standard industry definitions – WRc Sewer Rehabilitation Manual Category 4 and 5 and almost exclusively occur in Belfast.

The only sewer cleaning work carried out under the Belfast Sewers Project – Sewer Rehab was what was considered necessary to allow CCTV surveys to be conducted or where a relining technique required it.

**Line 1 – Total length of sewers (1 April 2008)**

The value of 14319.5km has been extracted from line 14 of the AIR08 Table 16.

**Line 2 – Total length of critical sewers (1 April 2008)**

The value of 2469.01km has been extracted from line 15 of the AIR08 Table 16.

**Lines 3-11**

Information is compiled by summation of separate returns from Operations and E&P.

**Operations Reporting**

Within the Operations Directorate, three functions have been identified as having the potential to be involved in one or more of the sewerage service activities covered by Lines 3 to 11 of Table 16. The three functions are Networks Sewerage, the Operations Contract Management Centre (OCMC) and Tactical Asset Management (TAM).

Each function was asked if it would have any involvement in the list of activities. As a result of this exercise, Networks Sewerage confirmed that the only activity it would have any involvement in would be Line 4: "Critical" sewers – inspection by CCTV/man entry (Ops) whilst TAM confirmed that the only activities it would have any involvement in would be Line 3: New "critical" sewers (Ops) and Line 8: New "non-critical" sewers (Ops). The identification of these providers of information within Ops will enable NI Water to make a more complete return on Lines 3, 4 and 8 than in the past.

There remain a number of lines in Table 16 for which no function within Ops has accepted responsibility and as a result, Operations Services has agreed to take on the role of line author for AIR09. It may be that the Ops functions do not have any involvement in these activities. Or it may be that the

accountability for reporting on activities such as abandoned sewers has not been sufficiently defined so as to distinguish Ops from EP.

### **Figures**

Ops Services has input “not applicable” against lines 5, 6, 7, 9, 10 and 11. This implies that sewerage service activities relating to renovated, replaced and abandoned critical and non-critical sewers are not applicable to Operations and reflects the responses from the three functions.

Ops Services cannot input “0” because the suggestion would be that the activities apply to Ops but no work was undertaken in 2008/09. And Ops cannot input “not counted” because the suggestion would be that work was undertaken by Ops but wasn’t measured.

### **Future Reporting**

There remains an action for the Company to address the issue of reporting on critical and non-critical sewers by correctly identifying line owners and by making those line owners responsible for reporting such information. Work has commenced on identifying Critical Sewers within the NIW network and during the AIR10 reporting year these will be uploaded onto the Corporate Asset Register.

### **Line 3 – New critical sewers**

E&P figure (11.43km) is compiled from E&P contract management information monthly returns. This is an accurate measurement of the actual lengths of sewers 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 – hence the confidence grade A2.

New critical sewers are adopted under the provisions of Article 161 of the Water and Sewerage Services (Northern Ireland) Order 2006. The basis of this is that a developer i.e. any person constructing or proposing to construct a sewer can enter into an agreement under Article 161 for the future adoption of sewers, subject to the conditions of the Order. TAM figure (1.609 km) is compiled from sewer adoption records

Existing sewers, lateral drains and works may also be offered for adoption under Article 159 of the Order.

### **Procedure for Agreeing Sewers for Future Adoption**

The Company operates a ‘sewers for adoption’ procedure as set out in the Developers Information Pack, copies of which have been issued to most developers and developers agents. The information is also on the Company’s web page. Sewer construction should comply with the current edition of the Sewers for Adoption manual used by the Company.

At the commencement of the process, a developer submits his drainage layout to Developers Services for assessment of the proposed system of sewers that will service the development and be offered for adoption at a later

date. The hydraulic calculations are checked and the point of connection to the public sewerage system confirmed. When all aspects of the proposed drainage layout, including confirmation of any relevant approval to discharge to a watercourse and if appropriate a water order consent the Article 161 Agreement is approved and authorised.

The sewerage system is constructed at the developer's own expense and vested in the Company. NI Water applies fees and charges in respect of the inspection and adoption process. Charges are in line with the rates set out by the Water Research Council (WRc) and adopted by the NI Utility Regulator.

### **Process for Adoption of Sewers, associated Lateral Drains and Works**

When the sewers have been constructed to a prescribed standard, the developer will make a written request to NI Water to have the sewers adopted. Developers Services arrange an inspection of the sewerage system and if in order a Preliminary Certificate of Adoption is issued. The Company may require a 12 month maintenance period after which a Final Certificate of Adoption will be issued.

### **Length of Sewers and Associated Infrastructure for Adoption**

The adoption process requires the developer to provide 'as built' drawings of the sewerage system. The length of sewers, number of manholes and any associated works such as waste water pumping stations or package waste water treatment works are recorded by regional teams

The Final Adoption Certificate records the length and diameter of sewers that are at a suitable standard for adoption by the Company. The sewers and associated lateral drains and works are maintainable by the Company effective from the date of the adoption certificate and details are issued to the Networks Information Centre for placing on the Geographical Information System (GIS).

Copies of Final Adoption Certificates are kept on the Developers Services file. Details are also recorded in a Final Adoptions book, and captured in a sewers adopted spreadsheet.

Developers Services use a Technical Services Database which is being currently upgraded to meet the information needs of the 2006 Order legislation. This is under test and will electronically log all details including the length of sewers, lateral drains and works adopted by the Company.

Line Confidence Grade used is A2.

### **Line 4 – 'Critical' sewers – inspected by CCTV/man entry**

The E&P figure for critical sewer inspection by CCTV (3.735km) may include surveys outside the reporting period – either sewers surveyed before 1 April 2008 but constructed in 2008/09 and sewers surveyed in 2007/08 but not due for construction until after 31 March 2009. The confidence grade is A1 for the lengths of sewer; however, the overall confidence grade has been dropped to A3 to take account of inconsistent interpretation of the definition of a critical



sewer.

The total length of sewers inspected by CCTV within Operations (27.32km) is gathered by Networks Sewerage Field managers using checked and paid invoices from the Sewer Maintenance Contractor and submitted through line management on an excel spreadsheet to Networks Sewerage Business Unit on a monthly basis. As critical sewers are not currently recorded in the Corporate Asset Register (CAR) Networks Sewerage are unable to identify which critical sewers have been inspected in the reporting year, therefore an assumption is used to produce a figure for Line 4b. The figures submitted by Asset Management for T16 lines 14 and 15 are used to derive the percentage of Critical sewers against the total length of sewers this percentage is then used to apportion the total length of sewers inspected into Critical and non-critical. The percentage length of critical sewers against the total length of sewers is calculated by using the total length of critical sewer divided by the total length of sewer ( $T16L15/T16L14 \times 100$ ) = percentage%. The total length of all sewers inspected by CCTV is then multiplied by this percentage. This figure will equal in rough terms to the length of 'Critical' sewer inspected by CCTV. The confidence grade for this figure is C4.

Line Confidence Grade used is C4.

**Line 5 – 'Critical' sewers – renovated**

E& P figure (3.15km) has a Confidence Grade A3.

Ops have entered not applicable.

Line Confidence Grade used is A3.

**Line 6 – 'Critical' sewers – replaced**

E& P figure (2.813km) has a Confidence Grade A3.

Ops have entered not applicable.

Line Confidence Grade used is A3.

**Line 7 – Abandoned 'critical' sewers and other changes**

The figure on Line 7 is -407.05km. This is an adjustment to ensure the asset balance at the start of the year, held in GIS, matches the asset balance, held in GIS, at the end of the year. Concerted efforts were made during 2008/09 to capture critical sewers more accurately on GIS resulting in this adjustment which it is not a net change in critical sewer stock, but a change in how much is classified as critical.

E&P recorded a figure of 0 with a confidence grade of A3 and Networks Water did not make a return.

The Confidence Grade of the line is the same as the Confidence Grade for the figure held in GIS.

**Line 8 – New ‘non-critical’ sewers**

Critical sewers are almost exclusively identified in Belfast – sewers in other conurbations rarely score sufficiently against the WRc criteria to achieve critical status.

The E&P information is compiled from E&P contract management information monthly returns and is (41.64km) with a Confidence Grade A3. The confidence grades are A1 for the lengths of sewer; however, the overall confidence grade has been dropped to A3 to take account of inconsistent interpretation of the definition of a critical sewer.

New non- critical sewers are adopted under the provisions of Article 161 of the Water and Sewerage Services (Northern Ireland) Order 2006. The basis of this is that a developer i.e. any person constructing or proposing to construct a sewer can enter into an agreement under Article 161 for the future adoption of sewers, subject to the conditions of the Order. TAM figure (94.236 km) is compiled from sewer adoption records

Line Confidence Grade used is B2.

**Line 9 – ‘Non-critical’ sewers - renovated**

The E&P information is compiled from E&P contract management information monthly returns and is (0.75km) with a Confidence Grade A3. The confidence grades are A1 for the lengths of sewer; however, the overall confidence grade has been dropped to A3 to take account of inconsistent interpretation of the definition of a critical sewer.

Ops have entered not applicable.

Line Confidence Grade used is A3.

**Line 10 – ‘Non-critical’ sewers - replaced**

The E&P information is compiled from E&P contract management information monthly returns and is (5.42km) with a Confidence Grade A3. The confidence grades are A1 for the lengths of sewer; however, the overall confidence grade has been dropped to A3 to take account of inconsistent interpretation of the definition of a critical sewer.

Ops have entered not applicable.

Line Confidence Grade used is A3.

**Line 11 – Abandoned ‘non-critical’ sewers and other changes**

The figure on Line 11 is 408.50km.

This comprises an adjustment of 409.35km to ensure the asset balance at the start of the year, held in GIS, matches the asset balance, held in GIS, at the end of the year.

The E&P information is compiled from E&P contract management information monthly returns and is (0.87km) and has a Confidence Grade A3. The confidence grades are A1 for the lengths of sewer; however, the overall confidence grade has been dropped to A3 to take account of inconsistent interpretation of the definition of a critical sewer.

Ops have entered not applicable.

The Confidence Grade of the line is the same as the Confidence Grade for the figure held in GIS.

#### **Line 12 – Sewer Collapses per 1,000 Km**

The figure used has been calculated using the following method. The number of rising main failures (Table 16 Line 1) and the number of gravity sewer collapses (Table 16a Line 2) 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 2009 (Table 16 Line 14) 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.

#### **Line 13 – Sewer Blockages per 1,000 Km**

The figure used has been calculated using the following method. The number of sewer blockages (Table 16a Line 3) is divided by the total length of sewers at 31 March 2009 (Table 16 Line 16) 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.

#### **Confidence Grading Lines 12 and 13**

The total length of sewers figure does not include lateral sewers, NIW don't currently have an accurate estimate of lateral sewers but believe that it may be in the region of around 7,000km. To reflect this the confidence grade assigned to lines 12 & 13 is B5.

#### **Line 14 – Total length of sewers (31 March 2009)**

The value extracted from NI Water digital data held in the Asset Mapper GIS is 14465.23km. It is recognized that these records are not wholly complete or accurate and that there are known missing records from GIS, which are unaccounted for. In addition there will always be a time lag between the figures reported by the Engineering Procurement and Operations Directorates and the data held in GIS. The confidence grade B3 reflects the degree of inaccuracy and lack of completeness of this information in the Corporate GIS.

#### **Line 15 – Total length of 'critical' sewers (31 March 2009)**

The percentage of critical sewers derived from a report produced by AIC – shows critical sewers as 19.973% of total sewer length, this would, which when applied to the GIS value for total sewers gives a figure of 2889.10km. The same caveats for GIS apply as for line 14. The confidence grade has increased from last year to C3. Percentage from AIC report has increased from last year's figure (17.7 %).

NIW are currently developing processes and procedures to ensure a consistent interpretation of the definition for critical sewers. This will then be applied in capturing and recording critical sewers and to the records currently held.

#### **Line 16a and 16b – Unsatisfactory intermittent discharges**

Numbers have been extracted from a CSO database produced by Atkins on behalf of NIW. The number reported is the number of intermittent discharges classified by NIEA as unsatisfactory to date. This represents a change of methodology from AIR08 wherein the number reported was an extrapolation to the likely ultimate number of UID classifications – hence the significant reduction in AIR09.

The confidence grade has therefore increased from C4 in AIR08 to A2 in AIR09.

#### **Line 17a and 17b – Intermittent discharges and CSO's**

Differences between the sewerage system overflows reported in AIR08 and AIR09 are detailed the following table, Table A.

**Table A - Differences between the sewerage system overflows in AIR08 and AIR09:**

<b>Intermittent Discharges</b>	<b>AIR08 No.</b>	<b>AIR09 No.</b>	<b>Diff AIR08 &amp; AIR09</b>	<b>Reason for difference</b>
<b>Combined Storm Overflows (CSOs)</b>	799	814	15	A net increase of 15 CSOs from last year. This is made up of 16 new CSOs and then one CSO has been changed in the Ballyrichard drainage area as it was incorrectly designated in AIR08. This has been corrected to an SPS in AIR09. (see Table B - Changes in Intermittent Discharges by Drainage Area below)
<b>Sewage Pumping Stations (SPSs)</b>	911	925	14	A net increase of 14 SPSs from last year. This is made up of 17 new SPSs, 4 decommissioned and then additional one for the incorrectly designated CSO in the Ballyrickard drainage area in AIR08, which is now an SPS in AIR09. (see Table B - Changes in Intermittent Discharges by Drainage Area below)
<b>Total Number of</b>	1710	1739	29	

<b>Intermittent Discharges</b>				
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Hence for AIR09 the total number of Sewerage System Overflows is 814+925  
i.e. 1739.

**Table B - Changes in Intermittent Discharges by Drainage Area**

<b>Drainage Area</b>	<b>No of CSO's added since AIR08</b>	<b>No of CSO's removed since AIR08</b>	<b>No of SPS's added since AIR08</b>	<b>No of SPS's removed since AIR08</b>	<b>Comments</b>
Aghanloo (200)	1	0	0	0	Road Service Yard CSO added to application.
Antrim (109)	0	0	1	0	Laurelvale SPS added to application
Ballymena (109)	2	0	0	0	CSO6 and Henry Street CSO added to application
Ballyrichard (109)	0	1	1	0	During the checks for AIR09 it was noted that PS09 was incorrectly designated as a CSO in AIR08 when it should have been a SPS. This was amended accordingly. So to confirm <b>one additional SPS added</b> to the application and <b>one CSO removed</b> from the Ballyrickard Info.
Bangor (109)	3	0	1	0	CSOs 23a, 24a & 25a Southwell Rd added to application. Lord Wardens SPS added to application
Belfast (109)	2	0	0	0	47 Moonstone St CSO, New Barnsley Park CSO added to application
Caledon (200)	0	0	1	0	Abbey Rd SPS added to application
Coalisland (109)	1	0	0	0	Metal Bridge CSO added to application
Cookstown (109)	1	0	0	0	Sandholes CSO added to application
Craigavon (109)	0	0	2	0	Moyallen SPS & Seagoe SPS added to application
Desertmartin (200)	1	0	0	0	CSO1a added to application
Downpatrick (109)	1	0	2	0	Ardglass Rd CSO added to application. Raholp Village and Raholp SPS's added to Downpatrick application. Raholp Village pumps to Raholp which used to be a WWTW but has now changed to a SPS

<b>Drainage Area</b>	<b>No of CSO's added since AIR08</b>	<b>No of CSO's removed since AIR08</b>	<b>No of SPS's added since AIR08</b>	<b>No of SPS's removed since AIR08</b>	<b>Comments</b>
Enniskillen (109)	1	0	1	0	Lakeview Park CSO, Bellanaleck SPS added to application
Kilkeel(109)	1	0	0	0	Grahamville Estate CSO added to application
Limavady (109)	1	0	0	0	Ballyclose Street CSO added to application.
Lurgan (109)	0	0	1	0	Regency Manor SPS added to application
Markethill (109)	1	0	1	0	Mullabrack SPS & Greenpark Ave CSO added to application.
Moira (109)	0	0	2	0	Deramore SPS & Moira (Old) SPS added to application
Newry (109)	0	0	2	2	Islandbank SPS added to application. New SPS with overflows (a CSO & ERO). Islandbank replaces Sugarisland SPS thus Sugarisland has been withdrawn. SPS 29 removed from Application. The details of this site had been added to the application on the 04/04/08 as this was a SPS within Carnbane catchment and Carnbane was now a pumpaway to Newry. However details of this site where (Incorrectly) included in the original Newry application, SPS 26 and thus site is now duplicated.
Portadown (109)	0	0	1	0	Kensington Park SPS added to application
Raholp (200)	0	0	0	1	Details of SPS at Raholp removed and added to Downpatrick as Raholp WwTW has been changed to an SPS and now pumps to Downpatrick WwTW.
Warrenpoint (109)	0	0	1	0	Springfield Rd SPS added to application

<b>Drainage Area</b>	<b>No of CSO's added since AIR08</b>	<b>No of CSO's removed since AIR08</b>	<b>No of SPS's added since AIR08</b>	<b>No of SPS's removed since AIR08</b>	<b>Comments</b>
Warringstown (109)	0	0	1	1	Primary Walk SPS replaced therefore removed from application and new SPS also called Primary Walk SPS included as SPS 11 in application.
<b>Total Number of intermittent discharges added or removed since AIR08</b>	16	-1	18	-4	
<b>Net Increase in CSO's since AIR08</b>	15				A net increase of 15 CSOs from last year. This is made up of 16 new CSOs and then one CSO has been changed in the Ballyrichard drainage area as it was incorrectly designated in AIR08. This has been corrected to an SPS in AIR09
<b>Net increase in SPS's since AIR08</b>			14		A net increase of 14 SPSs from last year. This is made up of 17 new SPSs, 4 decommissioned and then additional one for the incorrectly designated CSO in the Ballyrickard drainage area in AIR08, which is now an SPS in AIR09



**Table C - Total number of Overflows within WwTWs**

	<b>AIR08 Number</b>	<b>AIR 09 Number</b>
<b>Total number of Overflows from within WwTWs</b>	466	466

Hence for AIR09 the total number of overflows within WwTWs is 466.

Although the overall number of WwTWs overflows from AIR08 to AIR09 has not changed there have been ongoing changes since AIR08 with regards to the number of additional and withdrawn overflows and further changes to the designation of the type of overflow listed (see Tables D, E, F, & G below).

The changes in the number of overflows within WwTWs since AIR08 are as follows:

- 5 No: overflows within WwTWs withdrawn since AIR08 (see Table D below).

**Table D - Overflows within WwTWs withdrawn since AIR08**

<b>NAME of Works</b>	<b>CAR ID</b>	<b>Status in AIR09</b>	<b>Withdrawn O/Fs Since AIR08</b>
Bangor (WwTW)	233	pumpaway	-1
Raholp (WwTW)	272	pumpaway	-1
Bellanleck (WwTW)	3023	pumpaway	-1
Drumahoe (WwTW)	3086	pumpaway	-2
<b>Total Number of O/Fs withdrawn</b>			<b>-5</b>

- 18 No: Additional overflows within WwTWs since AIR08 (see Table E below).

**Table E - Additional overflows within WwTWs since AIR08**

<b>Name of Works</b>	<b>CAR ID</b>	<b>Comments AIR09</b>	<b>Changes in Overflows for AIR09 from Process Info</b>	<b>Additional O/Fs compared to AIR08</b>
Strangford	226	Updated Overflows info as Strangford WwTWs upgraded CC 22/04/09	At new site:- FFT o/f to storm tank	1
Ballymaguigan	1603	Updated Overflow info as Ballymaguigan WwTWs upgraded CC 22/04/09	F'A' Overflow	1
Farmacaffley	2579	WwTWs upgraded since AIR08 CC 22/04/09	F'A' Overflow	1
Killyman	2847	WwTWs upgraded since AIR08 CC 22/04/09	At new site:- F'A' O/F FFT O/F to storm tank	2
Mullaghmore	2281	WwTWs upgraded since AIR08 CC 22/04/09	F'A' Overflow	1
Warrenpoint (WwTW)	2720	WwTWs upgraded since AIR08 CC 22/04/09	F'A' Overflow FFT O/F to Storm Tank	1
Drumnakilly	3096	WwTWs upgraded since AIR08 CC 22/04/09	FFT O/F to storm tank E/O from Final Effluent PS	2
Glenmornan	3121	WwTWs upgraded since AIR08 CC 22/04/09	F'A' Overflow	1
Killen	3143	WwTWs upgraded since AIR08 CC 22/04/09	F'A' O/F FFT O/F to storm tank E/O from final effluent PS	2
Letterbreen	3160	WwTWs upgraded since AIR08 CC 22/04/09	At new site:- F'A' O/F FFT O/F to storm tank	2

Name of Works	CAR ID	Comments AIR09	Changes in Overflows for AIR09 from Process Info	Additional O/Fs compared to AIR08
Limavady (WwTW)	3162	WwTWs upgraded since AIR08 CC 22/04/09	At New Site:- F'A' Overflow FFT O/F to Storm Tank	1
Carrowclare	3300	WwTWs upgraded since AIR08 CC 22/04/09	At new site F'A' O/F FFT O/F to storm tank also acts as E/O for inlet PS E/O from final effluent Ps	2
North Coast (WwTWs)	4150	This site was not reported on in AIR09 C Courtney 1/04/09		1
<b>Additional overflows within WwTWs since AIR08</b>				<b>18</b>

- For AIR09 - 17 No: Overflows have been withdrawn and 4 No: additional Overflows within WwTWs have been included due to overflows being incorrectly being designated in AIR08. This equates to a net decrease of 13 overflows in AIR09 due to overflows being wrongly designated in AIR08 (see Table F below).

**Table F – Changes in the number of Overflows within WwTWs due to Incorrect designation in AIR08**

NAME of Works	CAR ID	Comments AIR09	No: of incorrectly designated overflows in Air 08
Carrickfergus (WwTW)	261	From further examination of the WOC & FD there is only 1 No: Formula A O/F & 1 No: FFT O/F as <b>sources</b> of overflow at this site.  AIR08 looked at <b>discharge points</b> (i.e. alternative long & short outfalls for both Formula A & FFT O/Fs instead of actual sources of O/F) - DE 27-4-09	-2

<b>NAME of Works</b>	<b>CAR ID</b>	<b>Comments AIR09</b>	<b>No: of incorrectly designated overflows in Air 08</b>
Glassdrummond	282	OK. Agrees with WOC & process flow. FA & FFT o/f deleted, 1 Additional O/F added(possibly confused with Glassdrumman (Xmaglen))-CD 240309	-1
Bellany (WwTW)	1137	E/O overflow removed as incorrectly included CC 31/03/09	-1
Benvardin Road	1093	E/O overflow removed as incorrectly included CC 31/03/09	-1
Boghill (WwTW)	1138	FFT overflow removed as incorrectly included CC 31/03/09	-1
Clarehill	1039	Was not highlighted as additional overflow in AIR 08 - DE 24/4/09	1
Drumullan	1573	FFT overflow removed as incorrectly included CC 31/03/09	-1
Portglenone (WwTW)	1449	AIR08 had not updated Additional overflow column - DE 24/4/09	1
Aghagallon	2393	Additional O/F Removed for AIR09 as this is the same O/F as FFT to storm tank - DE 24/4/09	-1
Aghalee	2394	Additional O/F Removed for AIR09 as this is the same O/F as FFT to storm tank - DE 24/4/09	-1
Aughanduff	2262	Corrected as per WOC & FP - NO OVERFLOWS on-site - DE 1/4/09	-3
Ballygowan Road (140-142 ) Banbridge	2890	Corrected as per WOC & FP - NO OVERFLOWS on-site - DE 1/4/09	-1
Eglish (Tyrone)	2843	WOC was updated with previously unknown information about an ERO at the Inlet SPS. This was confirmed on site by CC and BA on the 5/02/09. It was also assumed this overflow acts as a FFT overflow for the works. Also the macerator that was previously on site has been removed and there are no other screens.	1
Aghnaskew	2990	Corrected as per WOC & FP - NO OVERFLOWS on-site - DE 1/4/09	-4
Carrickmore	3039	Updated overflow info to reflect	1

<b>NAME of Works</b>	<b>CAR ID</b>	<b>Comments AIR09</b>	<b>No: of incorrectly designated overflows in Air 08</b>
(WwTW)		Application & flow process - DE 24/4/09	
<b>Net Number of wrongly designated overflows in AIR08 resulting in a change to the overall overflows within WwTWs in AIR09</b>			<b>-13</b>

**Table G – Summary of Overflow type within WwTWs**

<b>Overflow Type</b>	<b>AIR09 Overflows from WwTWs</b>	<b>AIR09 Overflows listed for comparison purposes with AIR08</b>	<b>AIR08 Overflows from WwTWs</b>	<b>Difference between AIR08 &amp; AIR09 (Negative figure signifies an increased figure from 08)</b>
Formula "A" O/Fs only	96	106	88	-18
Formula "A" O/Fs (which also act as PS E/O)	9			
Formula "A" O/Fs with Storm (which also act as PS E/O)	1			
FFT O/Fs only	149	228	218	-10
FFT O/Fs (which also act as PS E/O)	14			
FFT O/Fs with Storm Retention	54			
FFT O/Fs with Storm Retention (which also act as PS E/O)	11			
3 DWF	23	23	24	1
Additional Overflows-storm	10	109	136	27
Additional Overflows-other structures	7			
Additional Overflows-pumping station E/O	92			
<b>Total No of WwTWs Overflows</b>	<b>466</b>	<b>466</b>	<b>466</b>	<b>0</b>

Since AIR08 the Asset Performance Team has reviewed their summary information from Water Order Consent applications to increase the confidence for the AIR09 data. This has resulted in greater confidence in the designation of additional overflows from AIR08, highlighted by the increase in Formula A and FFT type overflows being accounted for in AIR09, as shown above.

In addition it should be noted that Atkins are carrying out a reconciliation exercise to ascertain any additional sewerage system overflows, which may exist, and for which NIW has not applied for a Water Order Consent.

This work is still ongoing, and hence has not been used in any way for the AIR09 data. Hence the confidence grades have not been changed for lines 17a and 17b.

Hence the value for line 17a i.e. 'Number of intermittent discharges excluding CSOs' (i.e. number of PS overflows in Sew. System 925, and the total number of overflows within WwTWs of 466) is 1391.

The value for line 17b i.e. 'Number of CSOs' (i.e. the number of CSOs in the Sew. System) is 814.

#### **Line 18 - 22**

Numbers have been extracted from a current Drainage Area Study status report maintained by NIW (no significant changes from AIR08).

#### **Line 20 – Total sewerage drainage area**

The assumption has been made (as in AIR08) that this figure, in order to give any meaningful representation, should be restricted to those drainage areas with population greater than 1000 (i.e. those which constitute the DAS programme to date). This issue needs to be clarified with the Regulator.

#### **PPP only**

PPP Data entered for year 2007/08 was not reported during the last reporting session under agreement with the Regulator.

#### **Kinnegar**

Kinnegar has no Critical Sewers as they are not responsible for any Network, and the works are wholly contained within their own site.

#### **Project Omega North Down Ards WwTW**

- Over the reporting periods for which data has been provided Omega has constructed infrastructure that links up the various components of the North Down Ards scheme. These are generally Pumping Mains with short sections of Gravity Main. The contractor has submitted in accordance with the requirements of the NIAUR.
- The figures applied to 2007/08 and 2008/09 represent the progress of newly constructed PPP sewers that link the three catchment areas of Bangor, Millisle and Donaghadee to the new North Down Ards WwTW.

- As part of the construction completion all these sewers were inspected/CCTV'd.
- No sewers were abandoned by the PPP Contractor in re-configuring the catchments.
- The opening balance of year 2008/09 also includes the transfer of the sea outfall for NDA WwTW, previously constructed but not commissioned by NI Water.
- There have been no performance issues in relation to the sewerage infrastructure during the reporting period.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 16A NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS**

DESCRIPTION				1	
				2008-09	CG
A	SEWERS - MAINTENANCE	UNITS	DP		
1	Total number of rising main failures	nr	0	25	B3
2	Total number of gravity sewer collapses	nr	0	1368	B3
3	Total number of sewer blockages	nr	0	28010	B3
4	Total number of equipment failures repaired	nr	0	10965	B2



**Table 16a – Sewerage Service Serviceability Indicators****Lines 1 to 3 – Sewers - Maintenance**

Data gathering and calculation for Table 16a Lines 1 to 3 is as described below.

The data required for Table 16a:

- Line 1 - Number of Rising Main Failures
- Line 2 - Number of Gravity Sewer Collapses and
- Line 3 - Number of Sewer Blockages

is gathered by Networks Sewerage 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 Networks Sewerage Business Unit on a monthly basis. This information per area is transferred to a composite Excel spreadsheet to enable a Networks Sewerage total to be calculated and the information to be presented in the format as required for the AIR09 return.

Because of nature of the collecting of the information for lines 2 and 3 the data for these lines is purely input and not calculated.

**Changes in Methodology over the Previous Year**

Changes were required to be made to the Ellipse Work Management system throughout the year to include a standard job type for Rising Main repairs to enable the separate reporting of rising main and gravity sewer repairs. This new job type and the introduction of closure codes to identify if collapses or blockages occurred on laterals private or public etc. took longer than expected due to change control issues, therefore NIW decided that the data for each of the lines:

- Line 1 – Number of Rising Main Failures
- Line 2 – Number of Gravity Sewer Collapses
- Line 3 – Number of Sewer Blockages

should be gathered by Field Managers using checked and paid invoices from the Sewer Maintenance Contractor and submitted through their line management (Area Managers).

**Confidence Grading**

Because NIW are using data from checked and paid invoices the confidence grade for the AIR09 return has improved to B3 from last years B4 grading. NIW expect this to improve further as we move forward into AIR10 for 2 reasons: additional standard job types and closures codes are in place and report building has started to take place with the single Sewer Maintenance Contractor who has been under contract since August 2008.

**Line 4 – Total number of equipment failures****Reporting Restrictions**

The AMMS & MWM records do not incorporate instances of non-electromechanical devices such as storage tanks or hydrobrakes.

The failure of a pump, for example, on AMMS or 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. 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 the possibility that, some records may have been overlooked during the transition from the AMMS system to the Ellipse MWM system during November/December 2008.

**Trend Analysis**

NIW do not currently have suitable data for trend analysis, however our Sewer Maintenance contractor has been capturing sewer blockage data since August 2008 in a format which will allow transfer onto GIS. Information gathered from 1 August 2008 to 5 July 2009 will be with NIW by 31 August 2009. From week commencing 6 July the data will be supplied on a week by week basis, which will enable NIW to provide trend analysis in the future.

**Suggested Improvements/Actions**

NIW needs to collate separately data relating to other attendances at site to ensure that all equipment failures are recorded. Whilst it has been noted that the emphasis is clearly upon establishing those instances where a pumping station has been unable to deliver suitable forward flow there are current limitations relating to the specific design parameters for installations which prevent the correct interpretation at present. These specifically relate to information surrounding the design flows and pumping regimes at individual sites. Consequently it is recommended that detailed analysis of each pumping station is performed to enable only those instances where the design flow is not delivered to be recorded. This will involve establishment of the pumping control methodology i.e. duty/standby or duty/assist.

An alternative may be to utilise the telemetry data relating to high level alarms since this will indicate situations where the inlet flow has exceeded the discharge rate. However this method does not take account of excessive

rainfall which has resulted in the design throughput of the station being exceeded and for which a consented emergency discharge is available.

NIW should alternatively develop a reporting database which requires each high level exceedance recorded via telemetry to be associated with a specific cause and incident as per the equipment failure categories identified in Chapter 16a definitions manual.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 16B NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS (NIW Only)**

DESCRIPTION	UNITS	DP
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<b>A</b>	<b>SEWAGE TREATMENT WORKS - BOD PERFORMANCE</b>		
1	Equivalent population band 3 to 6		
2	Excluded STWs	nr	0
3	Total STWs	nr	0

1	2	3	4	
NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO BOD EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr	0	%	1	

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
174	92.6	88.7	87.8	A2
902				
1076				

NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO SS EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr		%	1	

<b>B</b>	<b>SEWAGE TREATMENT WORKS - SS PERFORMANCE</b>		
4	Equivalent population band 3 to 6		
5	Excluded STWs	nr	0
6	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
174	93.9	90.7	90.4	A2
902				
1076				

NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO NH3 EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr		%	1	

<b>C</b>	<b>SEWAGE TREATMENT WORKS - NH3 PERFORMANCE</b>		
7	Equivalent population band 3 to 6		
8	Excluded STWs	nr	0
9	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
81	92.8	89.1	94.5	A2
995				
1076				

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 16B NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS (PPP Only)**

DESCRIPTION	UNITS	DP
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<b>A</b>	<b>SEWAGE TREATMENT WORKS - BOD PERFORMANCE</b>		
1	Equivalent population band 3 to 6		
2	Excluded STWs	nr	0
3	Total STWs	nr	0

1	2	3	4	
NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO BOD EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr	0	%	1	

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
2	100.0	100.0	100.0	A2
0				
2				

NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO SS EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr		%	1	

<b>B</b>	<b>SEWAGE TREATMENT WORKS - SS PERFORMANCE</b>		
4	Equivalent population band 3 to 6		
5	Excluded STWs	nr	0
6	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
2	85.8	100.0	100.0	A2
0				
2				

NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO NH3 EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr		%	1	

<b>C</b>	<b>SEWAGE TREATMENT WORKS - NH3 PERFORMANCE</b>		
7	Equivalent population band 3 to 6		
8	Excluded STWs	nr	0
9	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
0				A2
2				
2				

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 16B NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS (Total)**

DESCRIPTION	UNITS	DP
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<b>A</b>	<b>SEWAGE TREATMENT WORKS - BOD PERFORMANCE</b>		
1	Equivalent population band 3 to 6		
2	Excluded STWs	nr	0
3	Total STWs	nr	0

1	2	3	4	
NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO BOD EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr	0	%	1	

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
176	92.6	88.8	87.9	A2
902				
1078				

NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO SS EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr		%	1	

<b>B</b>	<b>SEWAGE TREATMENT WORKS - SS PERFORMANCE</b>		
4	Equivalent population band 3 to 6		
5	Excluded STWs	nr	0
6	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
176	93.8	90.8	90.5	A2
902				
1078				

NUMBER OF STW's		PERCENTAGE OF STWs WHERE THERE ARE NO NH3 EVENTS FORECAST FOR THE CURRENT YEAR		
UNITS	DP	UNITS	DP	CG
nr		%	1	

<b>C</b>	<b>SEWAGE TREATMENT WORKS - NH3 PERFORMANCE</b>		
7	Equivalent population band 3 to 6		
8	Excluded STWs	nr	0
9	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
81	92.8	89.1	94.5	A2
997				
1078				

**Table 16b – Sewerage Service Serviceability Indicators****Background – Year on Year**

The Strategic Business Plan aims to undertake a significant number of schemes to upgrade a number of works with numeric standards which are currently failing. For AIR09 Northern Ireland Water (NIW) has reported on the previous 3 year results as, due to the delivery of the Capital Works Program, the numbers and compliance of many of the major Waste Water Treatment Works (WwTWs) has stabilised. For example, over the last 3 years, a significant number of the major WwTWs and numerous smaller WwTWs have been constructed to meet Environmental Needs Standards – these works serving approximately 25% of the Northern Ireland total population. A second group of WwTWs are subject to interim standards until the Capital Works Program is complete, at which time Environmental Needs Standards will apply. The works are currently passing the interim standards, so there should be no impact on results prediction.

**Derivation of Data**

Unlike the previous return which used only 2 years data, the calculations for the return have been based on the full 3 years data as this is now representative of future compliance and more accurately reflects the sites / schemes in place.

The methodology for statistical calculations produced involved the use of the 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 samples were used for calculations. The calculations were carried out in accordance with the guidance notes for Table 16b.

For 2008 the Population Equivalents (PEs) used for scheduling were the PEs agreed between NI Water's Asset Management section, Environmental Regulation section and Environment and Heritage Service (EHS). These PEs were used for population of the size bands.

For the purpose of these calculations, sea outfalls have been included, although not listed in Table 15 line 8.

For each of the lines a number of sites were excluded for a variety of reasons ranging from their PE being < 500 to the consent for that parameter having been revoked during the reporting period. These reasons are detailed herein.

A further set of sites have not been included in the calculations as they do not have numeric consents and were not sampled for regulatory purposes during the reporting period.

**Line A1, 2, 3 – BOD Performance – Equivalent Population Bands 3-6**

For the reporting period 174 NI Water Sites were identified, 2 PPP sites identified with 902 sites being excluded.

**2008 Sampled Sites Excluded from BOD Assessment**

<b>Year</b>	<b>Site Code</b>	<b>Site Name</b>	<b>2008 PE</b>	<b>Reason</b>	<b>Band</b>
2008	S13AJ	Clogh WwTW	300	2008 PE < 500	2
2008	S13AP	Grange WwTW	486	2008 PE < 500	2
2008	S13AT	Martinstown WwTW	383	2008 PE < 500	2
2008	S13AU	Moorfields WwTW	300	2008 PE < 500	2
2008	S13CC	Ballyronan WwTW	350	2008 PE < 500	2
2008	S13CF	Cluntorichardson WwTW	434	2008 PE < 500	2
2008	S13CN	Derrychrin WwTW	324	2008 PE < 500	2
2008	S13DQ	Rock WwTW	148	Insufficient samples	1
2008	S13FT	Desertmartin WwTW	327	2008 PE < 500	2
2008	S13GD	Knockloughrim WwTW	286	2008 PE < 500	2
2008	S17AA	Ballybogey WwTW	417	2008 PE < 500	2
2008	S17BC	Liscolman WwTW	317	2008 PE < 500	2
2008	S17CM	Clarehill WwTW	291	2008 PE < 500	2
2008	S17ES	Mosside WwTW	450	2008 PE < 500	2
2008	S23AK	Blacksull WwTW	315	2008 PE < 500	2
2008	S23AN	Derrytrasna WwTW	300	2008 PE < 500	2
2008	S23AR	Maghery WwTW	265	2008 PE < 500	2
2008	S23AW	Upper Ballinderry WwTW	283	2008 PE < 500	2
2008	S23BK	Derrymore WwTW	250	2008 PE < 500	2
2008	S25AI	Richhill WwTW	5100	Transferred to PPP	4
2008	S25AL	Annaghmore WwTW	483	2008 PE < 500	2
2008	S25AR	Bush WwTW	433	2008 PE < 500	2
2008	S25AS	Cabragh WwTW	483	2008 PE < 500	2
2008	S25BC	Eglisish WwTW	432	2008 PE < 500	2
2008	S25BI	Killyman WwTW	425	2008 PE < 500	2
2008	S25BL	Middletown WwTW	383	2008 PE < 500	2
2008	S25BR	Tamnamore WwTW	383	2008 PE < 500	2
2008	S25CD	Brockagh Terrace WwTW	253	2008 PE < 500	2
2008	S27AR	Belleeks WwTW	350	2008 PE < 500	2
2008	S27AW	Cullaville WwTW	297	2008 PE < 500	2
2008	S27AX	Cullyhanna WwTW	317	2008 PE < 500	2
2008	S27AY	Drumintee WwTW	383	2008 PE < 500	2
2008	S27BE	Kilcoo WwTW	381	2008 PE < 500	2
2008	S27BL	Lurganare WwTW	300	2008 PE < 500	2
2008	S35AK	Lisbarnet WwTW	469	2008 PE < 500	2
2008	S35AM	Loughries WwTW	245	Insufficient samples	1
2008	S36AI	Annacloy WwTW	358	2008 PE < 500	2
2008	S36AL	Raholp WwTW	300	2008 PE < 500	2



<b>Year</b>	<b>Site Code</b>	<b>Site Name</b>	<b>2008 PE</b>	<b>Reason</b>	<b>Band</b>
2008	S36BF	Clough WwTW	483	2008 PE < 500	2
2008	S36BG	Glassdrumman WwTW	405	2008 PE < 500	2
2008	S36BH	Seaforde WwTW	318	2008 PE < 500	2
2008	S36BP	Darragh Cross WwTW	367	2008 PE < 500	2
2008	S37AJ	Stoneyford WwTW	350	2008 PE < 500	2
2008	S37AN	Mullaghglass 1 WwTW	143	Insufficient samples	1
2008	S37AO	Drumlough WwTW	128	Insufficient samples	1
2008	S37AP	Edenderry WwTW	377	2008 PE < 500	2
2008	S37AQ	Poundburn WwTW	380	2008 PE < 500	2
2008	S43BA	Ballymonie WwTW	479	2008 PE < 500	2
2008	S43BF	Bonnaboigh WwTW	306	2008 PE < 500	2
2008	S43DA	Dernaflaw WwTW	351	2008 PE < 500	2
2008	S43DD	Drumahoe WwTW	7033	Out of service	4
2008	S43DG	Drumturn WwTW	458	2008 PE < 500	2
2008	S43DH	Drumvalley WwTW	499	2008 PE < 500	2
2008	S43EJ	Gortnaghey WwTW	305	2008 PE < 500	2
2008	S43SG	Seagate/Aghanloo WwTW	2762	Out of service	4
2008	S45AE	Ardstraw WwTW	260	2008 PE < 500	2
2008	S45FD	Greencastle WwTW	298	2008 PE < 500	2
2008	S45FJ	Killen WwTW	292	2008 PE < 500	2
2008	S45GH	Loughmacrory WwTW	306	2008 PE < 500	2
2008	S45HA	Magheramason WwTW	490	2008 PE < 500	2
2008	S45HE	Mountfield WwTW	412	2008 PE < 500	2
2008	S45IC	Plumbridge WwTW	497	2008 PE < 500	2
2008	S45IG	Seskinore WwTW	240	Insufficient samples	1
2008	S45KG	Bready WwTW	218	Insufficient samples	1
2008	S47BA	Ballycassidy WwTW	450	2008 PE < 500	2
2008	S47CA	Clabby WwTW	309	2008 PE < 500	2
2008	S47CJ	Donagh WwTW	241	Insufficient samples	1
2008	S47FH	Lack WwTW	179	Insufficient samples	1
2008	S47GC	Lisnarrick WwTW	237	Insufficient samples	1
2008	S47HJ	Tamlaght WwTW	390	2008 PE < 500	2

**Line B4, 5, 6 – SS Performance – Equivalent Population Bands 3-6**

For the reporting period 174 NI Water Sites were identified, 2 PPP sites identified with 902 sites being excluded.

**2008 Sampled Sites Excluded from SS Assessment**

<b>Year</b>	<b>Site Code</b>	<b>Site Name</b>	<b>2008 PE</b>	<b>Reason</b>	<b>Band</b>
2008	S13AJ	Clogh WwTW	300	2008 PE < 500	2
2008	S13AP	Grange WwTW	486	2008 PE < 500	2
2008	S13AT	Martinstown WwTW	383	2008 PE < 500	2
2008	S13AU	Moorfields WwTW	300	2008 PE < 500	2
2008	S13CC	Ballyronan WwTW	350	2008 PE < 500	2
2008	S13CF	Cluntorichardson WwTW	434	2008 PE < 500	2
2008	S13CN	Derrychrin WwTW	324	2008 PE < 500	2
2008	S13DQ	Rock WwTW	148	Insufficient samples	1
2008	S13FT	Desertmartin WwTW	327	2008 PE < 500	2
2008	S13GD	Knockloughrim WwTW	286	2008 PE < 500	2
2008	S17AA	Ballybogey WwTW	417	2008 PE < 500	2
2008	S17BC	Liscolman WwTW	317	2008 PE < 500	2
2008	S17CM	Clarehill WwTW	291	2008 PE < 500	2
2008	S17ES	Mosside WwTW	450	2008 PE < 500	2
2008	S23AK	Blackskull WwTW	315	2008 PE < 500	2
2008	S23AN	Derrytrasna WwTW	300	2008 PE < 500	2
2008	S23AR	Maghery WwTW	265	2008 PE < 500	2
2008	S23AW	Upper Ballinderry WwTW	283	2008 PE < 500	2
2008	S23BK	Derrymore WwTW	250	2008 PE < 500	2
2008	S25AI	Richhill WwTW	5100	Transferred to PPP	4
2008	S25AL	Annaghmore WwTW	483	2008 PE < 500	2
2008	S25AR	Bush WwTW	433	2008 PE < 500	2
2008	S25AS	Cabragh Dungannon WwTW	483	2008 PE < 500	2
2008	S25BC	Eglisish Dungannon WwTW	432	2008 PE < 500	2
2008	S25BI	Killyman WwTW	425	2008 PE < 500	2
2008	S25BL	Middletown WwTW	383	2008 PE < 500	2
2008	S25BR	Tamnamore WwTW	383	2008 PE < 500	2
2008	S25CD	Brockagh Terrace WwTW	253	2008 PE < 500	2
2008	S27AR	Belleeks WwTW	350	2008 PE < 500	2
2008	S27AW	Cullaville WwTW	297	2008 PE < 500	2
2008	S27AX	Cullyhanna WwTW	317	2008 PE < 500	2
2008	S27AY	Drumintee WwTW	383	2008 PE < 500	2
2008	S27BE	Kilcoo WwTW	381	2008 PE < 500	2
2008	S27BL	Lurganare WwTW	300	2008 PE < 500	2
2008	S35AK	Lisbarnet WwTW	469	2008 PE < 500	2
2008	S35AM	Loughries WwTW	245	Insufficient samples	1
2008	S36AI	Annacloy WwTW	358	2008 PE < 500	2
2008	S36AL	Raholp WwTW	300	2008 PE < 500	2

			2008		
Year	Site Code	Site Name	PE	Reason	Band
2008	S36BF	Clough WwTW	483	2008 PE < 500	2
2008	S36BG	Glassdrumman WwTW	405	2008 PE < 500	2
2008	S36BH	Seaforde WwTW	318	2008 PE < 500	2
2008	S36BP	Darragh Cross WwTW	367	2008 PE < 500	2
2008	S37AJ	Stoneyford WwTW	350	2008 PE < 500	2
2008	S37AN	Mullaghglass 1 WwTW	143	Insufficient samples	1
2008	S37AO	Drumlough WwTW	128	Insufficient samples	1
2008	S37AP	Edenderry WwTW	377	2008 PE < 500	2
2008	S37AQ	Pounburn WwTW	380	2008 PE < 500	2
2008	S43BA	Ballymonie WwTW	479	2008 PE < 500	2
2008	S43BF	Bonnaboigh WwTW	306	2008 PE < 500	2
2008	S43DA	Dernaflaw WwTW	351	2008 PE < 500	2
2008	S43DD	Drumahoe WwTW	7033	Out of service	4
2008	S43DG	Drumturn WwTW	458	2008 PE < 500	2
2008	S43DH	Drumvalley WwTW	499	2008 PE < 500	2
2008	S43EJ	Gortnaghey WwTW	305	2008 PE < 500	2
2008	S43SG	Seagate/Aghanloo WwTW	2762	Out of service	4
2008	S45AE	Ardstraw WwTW	260	2008 PE < 500	2
2008	S45FD	Greencastle WwTW	298	2008 PE < 500	2
2008	S45FJ	Killen WwTW	292	2008 PE < 500	2
2008	S45GH	Loughmacrory WwTW	306	2008 PE < 500	2
2008	S45HA	Magheramason WwTW	490	2008 PE < 500	2
2008	S45HE	Mountfield WwTW	412	2008 PE < 500	2
2008	S45IC	Plumbridge WwTW	497	2008 PE < 500	2
2008	S45IG	Seskinore WwTW	240	Insufficient samples	1
2008	S45KG	Bready WwTW	218	Insufficient samples	1
2008	S47BA	Ballycassidy WwTW	450	2008 PE < 500	2
2008	S47CA	Clabby WwTW	309	2008 PE < 500	2
2008	S47CJ	Donagh WwTW	241	Insufficient samples	1
2008	S47FH	Lack WwTW	179	Insufficient samples	1
2008	S47GC	Lisnarrick WwTW	237	Insufficient samples	1
2008	S47HJ	Tamlaght WwTW	390	2008 PE < 500	2

**Line C7, 8, 9 – Ammonia Performance – Equivalent Population Bands 3-6**

For the reporting period 81 NI Water Sites were identified, 0 PPP sites identified with 995 sites being excluded.

**2008 Sampled Sites Excluded from Ammonia Assessment**

<b>Year</b>	<b>Site Code</b>	<b>Site Name</b>	<b>2008 PE</b>	<b>Reason</b>	<b>Band</b>
2008	S13AP	Grange WWTW	486	2008 PE < 500	2
2008	S13AT	Martinstown WWTW	383	2008 PE < 500	2
2008	S13CC	Ballyronan WWTW	350	2008 PE < 500	2
2008	S13CF	Cluntorichardson WWTW	434	2008 PE < 500	2
				Insufficient	
2008	S13DQ	Rock WWTW	148	samples	1
2008	S17AA	Ballybogey WWTW	417	2008 PE < 500	2
2008	S17BC	Liscolman WWTW	317	2008 PE < 500	2
2008	S17CM	Clarehill WWTW	291	2008 PE < 500	2
2008	S23AN	Derrytrasna WWTW	300	2008 PE < 500	2
2008	S25AR	Bush WWTW	433	2008 PE < 500	2
		Cabragh Dungannon			
2008	S25AS	WWTW	483	2008 PE < 500	2
2008	S25BI	Killyman WWTW	425	2008 PE < 500	2
2008	S27AR	Belleeks WWTW	350	2008 PE < 500	2
2008	S27AY	Drumintee WWTW	383	2008 PE < 500	2
2008	S27BE	Kilcoo WWTW	381	2008 PE < 500	2
2008	S27BL	Lurganare WWTW	300	2008 PE < 500	2
2008	S35AK	Lisbarnet WWTW	469	2008 PE < 500	2
2008	S36AI	Annacloy WWTW	358	2008 PE < 500	2
2008	S37AJ	Stoneyford WWTW	350	2008 PE < 500	2
				Insufficient	
2008	S37AN	Mullaghglass 1 WWTW	143	samples	1
2008	S37AQ	Pounburn WWTW	380	2008 PE < 500	2
2008	S43DD	Drumahoe WWTW	7033	Out of service	4
2008	S43DG	Drumturn WWTW	458	2008 PE < 500	2
2008	S43EJ	Gortnaghey WWTW	305	2008 PE < 500	2
2008	S43SG	Seagate/Aghanloo WWTW	2762	Out of service	4
2008	S45FD	Greencastle WWTW	298	2008 PE < 500	2
2008	S45FJ	Killen WWTW	292	2008 PE < 500	2
2008	S45GH	Loughmacrory WWTW	306	2008 PE < 500	2
2008	S45HE	Mountfield WWTW	412	2008 PE < 500	2
2008	S47CA	Clabby WWTW	309	2008 PE < 500	2
				No longer	
2008	S47CI	Derrylin WWTW	708	consented	3
				Insufficient	
2008	S47FH	Lack WWTW	179	samples	1
2008	S47HJ	Tamlaght WWTW	390	2008 PE < 500	2

## NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

**ANNUAL INFORMATION RETURN - TABLE 17A SEWERAGE EXPLANATORY FACTORS**  
**SEWERAGE SUB - AREA EXPLANATORY FACTORS**

[illegible]

**Table 17a - Sewerage Explanatory Factors**  
**Sewerage Sub – Area Explanatory Factors**

**Line 1: Column 9: Annual average resident connected population (Total)**

<b>AIR08</b>	<b>Confidence Grade</b>	<b>AIR09</b>	<b>Confidence Grade</b>
1,468.8 x 10 <sup>3</sup>	A3	1,335.7 x 10 <sup>3</sup>	C4

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 AIR09: Table 13: Line 10, the total connected population (comprising resident and non-resident population) was **1,366.33** x 10<sup>3</sup>.
- According to AIR09: Table 17a: Line 2, the annual average non-resident population was **30.6** x 10<sup>3</sup>.
- By calculation, the annual average resident connected population = 1,366.33 x 10<sup>3</sup> – 30.6 x 10<sup>3</sup> = **1,335.7** x 10<sup>3</sup>.

**Confidence Grade**

There are two figures in the calculation of AIR09: Table 17a: Line 1: Column 9. The first figure is derived from AIR09: Table 13: Line 10 and was allocated a confidence grade of C4. The second figure is derived from AIR09: Table 17a: Line 2: Column 9 and was allocated a confidence grade of B2. Since the larger of the two figures in this calculation has been allocated a confidence grade of C4, a C4 confidence grade will be allocated to Table 17a: Line 1: Column 9.

**Line 2: Column 9: Annual average non-resident population (Total)**

<b>AIR08</b>	<b>Confidence Grade</b>	<b>AIR09</b>	<b>Confidence Grade</b>
27.2 x 10 <sup>3</sup>	B2	30.6 x 10 <sup>3</sup>	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.

**Statement Detailing Estimation Method Used including Date of Data on which Estimate is Made**

NI Water obtained a copy of the "Preliminary Visitor Tourism Forecast for January - December 2008" from the Research section of the NI Tourist Board website. Web address: [www.nitb.com](http://www.nitb.com)

According to the report, this preliminary forecast of visitor tourism for January - December 2008 was based on January to August data from both the Northern Ireland Passenger Survey (NITB) and the Survey of Overseas Travellers (Fáilte Ireland). Estimates for residents of the Republic of Ireland visiting Northern Ireland were based on January to June 2008 data provided by the Central Statistics Office.

- According to the Preliminary Visitor Tourism Forecast, the estimated number of visitor nights in the 2008 calendar year was **11,214,000**.
- By calculation, the annual average non-resident population  
 $= 11,214,000 / 366 = \mathbf{30,639}$ .

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**

Since the only variable that features in the calculation of AIR: Table 17a: Line 2: Column 9 is the number of visitor nights, any change in reported figures can be directly attributed to fluctuations in tourism levels.

A comparison of the actual number of visitor nights in 2007 (10,486,000) and the estimated number of visitor nights in 2008 (11,214,000) suggests there has been an increase in tourism.

**Confidence Grade**

According to the Preliminary Visitor Tourism Forecast for January - December 2007, the estimated number of visitor nights was 9,935,000. This estimated figure was used in the calculation of AIR08: Table 17a: Line 2: Column 9. However, the estimated figure differs from the actual figure for the number of visitor nights in 2007, as confirmed in the Preliminary Visitor Tourism Forecast for January - December 2008 (10,486,000). The percentage error in the estimate is calculated as follows:

$$((10,486,000 / 9,935,000) / 100) - 100 = 5.55\%$$

The estimated number of visitor nights in 2008 (11,214,000) is assumed to be erroneous to the same degree. In addition, the final tourist numbers produced by NITB are an estimate of the actual numbers of tourists based on various

surveys. This corresponds to an Accuracy Band of “3”.

The information produced by NITB is based on extrapolation of data from part of the year, and is also based on extrapolation of survey data, which by its nature is a sample of the whole tourist population. This corresponds to a Reliability Band of “C”.

#### **Line 5 – Area of Sewerage District**

The value of 13520km<sup>2</sup> has been extracted from Area from the LPS Northern Ireland Regions dataset. The area of Sewerage District comprises the total land mass of Northern Ireland excluding major bodies of water.

#### **Line 6 – Total length of sewer**

The value of 14465.2km for the total length of sewers has been extracted from NI Water digital data held in the AssetMapper GIS, which is maintained by two Asset Information Maintenance teams

#### **Lines 7-11**

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 2009. Work is on going for AIR10 on the sewerage areas the costs will be split between.

### **C Costs**

#### **Line 7 – Direct Costs**

It is not yet possible to split the costs into areas, however, work is on going for AIR10. A total figure has been supplied in Column 9 which agrees to the direct sewerage costs in Table 22, Line 9 Column 1 (see Table 22 commentary). Direct Costs have increased significantly as a result of the improved allocation of general & support costs in Table 22.

#### **Line 8 – Power Costs**

The figure for Power costs agrees to Table 22, Line 2 Column 1 (see Table 22 commentary). The oil prices and price per unit of electric has increased in 2008/09 which has resulted in the higher power costs from AIR08.

#### **Line 9 – Services Charges**

There are no services charges.

#### **Line 10 – General & Support**

The figure for General & Support costs agrees to Table 22, Line 10 Column 1 (see Table 22 commentary and methodology). This is significantly lower than AIR08 due to the improved allocation of General & support costs in Table 22 (see Table 22 commentary).

#### **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 slightly as a result of the improved



allocation of NIW costs from all Business partners in all directorates. (see Table 22 methodology).

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 17B SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - LARGE WORKS INFORMATION DATABASE (NIW Only)

DESCRIPTION	UNITS	DP	TOTAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																			
				CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG	CG																
1 Works Name				Belfast	Culmore	Ballymena	Ballynacor	Whitehouse	North Coast	Newry	Lisburn (New Holland)	Antrim	Dunmurry	Bullays Hill	Newtownards	Omagh	Dungannon	Newtownbreda	Carrickfergus	Larne	Armagh																			
A WORKS SIZE																																								
2 Population equivalent of total load received	000	0	1,449	356	C5	138	C5	119	C5	103	C5	88	C5	77	C5	70	C5	63	C5	57	C5	54	C5	51	C5	51	C5	50	C5	47	C5	40	C5	32	C5	29	C5	26	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	50	A1	25	A1	50	A1	50	A1	50	A1	50	A1	30	A1	30	A1	50	A1	50	A1	25	A1	
4 BOD5 consent	mg/l	0		30	A1	30	A1	15	A1	30	A1	30	A1	30	A1	10	A1	30	A1	10	A1	30	A1	30	A1	30	A1	20	A1	15	A1	30	A1	30	A1	30	A1	15	A1	
5 COD consent	mg/l	0		125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	
6 Ammonia consent	mg/l	0			10	A1	3	A1	10	A1						3	A1	15	A1	3	A1	5	A1		10	A1		5	A1	5	A1						12	A1		
7 Phosphates consent	mg/l	0					1	A1	1	A1						2	A1	1	A1	2	A1	2	A1					1	A1	2	A1						2	A1		
C TREATMENT CATEGORY																																								
8 Classification of Treatment Works				SAS	SAS	TA2	TA2	SAS	SAS	SAS	TA1	TA2	TA1	TB2	SB	SAS	TA2	TA1	SAS	TA2	TA2																			
D COSTS																																								
9 Direct cost	£000	0	11099	1978	672	833	1004	599	587	572	724	433	697	240	157	375	607	409	490	492	230																			
10 Power costs	£000	0	4331	1086	311	356	360	218	272	197	268	128	193	11	5	115	208	162	147	231	63																			
11 Service Charges	£000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																			
12 General and support expenditure	£000	0	581	115	19	20	28	36	22	21	35	15	54	27	28	18	37	30	42	20	15																			
13 Functional expenditure	£000	0	11680	2093	691	853	1032	635	608	593	760	448	750	268	184	393	644	439	532	512	245	-																		
14 Estimated terminal pumping costs	£000	0	95	28	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	8	2																			
15 Estimated sludge costs	£000	0	2143	381	242	121	559	129	80	46	130	55	143	0	0	58	103	5	50	41	0																			

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 17B SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - LARGE WORKS INFORMATION DATABASE (PPP Only)**

DESCRIPTION	UNITS	DP	TOTAL	1	~	~	~	80
				CG	CG	CG	CG	CG
1 Works Name				Kinnegar	North Down			
<b>A WORKS SIZE</b>								
2 Population equivalent of total load received	000	0	152	84 A2	68 A2			
<b>B EFFLUENT CONSENT STANDARD</b>								
3 Suspended solids consent	mg/l	0		45 A1	35 A1			
4 BOD5 consent	mg/l	0		25 A1	25 A1			
5 COD consent	mg/l	0		125 A1	125 A1			
6 Ammonia consent	mg/l	0		N/A	N/A			
7 Phosphates consent	mg/l	0		N/A	N/A			
<b>C TREATMENT CATEGORY</b>								
8 Classification of Treatment Works				SAS	TA2			
<b>D COSTS</b>								
9 Direct cost (payment by Concessionaire to Operating Company)	£000	0						
9a Total Unitary Charge	£000	0						
10 Power costs	£000	0						
11 Service Charges	£000	0						
12 General and support expenditure (NIW)	£000	0	158	79	79			
12a General and Support (PPP operator only)	£000	0	70	0	70			
13	£000	0						
14 Estimated terminal pumping costs	£000	0						
15 Estimated sludge costs	£000	0						

**Table 17b – Sewerage Explanatory Factors**  
**Sewage Treatment Works – Large Works Information Database**

**NIW Only**

- All consents reported have both BOD and SS, therefore no comment required.
- There are no consents for ammonia and without BOD and SS, therefore no comment required.
- The consent conditions are based on 95%ile limits.
- With respect to works with tight ammonia limits, NI Water would comment that for Bullay's Hill WwTW, achieving the ammonia limit of 5 would lead to a lower BOD than the consented value of 30.
- Ballynacor and Bullays Hill WwTW have transferred to PPP in 2009, and NI Water has requested NIEA to revoke the respective consents.
- The PE information and confidence grading was provided by Asset Performance Team, as is in place at the end of March 2009.
- Classification of treatment works was provided by Asset Performance Team.
- No assumptions have been made.

**D Costs**

The information provided in Table 17b has improved since AIR08. Further information on power, sludge treatment and terminal pumping stations has resulted in more lines being populated. Power costs at WwTWs have been split between sludge treatment and sewage treatment, improved coding by operational staff has resulted in a clearer split between sludge and sewage treatment, a definition and list of terminal pumping stations have been agreed and the WwTWs they feed into. Each finance business partner has re allocated costs to Sewage treatment which were added to each location on a percentage basis (see Table 17b methodology and Table 22 methodology).

The costs are a further breakdown by location of the Band 6 expenditure detailed in Table 17f line 6 and are populated with the information available at March 2009. The Population Equivalent (PE) information used to complete this table was received by management accounts on 11 May 2009. The revised PE's have meant that there are three less WwTWs included in this table compared to AIR08 (removed Strabane, Glenstall & Cookstown). The PPP sites North Down and Kinnegar have not been included in this table.

**Line 9 – Direct Costs**

Direct Costs include Power 521X, Contractors 531X, Materials 541X, Chemicals 548X, Direct Labour (611X and 612X-Wages overheads). In AIR08 the power costs were all recorded under Sewage Treatment and there were no costs apportioned for the Belfast WwTWs as these were included in Table 17g under Incineration.

There remains one meter at each WwTWs; however, for AIR09 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 populate Line 9.

There is one electricity meter at Duncrue Street which includes the costs for the Belfast WwTWs (W10) and the Incinerator (W01). This was included in Table 17g AIR09 under the cost of Incineration. In 2008/09 the power team supplied an estimated 60:40 split between the Belfast WwTWs and the Incinerator which has been used to calculate the amount relating to sewage treatment at Belfast.

There is a reduction of three WwTWs from Band 6 since the AIR08 as a result of the changes to the PE's, Strabane, Glenstall & Cookstown.

PPP sites Kinnegar and North Down are included separately in the PPP table. Costs have increased as a result of the improved allocation of power costs between sewage and sludge treatment, the apportionment of costs to Belfast WwTWs which were included in Table 17g in AIR08 and the improved apportionment of general & support costs in table 22 (see Table 22 commentary).

#### **Line 10 – Power Costs**

Power costs show an increased expenditure from AIR08 due to the inclusion of power costs of the Belfast WwTWs (see commentary on Line 9).

#### **Line 11 – Service Charges**

There are no service charges.

#### **Line 12 – General & Support**

The total General & Support expenditure agrees to Table 22 Line 10 Column 2 (see Table 22 methodology and commentary). This figure does not include the general & support costs for NIW PPP staff. This figure was allocated across all the WwTWs in this table based on direct labour costs (611X – Costed Wages Charge and 612X - Wages overheads). No Costs have been allocated to the PPP site North Down.

The figure has reduced significantly from AIR08 as a result of improved apportionment of NIW costs between sewerage, sewage treatment and sludge treatment and disposal (see Table 22 commentary).

#### **Line 13 – Functional Expenditure**

This is a calculated line and is the total of Line 10 and Line 11. The total agrees to Table 22 (NIW Only) Column 2 Line 11. Costs have increased as a result of the improved allocation of power costs between sewage and sludge treatment, the apportionment of costs to Belfast WwTWs which were included in Table 17g in AIR08 and the improved apportionment of general & support costs in table 22 (see Table 22 commentary).

#### **Line 14 – Terminal Pumping Costs**

This information was not available for AIR08. In 2008/09 the power costs relating to the terminal pumping station of each WwTWs has been included

where possible. Not all WWTWs have terminal pumping station power costs because some are gravity fed. Three of the works (Ballymena, Newry and Omagh) include the pumping station cost in the W location code, therefore in Line 10, and some have no direct feeds i.e. the pumping station feeds the public sewer and this feeds the WWTWs. This line was not completed in AIR08.

**Line 15 – Sludge Costs**

Sludge treatment is a separate activity in wastewater and improved coding by Field Managers and operations staff, along with re allocated costs by finance business partners in other directorates meant that this line can be completed. The Power costs at the works with Sludge treatment and Sewage treatment activities has been split based on the field managers estimate (see commentary on line 9 above). This line was not completed in AIR08.

**PPP Only****Lines 1 – 8 Works Size and Effluent Consent Standards**

Information is taken from Contractual requirements which are validated, and official documentation i.e. WOC from NIEA (formerly EHS).

Lines 3-5: These are 95%ile levels of Compliance which are stipulated within the relevant Water Order Consent.

**Line 9 - Direct Costs**

Kinnegar: This is the amount shown to be paid to the Operating Contractor at Kinnegar by the Concessionaire, and is indicative of the liability to NIW via the Monthly Invoice and includes power costs.

North Down Ards: As advised by the Contractor. It includes the amount indicated as paid by the Contractor to the operator for NDA

**Line 9a – Unitary Charge**

These figures represent the NIW P&L cost of the Unitary Charge. Both Kinnegar and Omega are treated as being Off Balance Sheet, and therefore are treated similarly to an Operating Lease. The costs are comprised of the unitary charge less an element of the residual interest.

**Line 10 – Power costs**

These figures represent the power costs of the relevant sites.

Kinnegar power costs are paid for by the PPP operator and therefore do not for part of the NIW operating costs. This will be already covered by the unitary charge and will therefore result in a double count.

North Down power costs are paid for by NIW and have been removed from the NIW only costs.

**Line 12 – General & Support**

These costs represent the PPP function's estimates of staff time spent in

relation to each PPP site. These costs have been removed from the NIW only costs.

**Line 12a General and support expenditure (PPP operator only)**

Kinnegar: The Contractor has not made this information available from the Operator.

North Down Ards: As advised by the Contractor. The amount indicated as paid by the Contractor to the Operator for NDA.

**ANNUAL INFORMATION RETURN - TABLE 17C SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - NUMBERS (NIW Only)**

[illegible]



ANNUAL INFORMATION RETURN - TABLE 17C SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - NUMBERS (PPP Only)[illegible]

ANNUAL INFORMATION RETURN - TABLE 17C SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - NUMBERS (Total)

[illegible]

### **Table 17c – Sewerage Explanatory Factors Sewage Treatment Works – Numbers**

It should be noted that the banding of the WwTWs is based on the latest set of Populations Equivalents i.e. PEs (minus the allowance for the tourist population) held by the Asset Performance Team.

An extensive exercise has been carried out during the past year to update the theoretical based PEs through desk top studies and some on ground investigations.

PEs computed by others and on behalf of others within NIW, have also been considered and adopted by the Asset Performance Team.

As a consequence of this work the PEs for a large number of WwTWs have been updated in the last year.

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 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.

1084 WwTWs were reported on in Table 17c for AIR08. Hence there has been an overall net reduction of 8 in the number of WwTWs being reported on, which is summarised as follows:

- 5 WwTWs (Raholp, Bellanaleck and Drumahoe were pumped to other works; Gransha Rd 10-12 and Moyad Cottages 1-4 have been gravitated to other works) have been rationalised with larger WwTWs.
- Millisle WwTWs, Donaghadee WwTWs and Bangor WwTWs have been converted to pumping stations.  
(Which now pump to the North Down WwTWs) and are the responsibility of the PPP consortium.
- 1 WwTW (Pinehill Road 7-9) has been decommissioned.
- The Water Order Consent for 1 WwTW (Newcastle Road 58-66) has been withdrawn from NIEA, as the works is owned by the Northern Ireland Housing Executive (NIHE).
- 2 WwTWs (Anville Crescent and Dunmore Cottages) are now included in AIR09, which have come to the attention of NIW during the past year.

We have assumed the Bands to be:

#### **Small works**

- size band 1  $\leq 15\text{kg BOD5/day}$  (population equivalent: 0 - 250)
- size band 2  $>15$  but  $\leq 30\text{kg BOD5/day}$  (population equivalent: 251 -

500)

- size band 3 >30 but <= 120kg BOD5/day (population equivalent: 501 – 2,000)
- size band 4 >120 but <= 600kg BOD5/day (population equivalent: 2,001 – 10,000)
- size band 5 >600 but <= 1500kg BOD5/day (population equivalent: 10,001 – 25,000)

**Large Works**

- 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. 1076 including the screened outfalls (7 No.) and the unscreened outfalls (13 No.).

As a consequence of PEs being updated during the past year it is not feasible to highlight all the differences in a line by line basis.

**Changes in Treatment Category from AIR08 to AIR09**

<b>Name of WwTWs</b>	<b>CAR ID</b>	<b>AIR08 Treatment Category</b>	<b>AIR09 Treatment Category</b>	<b>Comment</b>
Annalong	300	Sea Out Unscreen	Sea Out Screen	New screen added to the site since AIR08
Ballywalter	217	Sea Out Unscreen	Sec Bio	New RBC WwTWs constructed since AIR08
Bangor	233	Sea Out Screen	Pumpaway	PPP Pumpaway
Carrowdore	236	Sec Act	Ter A1	Ter screen added since AIR08
Cloughy	224	Sea Out Screen	Sec Bio	New RBC WwTWs constructed since AIR08
Donaghadee	865	Sea Out Unscreen	Pumpaway	PPP Pumpaway
Gransha Rd (10-12)	855	Prim	Decommissioned	This works now gravitates to Moneyreagh
Millisle	826	Sea Out Screen	Pumpaway	PPP Pumpaway
Mullaghglass (Antrim)	325	Ter A2	Sec Act	No tertiary treatment at this works now

<b>Name of WwTWs</b>	<b>CAR ID</b>	<b>AIR08 Treatment Category</b>	<b>AIR09 Treatment Category</b>	<b>Comment</b>
Pinehill Road(7-9)	858	Prim	Decommissioned	Properties now connected to individual private septic tanks
Raholp	272	Ter A1	Pumpaway	This works now pumps to Downpatrick
Strangford	226	Sea Out Unscreen	Sec Bio	New RBC WwTWs constructed since AIR08
Cargan	1433	Sec Bio	Ter B1	Ter screen added since AIR08
Coagh	1562	Sec Bio	Ter B1	Ter screen added since AIR08
Gulladuff	1619	Sec Bio	Ter B1	Ter screen added since AIR08
Knockloughrim	1623	Sec Bio	Ter B1	Ter screen added since AIR08
Parkgate	1424	Sec Bio	Ter B1	Ter screen added since AIR08
Belleek (Armagh)	2253	Ter B2	Ter B1	WwTWs upgraded since AIR08
Bush	2833	Sec Bio	Ter B1	WwTWs upgraded since AIR08
Moyad Cottages (1-4)	2695	Prim	Decommissioned	This works now gravitates to Moneyreagh
Cullaville	2264	Sec Act	Sec Bio	New RBC WwTWs constructed since AIR08
Farmacaffley	2579	Sec Act	Sec Bio	New RBC WwTWs constructed since AIR08
Mullaghmore	2281	Sec Act	Sec Bio	New RBC WwTWs constructed since AIR08
Bellanleck	3023	Sec Act	Pumpaway	This works now pumps to Enniskillen
Derrylin	3075	Ter A1	Ter B2	New RBC WwTWs constructed since AIR08
Drumahoe	3086	Ter B1	Pumpaway	This works now pumps to Culmore

<b>Name of WwTWs</b>	<b>CAR ID</b>	<b>AIR08 Treatment Category</b>	<b>AIR09 Treatment Category</b>	<b>Comment</b>
Limavady	3162	Sec Bio	Sec Act	New Activated Sludge WwTWs constructed since AIR08
Sion Mills	3219	Sec Bio	Sec Act	New Activated Sludge WwTWs constructed since AIR08
Newcastle Rd (58-66)	4110	Sec Bio	Private	Water Order Consent withdrawn from NIEA, as WwTWs owned by NIHE
Carrowclare	3300	Sea Out Unscreen	Sec Bio	New RBC WwTWs constructed since AIR08
Anville Crescent	2391	Not on NIW database	Sec Bio	Water Order Consent applied for in AIR09 period
Dunmore Cottages	806	Not on NIW database	Sea Out Unscreen	Water Order Consent applied for in AIR09 period

**Difference between AIR08 and AIR09 for the total number of WwTWs as shown in Table 17c - column 11, row 7**

<b>Total Number of Works for AIR08 -</b>	<b>1084</b>
<b>Total Number of Works for AIR09 -</b>	<b>1076</b>
<b>Total Difference -</b>	<b>8</b>

With reference to lines 8 and 9 of table 17c, data regarding the ammonia consents of the Small WwTWs was obtained from a spreadsheet of standards obtained from Gareth Maxwell, of NIW's Environmental Regulation Team.

Changes to lines 8 and 9 of this table, from AIR08 to present are summarised below:

**Changes in Line 8 - Small Works with Ammonia Consent (between 5 and 10) from AIR08 to AIR09**

<b>Name of WwTWs</b>	<b>AIR08 Ammonia Limit</b>	<b>AIR09 Ammonia Limit</b>	<b>Change in Overall no. of WWTWs with Ammonia Consents (5-10mg/l)</b>	<b>Reason for change</b>
Jonesborough	5	6	1	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Aghanloo (1)	N/A	10	1	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Drumquin	N/A	10	1	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Killen	15	10	1	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Newtownstewart	N/A	10	1	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Tamlaght	N/A	10	1	This WwTW now has a ammonia consent greater than 5 and 10 or less
Strabane	10	10	1	This WwTW was designated as a large WwTWs for AIR08 and therefore not reported on
Loughguile	7.5	3	-1	This WwTW now has a ammonia consent limit less or equal than 5
Cargan	7.5	5	-1	This WwTW now has a ammonia consent limit less or equal than 5
Cabragh	10	15	-1	This WwTW now has a ammonia consent greater than 10
Drumahoe	10	Pumpaway	-1	This WwTW is now a pumpaway
Gilford	10	15	-1	This WwTW now has a ammonia consent greater than 10

<b>Name of WwTWs</b>	<b>AIR08 Ammonia Limit</b>	<b>AIR09 Ammonia Limit</b>	<b>Change in Overall no. of WWTWs with Ammonia Consents (5-10mg/l)</b>	<b>Reason for change</b>
Magheralin	10	3	-1	This WwTW now has a ammonia consent limit less or equal than 5
<b>Total difference between AIR08 &amp; AIR09 return</b>			1	

**Changes in Line 9 - Small Works with Ammonia Consent (less than or equal to 5) from AIR08 to AIR09**

<b>Name of WwTWs</b>	<b>AIR08 Ammonia Limit</b>	<b>AIR09 Ammonia Limit</b>	<b>Change in Overall no. of WwTWs with Ammonia Consents (&lt;=to 5)</b>	<b>Reason for change</b>
Bellaghy	N/A	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Cargan	7.5	5	1	This WwTW now has a ammonia consent limit less or equal than 5
Loughguile	7.5	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Bush	15	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Killyman	50	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Magheralin	10	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Belleek (Fermanagh)	N/A	5	1	This WwTW now has a ammonia consent limit less or equal than 5



<b>Name of WwTWs</b>	<b>AIR08 Ammonia Limit</b>	<b>AIR09 Ammonia Limit</b>	<b>Change in Overall no. of WwTWs with Ammonia Consents (&lt;=to 5)</b>	<b>Reason for change</b>
Clabby	15	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Greencastle	15	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Loughmacrory	N/A	3	1	This WwTW now has a ammonia consent limit less or equal than 5
Cookstown	4	4	1	This WwTW was designated as a large WwTWs for AIR08 and therefore not reported on
Jonesborough	5	6	-1	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
<b>Total difference between AIR08 &amp; AIR09 return</b>			<b>10</b>	

**PPP only**

Kinnegar is classified as Secondary Activated on the basis of the highest level of treatment process is Sequencing Batch Reactors.

North Down Ards is classified as Tertiary A2 on the basis of the highest level of treatment process is UV Treatment.

**ANNUAL INFORMATION RETURN - TABLE 17D SEWERAGE EXPLANATORY FACTORS**  
**SEWAGE TREATMENT WORKS - LOADS (NIW Only)**

			1	2	3	4	5	6	7	8	9	10	11		
DESCRIPTION	UNITS	DP	TREATMENT CATEGORY										TOTALCG		
			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 <sub>5</sub> /day	0	173	352	1366	6	0	16	25	0	0	67	2004	C4
2	Load received by STWs in size band 2	kg BOD <sub>5</sub> /day	0	0	346	667	85	0	166	0	29	84	0	1377	C4
3	Load received by STWs in size band 3	kg BOD <sub>5</sub> /day	0	93	1804	3271	273	156	796	336	277	235	246	7485	C4
4	Load received by STWs in size band 4	kg BOD <sub>5</sub> /day	0	770	5619	2807	533	951	1828	307	991	618	276	14699	C4
5	Load received by STWs in size band 5	kg BOD <sub>5</sub> /day	0	0	7111	667	0	5159	0	1768	0	0	0	14704	C4
B LARGE WORKS															
6	Load received by STWs in size band 6	kg BOD <sub>5</sub> /day	0	0	48636	3054	9367	22814	0	3068.8	0	0	0	86939	C4
7	Total loads rec'd (daily average all size bands)	kg BOD <sub>5</sub> /day	0	1035	63868	11832	10265	29079	2806.2	5504.3	1296	936	588	127209	C4
C SMALL WORKS WITH AMMONIA CONSENTS															
8	Load rec'd by small STW w. NH <sub>3</sub> consent (5 - 10mg/l)	kg BOD <sub>5</sub> /day	0	6740											
9	Load rec'd by small STW w. NH <sub>3</sub> consents (< = 5mg/l)	kg BOD <sub>5</sub> /day	0	8548											

**ANNUAL INFORMATION RETURN - TABLE 17D SEWERAGE EXPLANATORY FACTORS**  
**SEWAGE TREATMENT WORKS - LOADS (PPP Only)**

			1	2	3	4	5	6	7	8	9	10	11	
DESCRIPTION	UNITS	DP	TREATMENT CATEGORY										TOTALCG	
			PRIMARY	SECONDARY		TERTIARY				SEA OUTFALLS				
				ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED		
<b>A SMALL WORKS</b>														
1	Load received by STWs in size band 1	kg BOD <sub>5</sub> /day	0	0	0	0	0	0	0	0	0	0	0	A1
2	Load received by STWs in size band 2	kg BOD <sub>5</sub> /day	0	0	0	0	0	0	0	0	0	0	0	A1
3	Load received by STWs in size band 3	kg BOD <sub>5</sub> /day	0	0	0	0	0	0	0	0	0	0	0	A1
4	Load received by STWs in size band 4	kg BOD <sub>5</sub> /day	0	0	0	0	0	0	0	0	0	0	0	A1
5	Load received by STWs in size band 5	kg BOD <sub>5</sub> /day	0	0	0	0	0	0	0	0	0	0	0	A1
<b>B LARGE WORKS</b>														
6	Load received by STWs in size band 6	kg BOD <sub>5</sub> /day	0	5030	0	0	4097	0	0	0	0	0	9127	A2
7	Total loads rec'd (daily average all size bands)	kg BOD <sub>5</sub> /day	0	5030	0	0	4097	0	0	0	0	0	9127	A2
<b>C SMALL WORKS WITH AMMONIA CONSENTS</b>														
8	Load rec'd by small STW w. NH <sub>3</sub> consent (5 - 10mg/l)	kg BOD <sub>5</sub> /day	0	0										
9	Load rec'd by small STW w. NH <sub>3</sub> consents (< = 5mg/l)	kg BOD <sub>5</sub> /day	0	0										

**ANNUAL INFORMATION RETURN - TABLE 17D SEWERAGE EXPLANATORY FACTORS**  
**SEWAGE TREATMENT WORKS - LOADS (Total)**

			1	2	3	4	5	6	7	8	9	10	11		
DESCRIPTION	UNITS	DP	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 <sub>5</sub> /day	0	173	352	1366	6	0	16	25	0	0	67	2004	C3	
2 Load received by STWs in size band 2	kg BOD <sub>5</sub> /day	0	0	346	667	85	0	166	0	29	84	0	1377	C3	
3 Load received by STWs in size band 3	kg BOD <sub>5</sub> /day	0	93	1804	3271	273	156	796	336	277	235	246	7485	C3	
4 Load received by STWs in size band 4	kg BOD <sub>5</sub> /day	0	770	5619	2807	533	951	1828	307	991	618	276	14699	C3	
5 Load received by STWs in size band 5	kg BOD <sub>5</sub> /day	0	0	7111	667	0	5159	0	1768	0	0	0	14704	C3	
B LARGE WORKS															
6 Load received by STWs in size band 6	kg BOD <sub>5</sub> /day	0	0	53666	3054	9367	26911	0	3068.8	0	0	0	96066	C3	
7 Total loads rec'd (daily average all size bands)	kg BOD <sub>5</sub> /day	0	1035	68898	11832	10265	33176	2806.2	5504.3	1296	936	588	136336	C3	
C SMALL WORKS WITH AMMONIA CONSENTS															
8 Load rec'd by small STW w. NH <sub>3</sub> consent (5 - 10mg/l)	kg BOD <sub>5</sub> /day	0	6740												
9 Load rec'd by small STW w. NH <sub>3</sub> consents (< = 5mg/l)	kg BOD <sub>5</sub> /day	0	8548												

### **Table 17d – Sewerage Explanatory Factors Sewage Treatment Works – 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 i.e. PEs (minus the allowance for the tourist population) held by the Asset Performance Team. An extensive exercise has been carried out during the past year to update the theoretical based PEs through desk top studies and some on ground investigations. PEs computed by others and on behalf of others within NIW, have also been considered and adopted by the Asset Performance Team. As a consequence of this work the PEs for a large number of WwTWs have been updated in the last year.

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 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.

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.

1084 WwTWs were reported on in Table 17d for AIR08. Hence there has been an overall net reduction of 8 in the number of WwTWs being reported on, which is summarised as follows:

- 5 WwTWs (Raholp, Bellanaleck and Drumahoe were pumped to other works; Gransha Rd 10-12 and Moyad Cottages 1-4 have been gravitated to other works) have been rationalised with larger WwTWs.
- Millisle WwTWs, Donaghadee WwTWs and Bangor WwTWs have been converted to pumping stations (which now pump to the North Down WwTWs) and are the responsibility of the PPP consortium.
- 1 WwTWs (Pinehill Road 7-9) has been decommissioned.
- The Water Order Consent for 1 WwTWs (Newcastle Road 58-66) has been withdrawn from NIEA, as the works is owned by the Northern Ireland Housing Executive (NIHE).
- 2 WwTWs (Anville Crescent and Dunmore Cottages) are now included in AIR09, which have come to the attention of NIW during the past year.

We have assumed the Bands to be:

#### **Small works**

- size band 1 ≤ 15kg BOD5/day (population equivalent: 0 - 250)
- size band 2 >15 but ≤ 30kg BOD5/day (population equivalent: 251 -

500)

- size band 3 >30 but ≤ 120kg BOD5/day (population equivalent: 501 – 2,000)
- size band 4 >120 but ≤ 600kg BOD5/day (population equivalent: 2,001 – 10,000)
- size band 5 >600 but ≤ 1500kg BOD5/day (population equivalent: 10,001 – 25,000)

**Large Works**

- 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. 1076 including the screened outfalls (7 No.) and the unscreened outfalls (13 No.).

As a consequence of PEs being updated during the past year it is not feasible to highlight all the differences in a line by line basis.

**Difference between AIR08 and AIR09 for the total load entering WwTWs as shown in Table 17d - column 11, row 7**

<b>Total Load Received at WwTWs for AIR08 -</b>	<b>128430</b>
<b>Total Load Received at WwTWs for AIR09 -</b>	<b>127209</b>
<b>Total Difference -</b>	<b>1221</b>

The interpretation of the treatment categories is as below:

<b>AIR09 Treatment Category</b>	<b>Highest Form of Treatment at WwTWs</b>	<b>Treatment Category Abbreviation</b>
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 Prelim Sea Out Screen Sea Out Unscreen

**Changes in Line 8 - Small Works with Ammonia Consent (between 5 and 10) from AIR08 to AIR09**

<b>Name of WwTWs</b>	<b>Change in Overall Pe from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Aghanloo (1)	523	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Aghanloo (2)	0	The PE for this site has been updated since AIR08
Annahilt (WwTW)	-27	The PE for this site has been updated since AIR08
Ballyronan (WwTW)	618	The PE for this site has been updated since AIR08
Beragh (WwTW)	168	The PE for this site has been updated since AIR08
Claudy	-32	The PE for this site has been updated since AIR08
Clogher (WwTW)	331	The PE for this site has been updated since AIR08
Cluntoe (Richardson)	166	The PE for this site has been updated since AIR08
Coalisland	2441	The PE for this site has been updated since AIR08
Derrygonnelly (WwTW)	-10	The PE for this site has been updated since AIR08
Derryhale	167	The PE for this site has been updated since AIR08
Derrylin (WwTW)	207	The PE for this site has been updated since AIR08
Derrytrasna	131	The PE for this site has been updated since AIR08
Donaghmore (WwTW)	280	The PE for this site has been updated since AIR08



<b>Name of WwTWs</b>	<b>Change in Overall Pe from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Dromora (WwTW)	142	The PE for this site has been updated since AIR08
Drumquin (WwTW)	976	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Drumsum	136	The PE for this site has been updated since AIR08
Ederney (WwTW)	337	The PE for this site has been updated since AIR08
Feeny	191	The PE for this site has been updated since AIR08
Fintona (WwTW)	-50	The PE for this site has been updated since AIR08
Gortnahey (WwTW)	65	The PE for this site has been updated since AIR08
Gulladuff (WwTW)	-7	The PE for this site has been updated since AIR08
Hamiltonsbawn	-12	The PE for this site has been updated since AIR08
Hooks Corner	2966	The PE for this site has been updated since AIR08
Jonesborough (WwTW)	599	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Kesh (WwTW)	1399	The PE for this site has been updated since AIR08
Killen	467	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Kinallen (WwTW)	388	The PE for this site has been updated since AIR08

<b>Name of WwTWs</b>	<b>Change in Overall Pe from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Lack	88	The PE for this site has been updated since AIR08
Liscolman	-51	The PE for this site has been updated since AIR08
Lisnaskea (WwTW)	2349	The PE for this site has been updated since AIR08
Lower Ballinderry	497	The PE for this site has been updated since AIR08
Macosquin	-32	The PE for this site has been updated since AIR08
Maghaberry	1271	The PE for this site has been updated since AIR08
Maghera (L/Derry)	1744	The PE for this site has been updated since AIR08
Magherafelt (WwTW)	-8562	The PE for this site has been updated since AIR08
Markethill	627	The PE for this site has been updated since AIR08
Mountfield (WwTW)	109	The PE for this site has been updated since AIR08
Mountnorris	26	The PE for this site has been updated since AIR08
Mullaghglass (Antrim)	41	The PE for this site has been updated since AIR08
Newtownstewart (WwTW)	2168	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Poundburn	21	The PE for this site has been updated since AIR08
Rosslea (WwTW)	67	The PE for this site has been updated since AIR08

<b>Name of WwTWs</b>	<b>Change in Overall Pe from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Strabane	22606	This WwTW was designated as a large WwTW for AIR08 and therefore not reported on
Swatragh (WwTW)	-53	The PE for this site has been updated since AIR08
Tamlaght (WwTW)	475	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
Cargan	-670	This WwTW now has a ammonia consent limit less or equal than 5
Loughguile	-789	This WwTW now has a ammonia consent limit less or equal than 5
Cabragh	-483	This WwTW now has a ammonia consent greater than 10
Gilford	-2759	This WwTW now has a ammonia consent greater than 10
Magheralin	-1700	This WwTW now has a ammonia consent limit less or equal than 5
Drumahoe	-7033	This WwTW is now a pumpaway
<b>Total change in PE =</b>	<b>22517</b>	

**Changes in Line 9 - Small Works with Ammonia Consent (between 5 and 10) from AIR08 to AIR09**

<b>Name of WwTWs</b>	<b>Change in Overall PE from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Ballinmallard (WwTW)	138	The PE for this site has been updated since AIR08
Ballybogy	214	The PE for this site has been updated since AIR08
Ballyclare	1126	The PE for this site has been updated since AIR08

<b>Name of WwTWs</b>	<b>Change in Overall PE from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Ballynahinch (Down)	-14	The PE for this site has been updated since AIR08
Banbridge (WwTW)	2075	The PE for this site has been updated since AIR08
Bellaghy (WwTW)	1765	This WwTW now has a ammonia consent limit less or equal than 5
Belleek (Fermanagh)	1688	This WwTW now has a ammonia consent limit less or equal than 5
Bush	639	This WwTW now has a ammonia consent limit less or equal than 5
Cargan (WwTW)	860	This WwTW now has a ammonia consent limit less or equal than 5
Clabby (WwTW)	308	This WwTW now has a ammonia consent limit less or equal than 5
Cookstown (WwTW)	20822	This WwTW was designated as a large WWTWs for AIR08 and therefore not reported on
Downpatrick (WwTW)	-4156	The PE for this site has been updated since AIR08
Drumaness (WwTW)	441	The PE for this site has been updated since AIR08
Drumintee	-51	The PE for this site has been updated since AIR08
Dunloy	420	The PE for this site has been updated since AIR08
Garvagh (WwTW)	398	The PE for this site has been updated since AIR08
Glenavy (WwTW)	753	The PE for this site has been updated since AIR08
Grange (Taylorstown)	65	The PE for this site has been updated since AIR08

<b>Name of WwTWs</b>	<b>Change in Overall PE from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Greencastle (Tyrone)	379	This WwTW now has a ammonia consent limit less or equal than 5
Killinchy (WwTW)	1112	The PE for this site has been updated since AIR08
Killyman	948	This WwTW now has a ammonia consent limit less or equal than 5
Lisbarnet (WwTW)	34	The PE for this site has been updated since AIR08
Lough Macrory (WwTW)	616	This WwTW now has a ammonia consent limit less or equal than 5
Loughguile	851	This WwTW now has a ammonia consent limit less or equal than 5
Magheralin	1875	This WwTW now has a ammonia consent limit less or equal than 5
Moirá	-195	The PE for this site has been updated since AIR08
Moneyreagh (WwTW)	486	The PE for this site has been updated since AIR08
Newtownbutler (WwTW)	426	The PE for this site has been updated since AIR08
Newtownhamilton	227	The PE for this site has been updated since AIR08
Pomeroy (WwTW)	45	The PE for this site has been updated since AIR08
Poyntzspass (WwTW)	112	The PE for this site has been updated since AIR08
Rathfriland (WwTW)	-682	The PE for this site has been updated since AIR08
Stoneyford (WwTW)	330	The PE for this site has been updated since AIR08

<b>Name of WwTWs</b>	<b>Change in Overall PE from 08 to 09 (-ve signifies a decrease)</b>	<b>Reason for change</b>
Tandragee	-726	The PE for this site has been updated since AIR08
Waringstown	2119	The PE for this site has been updated since AIR08
Jonesborough	-583	This WwTW now has a ammonia consent greater than 5 and equal to or less than 10
<b>Total change in PE =</b>	<b>34865</b>	

**PPP only**

Kinnegar Line 6 (Type: Activated Sludge): This represents the Kinnegar WwTW; derivation of data is consistent with Table 15.

North Down Ards Line 6 (Type: A2): This represents North Down Ards WwTW; derivation of data is consistent with Table 15.

**ANNUAL INFORMATION RETURN - TABLE 17F SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - COSTS (NIW Only)**

[illegible]

**ANNUAL INFORMATION RETURN - TABLE 17F SEWERAGE EXPLANATORY FACTORS**  
**SEWAGE TREATMENT WORKS - COSTS (PPP only)**

[illegible]



**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 17F SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - COSTS (Total)**

			1	2	3	4	5	6	7	8	9	10	11
DESCRIPTION	UNITS	DP	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										
5	Direct costs of STWs in size band 5	£000	3										
B LARGE WORKS													
6	Direct costs of STWs in size band 6	£000	3										
C ALL WORKS													
7	Total direct costs of STWs - all sizes	£000	3										
8	Sludge Treatment and Disposal Adjustments	£000	3										
9	Sewage Treatment: Direct costs	£000	3										
10	Sewage Treatment: Power costs	£000	3										
11	Sewage Treatment: service charges	£000	3										
12	Sewage Treatment: General and Support	£000	3	0.000	78.829	0.000	0.000	78.829	0.000	0.000	0.000	0.000	1730.142
12a	Sewage Treatment: General and Support (PPP operator only)	£000	3										
13	Sewage Treatment: Functional Expenditure	£000	3										

**Table 17f – Sewerage Explanatory Factors  
Sewage Treatment Works – Costs****NIW Only****Lines 1-13**

An updated Population Equivalent (PE) database with treatment type by WwTWs was sent from Michael Kelly on the 11 May 2009 which resulted in changes to the number of WwTWs included in Size Band 6 and Size Band 5. Three works which were included in Size Band 6 (Strabane, Glenstall and Cookstown) are now included in Band 5. There was an addition to Band 5 of Coalisland WwTW which is not coded individually in the 2008/09 financial year however; in 2009/10 a new code has been set up so this figure can be captured for AIR10. Coalisland WwTW is not included in Table 17f.

The costs have increased as further works have come on line during the year.

Table 17f has been completed based on the figures available at 15 May for the year ended 31 March 2009.

**A Small Works****Line 1- 4 – Size band 1- 4**

The WwTWs falling in these categories cannot be identified separately; however it is possible to calculate the total for small works and this has been entered in Column 11. This remains consistent with AIR08.

**Line 5 – Size band 5**

Direct costs for sewage treatment, at each location in Size Band 5, were recorded and matched to the appropriate type of treatment.

The costs have increased from AIR08 as a result of the change in PE and therefore a number of treatment works falling into Size band 5. Four additional WwTWs are now included, Strabane, Cookstown, Coalisland and Glenstall. Coalisland WwTW cannot be identified separately and is not included in this table.

In AIR08 power costs were included under Sewage treatment whereas in AIR09 these have been apportioned between sludge and sewage treatment.

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 estimated the percentage use for sludge treatment and sewage treatment at each site. This was multiplied by the total Power costs at the site to calculate the portion relating to sewage treatment.

## **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 remained similar to the AIR08 return even with the reduction of three sites from this size band. The reason for this is the additional apportionment of Power costs between sludge and sewage treatment (see commentary under Line 5) and the apportionment of costs at Duncrue Street (Incinerator & Belfast WwTW). Belfast WwTW was treated separately as there is one electricity meter at Duncrue Street which includes the costs for the Belfast WwTW (W10) and the Incinerator (W01). The usage estimated, by the power team, is a 60:40 split between Belfast and the Incinerator. The percentage split estimated for Sewage and Sludge treatment by the field manager for Belfast was applied to this to calculate the portion of power for sewage treatment.

In AIR08 Line 6 did not include power costs for Belfast WwTW, this was included in Table 17g under Incineration. The costs of the Incineration in 2008/09 are £902,778.

Power costs at Ballymena, Omagh and Newry include the terminal pumping costs as there is one electric metre for this.

## **C All Works**

### **Line 7 – Total Direct Costs**

The small works cannot all be split by treatment as each works is not individually identified by a location code; therefore a total figure is input into Column 11. This figure agrees with Table 22, Column 2 Line 9.

### **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**

As with Line 7 small works cannot be split separately therefore a total figures is input into Column 11. This figure agrees with Table 22, Column 2 Line 9. The direct costs include a share of power costs from Duncrue Street. These were included in Table 17g last year and have been apportioned between Belfast WwTW and the Incinerator (see commentary on Line 5 and 6 above).

### **Line 10 – Power Costs**

As with Line 7 small works cannot be split separately therefore a total figures is input into Column 11. The power figure has increased significantly from AIR08 due to the improved apportionment of costs at Duncrue Street (see commentary for Line 5 and 6 above). This figure agrees with Table 22, Column 2 Line 2.

**Line 12 – General & Support**

The Total General & Support expenditure was taken directly from Table 22 Line 10 Column 2 (see Table 22 commentary). No Costs have been allocated to the PPP site. This remains consistent with AIR08.

**Line 13 – Functional Expenditure**

This is a calculated line and is the total of Line 10 and Line 11. The total agrees to Table 22 (NIW Only) Column 2 Line 11. The total costs have increased as result of the improved apportionment of power costs between sludge and sewage treatment and the inclusion of power costs at the Belfast WwTW which were included in Table 17g in AIR08. There has also been improved apportionment of general & support costs in Table 22 throughout NIW by each of the directorate business partners (see Table 22 commentary).

**PPP only****Line 6 – Direct Costs of STW's in size band 6**

Activated Sludge: (Kinnegar) is the summation of the figures indicated on the Contractors Invoices as payable to the Operating Company by the Contractor.

Tertiary A2: (North Down Ards) as notified by Contractor.

**Line 10 – Power Costs**

These figures represent the power costs of the relevant sites.

Kinnegar power costs are paid for by the PPP operator and therefore do not for part of the NIW operating costs. This will be already covered by the unitary charge and will therefore result in a double count.

North Down power costs are paid for by NIW and have been removed from the NIW only costs.

**Line 12 – General and Support Expenditure (NIW)**

Costs provided using the applied methodology relate to the General and Support Expenditure incurred by Commercial Directorate only in respect of the elements of Project Omega and Kinnegar that are post Service Commencement Date.

The Regulator agreed at a meeting in January 2009 to limit the data to that relevant to Kinnegar and Omega (North Down Facilities) only.

The data input reflects costs associated with General Support for a full year on Kinnegar PPP management and from 5 May 2008 (Date of North Down Facility Service Commencement) for Project Omega PPP.

The input data does not record General Support costs associated with PPP wastewater services not yet in service.

**Line 12a – General and Support Expenditure (PPP operator only)**

These costs represent the PPP function's estimates of staff time spent in relation to each PPP site. These costs have been removed from the NIW only costs:

- Kinnegar: (Activated Sludge) the Contractor has not made this information available from the Operator.
- North Down Ards: (Tertiary A2) as notified by Contractor.

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 17G SEWERAGE EXPLANATORY FACTORS  
SLUDGE TREATMENT AND DISPOSAL INFORMATION (NIW Only)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9
			FARMLAND UNTREATED CG	FARMLAND CONVENTIONAL CG	FARMLAND ADVANCED CG	INCINERATION CG	LANDFILL CG	COMPOSTED CG	LAND RECLAMATION CG	OTHER CG	TOTAL CG
1 Resident population served	000	1	0.0 A1	2.3 C4	330.7 C4	441.5 C4	11.0 C4	0.0 A1	168.1 C4	199.7 C4	1153.3 C4
2 Amount of sewage sludge	tds	1	0.0 A1	0.1 B2	9.2 B2	15.7 B3	0.3 B2	0.0 A1	4.7 B2	5.6 B2	35.5 B3
3 Sludge treatment: direct costs	£000	3				3,670.062				2,686.025	6,356.087
4 Sludge disposal: direct costs	£000	3			4,305.294	327.823	121.587		2,167.831	5,066.005	11,988.540
5 Sludge treatment & disposal: direct costs	£000	3	-	-	4,305.294	3,997.885	121.587	-	2,167.831	7,752.031	18,344.627
6 Sludge treatment & disposal: power costs	£000	3				902.778				1,638.797	2,541.575
7 Sludge treatment & disposal: service charges	£000	3				-				-	-
8 Sludge treatment & disposal: general & support exp.	£000	3				607.639				527.752	1,135.391
9 Sludge treatment & disposal: functional expenditure	£000	3	-	-	4,305.294	4,605.523	121.587	-	2,167.831	8,279.783	19,480.018

## NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

**ANNUAL INFORMATION RETURN - TABLE 17G SEWERAGE EXPLANATORY FACTORS  
SLUDGE TREATMENT AND DISPOSAL INFORMATION (PPP Only)**

[illegible]

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 17G SEWERAGE EXPLANATORY FACTORS  
SLUDGE TREATMENT AND DISPOSAL INFORMATION (Total)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9
			FARMLAND UNTREATED CG	FARMLAND CONVENTIONAL CG	FARMLAND ADVANCED CG	INCINERATION CG	LANDFILL CG	COMPOSTED CG	LAND RECLAMATION CG	OTHER CG	TOTAL CG
1 Resident population served	000	1	0.0	2.3	330.7	654.5	11.0	0.0	168.1	199.7	1366.3
2 Amount of sewage sludge	tds	1	0.0	0.1	9.2	18.2	0.3	0.0	4.7	5.6	38.0
3 Sludge treatment: direct costs	£000	3	0.000	0.000	0.000	3670.062	0.000	0.000	0.000	2686.025	6356.087
4 Sludge disposal: direct costs	£000	3	0.000	0.000	4305.294	327.823	121.587	0.000	2167.831	5066.005	11988.540
5 Sludge treatment & disposal: direct costs	£000	3	0.000	0.000	4305.294	3997.885	121.587	0.000	2167.831	7752.031	18344.627
6 Sludge treatment & disposal: power costs	£000	3	0.000	0.000	0.000	902.778	0.000	0.000	0.000	1638.797	2541.575
7 Sludge treatment & disposal: service charges	£000	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8 Sludge treatment & disposal: general & support exp.	£000	3	0.000	0.000	0.000	607.639	0.000	0.000	0.000	527.752	1135.391
9 Sludge treatment & disposal: functional expenditure	£000	3	0.000	0.000	4305.294	4605.523	121.587	0.000	2167.831	8279.783	19480.018



**Table 17g – Sewerage Explanatory Factors  
Sludge Treatment and Disposal Information****NIW Only****Line 1 Columns 1-8**

Lines 1.1 to 1.8 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 C4 accordingly based on the C4 CG of the base population data.

**Line 1 Column 9**

Resident population served: The total resident population served is the total population connected to the sewerage system as reported in Table 13 Line 10.

NIW has revised the total resident population served as being the total population connected to the sewerage system for 2008/09. In addressing the AIR09 – List of Actions (Nr.129), WW Services in tandem with CSD has collated and duly discounted the estimated load collected from unregulated septic tanks i.e.:

1. The number of unregulated septic tanks collected from within the reporting year.
2. The total estimated load collected from unregulated septic tanks.

The total load collected from unregulated septic tanks has been estimated, based on an assumed volume of 3m<sup>3</sup> per tank and an assumed Dry Solid Content of 2.5% sludge. Confidence Grade – C4.

**Line 2 Columns 1-8**

Lines 2.1 to 2.8 have been based on the total sewage sludge disposal data from SLS and the WW Sludge Management monthly report; CGs vary based on accuracy of data for each disposal method. Confidence Grades - A1, B2 & B3.

**Line 2 Column 9**

Amount of sewage sludge: This is the total sewage sludge produced for 2008/09 (tds) as recorded monthly by WW Area Sludge Officers (taken from SLS) and presented in the monthly Sludge Management Report along with indigenous sludge at Belfast WwTW, cake to incineration and an estimated quantity of WwTWs grit & screenings removed as part of the treatment process and disposed of to landfill under Tender C018. Confidence Grade – B3.

**Lines 3-9**

A significantly improved methodology was used for AIR09; more columns are now populated with a clearer definition of disposal routes, improved coding and an improved split of power costs.

The disposal costs have increased significantly in AIR09 due to increased contractors rates and changes in NIEA legislation resulting in more expensive disposal routes used. There is also a significant improvement in the apportionment of general & support costs allocated (see table 22 commentary).

The costs in Table 17g are populated with the information available at 15 May 2009 for the year ended 31 March 2009.

### **Line 3 – Sludge Treatment Direct Costs**

Expenditure has been input in Column 4 and 8.

Costs in this line have increased due to improved coding by operational staff between sewage treatment and sludge treatment. Power costs are included under Column 8 for sludge treatment whereas in AIR08 the power costs of WwTWs were all included under Sewage Treatment Table 17f. This split was based on estimates provided by the operational staff at the various WwTWs.

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 WwTWs estimated the percentage use for sludge treatment and sewage treatment at each site. This was multiplied by the Power costs at the site to calculate the portion relating to sludge treatment.

Belfast WwTWs was treated separately as there is one electricity meter at Duncrue Street which includes the costs for the Belfast WwTWs (W10) and the Incinerator (W01). The usage estimated, by the power team, is a 60:40 split between Belfast and the Incinerator. The percentage split estimated for Sewage and Sludge treatment by the field manager for Belfast was applied to this to calculate the portion of power for sludge treatment.

### **Line 4 - Sludge Disposal Direct Costs**

Column 3, 4, 5, 7 & 8 have been populated in this line. Costs in this line have increased due to the use of more expensive disposal routes as a result of changes NIEA legislation and rate increase by contractors used. In AIR08 the land reclamation (Column 7) route was not used and this has proved to be very expensive in the 2008/09 financial year. There was also been a significant increase in Column 3 due to the increased rates.

### **Line 6 – Sludge Treatment & Disposal Power Costs**

Power costs are associated with Incineration and Sludge Treatment (Column 4 and 8). In AIR08 Power costs at Duncrue were all included in Table 17g under Column 4. The power team supplied a split between the Incinerator and Belfast WwTWs which was used apportion a more accurate cost to the Incinerator.

An estimate was received for each WwTWs from the operations staff so that a split could be calculated at each works between sludge and sewage treatment at the sites where both activities occur. This is included under Column 8.

**Line 8 - Sludge treatment & disposal General & Support**

An improved apportionment of general & support costs has been made in Table 22 (see methodology and commentary for Table 22). This figure was split across Table 17g based on the split of direct labour.

**Line 9 – Functional Expenditure**

There has been a change to the disposal routes used by NIW over the 2008/09 financial year. This is a result of changes in NIEA legislation which has meant that disposal to land reclamation has been used and the disposal to farmland – conventional has nearly ceased.

**PPP Only****Line 1 - Resident population served**

PE figure given as the derived PE not the effective PE.

**Line 2 - Amount of sewage sludge.**

In addition to the Sludge Cake produced at Kinnegar (0.8 ttds), there was also 0.025 ttds of Screenings disposed of to landfill. There was no Grit removed from the Kinnegar Site during 2008/09. The North Down Works produced 1.63 ttds of Sludge, but Screenings and grit are not reportable under the Contract. The Kinnegar Sludge figures are based on analysis data per load whereas the North Down figure is derived from a long term average of %DS.

- Kinnegar is evidenced for the information required in Lines 1, 2 by referring to monthly Contract Submissions which are validated by NI Water from a range of independent sources.
- North Down Ards is evidenced for the information required in Lines 1, 2 by referring to monthly Contract Submissions which are validated by NI Water from a range of independent sources.
- North Down Ards volumes are all in addition to the previous AIR reporting period, as a consequence of the North Down Ards treatment facility coming on-line as a first time service to the Bangor, Millisle and Donaghadee catchments.

## NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

### ANNUAL INFORMATION RETURN - TABLE 18 REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING) PROFIT AND LOSS ACCOUNT FOR YEAR ENDING 31 MARCH

DESCRIPTION				1	2
				2007-08	2008-09
UNITS	DP				
1	Turnover	£m	3	294.056	327.395
2	Operating costs (excluding HCD)	£m	3	-219.063	-241.458
3	Historical cost depreciation	£m	3	-12.343	-17.767
4	Operating income	£m	3	-0.031	0.094
5	Operating profit	£m	3	62.619	68.264
6	Other income	£m	3	0.000	0.000
7	Net interest receivable less payable	£m	3	-7.113	-20.142
8	Profit on ordinary activities before taxation	£m	3	55.506	48.122
9	Current tax	£m	3	0.000	0.000
10	Deferred tax	£m	3	-15.562	-13.531
11	Profit on ordinary activities after taxation	£m	3	39.944	34.591
12	Extraordinary items	£m	3	0.000	0.000
13	Profit for the year	£m	3	39.944	34.591
14	Dividends	£m	3	-33.538	0.000
15	Retained profit for the year	£m	3	6.406	34.591

**Table 18 – HC Profit and Loss account for the year ending 31 March 2009**

- 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 2008/09 can be analysed as follows:

	<b>Gross Charge</b>	<b>Residual interest credit</b>	<b>Lease repayment</b>	<b>Capital maintenance</b>	<b>CC Depreciation</b>	<b>Net P&amp;L Charge</b>
	£m	£m	£m	£m	£m	£m
Alpha	1.973	0.000	(0.430)	(0.254)	1.156	2.445
Omega	9.377	(1.294)	0.000	0.000	0.000	8.083
Kinnegar	1.460	(0.226)	0.000	0.000	0.000	1.234
<b>Total</b>	<b>12.810</b>	<b>(1.520)</b>	<b>(0.430)</b>	<b>(0.254)</b>	<b>1.156</b>	<b>11.762</b>

- PPP elements of line 2 'Operating Costs' are £10.605m. Additionally within Line 3 'HCD' there are depreciation costs for the Alpha Project of £1.156m (see Table 33).
- The current tax charge is zero and this is explained as follows:

**Factors affecting the tax charge for the current period**

The current tax charge for the period is lower than the standard rate of corporation tax in the UK (28%). The differences are explained below:

**Current tax reconciliation**

Profit on ordinary activities before tax  
Current tax at 28%

£m  
**48.122**  
**13.474**

**Effects of:**

Expenses not deductible for tax purposes	0.140
Capital allowances for period in excess of depreciation	(25.997)
Other timing differences	0.523
Trade losses carried forward	11.860
<b>Total current tax charge</b>	<b>0.000</b>

(This reconciliation is based on Note 11 to the statutory accounts with the appointed activities allocation of current tax and the use of capital allowances to give a zero actual charge).

- The deferred tax charge of £13.531m is based on the statutory accounts charge of £13.762m less an allocation of £0.231m deferred tax to unappointed activities.

The statutory accounts deferred tax charge of £13.762m can be shown as follows:

### Deferred tax

	£m
Origination/ reversal of timing differences	<b>14.209</b>
FRS 17 pension adjustments	<b>(0.523)</b>
Adjustment in respect of previous years	<b>0.076</b>
 Total deferred tax charge	 <b>13.762</b>
 Tax charge on profit on ordinary activities	 <b>13.762</b>

Table 19 shows a deferred tax liability on the balance sheet of £30.653m. This reconciles to the statutory accounts balance at 31 March 2009 of £31.045m after an allocation of £0.391m of the final balance to unappointed activities. The statutory balance of £31.045m can be summarised as follows:

	2009 £m Excluding FRS 17	2009 £m FRS 17	2009 £m Total
Opening liability	16.760	2.185	<b>18.945</b>
Current year deferred tax charge/ (credit) to profit and loss account	14.209	(0.523)	<b>13.686</b>
Prior year deferred tax charge to P&L	0.076	0.000	<b>0.076</b>
Current year deferred year tax charge to the Statement of Total Recognised Gains and Losses	0.000	0.648	<b>0.648</b>
Closing liability	<u>31.045</u>	<u>2.310</u>	<b><u>33.355</u></b>

The FRS 17 aspect of deferred tax is shown separately and rolled up into the balance shown within the pension asset on the balance sheet as follows:

	2009 £m
Benefit obligation at end of year	(59.344)
Fair value of plan assets at end of year	<u>67.596</u>
Surplus	8.252
Less deferred tax	<u>(2.310)</u>
<b>Pension asset after deferred tax</b>	<b><u>5.942</u></b>

The actuarial assumptions underpinning the FRS 17 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-09	31-Mar-08
Discount rate	6.75%	6.00%
Rate of compensation increase	4.50%	5.00%
Rate of increase in pensions in payment	3.50%	3.50%
Rate of increase in pensions in deferment	3.50%	3.50%
Inflation	3.50%	3.50%

**Weighted average assumptions used to determine net pension cost for year ended:**

	31-Mar-09	31-Mar-08
Discount rate	6.00%	5.00%
Expected long-term return on plan assets	5.94%	5.84%
Rate of compensation increase	5.00%	4.50%
Rate of increase in pensions in payment	3.50%	3.00%
Inflation	3.50%	3.00%

Any changes to the assumptions from 2008 to 2009 have been advised by the independent actuaries.

There is a pension asset at 31 March 2009 of £5.942m (after deferred tax) and therefore there are currently no contributions relating to funding a deficit position. Contributions to the fund in 2008/09 were 29.3% of pensionable pay (2007/08 29.3%).

Of significance in comparing 2008/09 and 2007/08 is the fact that a dividend was not proposed or approved in 2008/09 and thus there is no dividend in Table 18 for the current year.

**Comparison to prior year and the SBP**

A comparison to 2007/08 and to the SBP can be shown as follows:

	<b>Actual</b>	<b>Actual</b>	<b>SBP</b>
	<b>2008 -2009</b>	<b>2007-2008</b>	<b>2008 -2009</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>
Sales	327.395	294.056	356.153
Expenditure	(259.131)	(231.437)	(274.627)
Net Operating Profit	68.264	62.619	81.526
Operating Margin	20.9%	21.3%	22.9%
Interest payable	(20.142)	(7.113)	(20.577))
Deferred tax	(13.531)	(15.562)	(18.285)
Profit for the year	34.591	39.944	42.664
Net Profit Margin	10.6%	13.6%	12.0%

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. Particular work has been ongoing on revenue assurance with a cross organisational working group engaged in workshops to ensure controls across all revenue streams are examined and plans are in place to ensure that all revenue processes are mapped. Internal audit has been involved in this project and will continue to monitor progress in this area.



# **NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

## **ANNUAL INFORMATION RETURN - TABLE 18C REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING) STATEMENT OF TOTAL RECOGNISED GAINS AND LOSSES**

DESCRIPTION		UNITS	DP	1	2
				2007-08	2008-09
<b>A</b>	<b>CAPITAL EXPENDITURE CATEGORIES</b>				
1	Profit for the year	£m	3	39.944	34.591
2	Actuarial gains/losses on post employment plans	£m	3	14.962	1.666
3	Other gains and losses	£m	3	0.000	0.000
4	Total recognised gains and losses for the year	£m	3	54.906	36.257

**Table 18c – STRGL (HCA)**

With the exception of the actuarial gain, there are no other recognised gains or losses.

## NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

### ANNUAL INFORMATION RETURN - TABLE 18d REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING) ALLOCATION OF CAPITAL EXPENDITURE FOR TAX PURPOSES

DESCRIPTION				1	2
				2007-08	2008-09
UNITS	DP				
<b>A DIVIDEND ANALYSIS</b>					
1	Dividends in respect of a financial re-organisation	£m	3	0.000	0.000
2	Other ordinary dividends	£m	3	-33.538	0.000
3	Total dividends	£m	3	-33.538	0.000
<b>B INTEREST ANALYSIS</b>					
4	Interest receivable/payable on intercompany balances	£m	3	0.000	0.000
5	Interest receivable/payable in respect of a financial re-organisation	£m	3	0.000	0.000
6	Indexation element of index-linked bonds	£m	3	0.000	0.000
7	Preference share dividends	£m	3	0.000	0.000
8	Other interest receivable	£m	3	2.208	1.813
9	Other interest payable	£m	3	-9.741	-17.899
10	Other finance charges - post employment costs	£m	3	0.420	0.137
11	Other finance charges	£m	3	0.000	-4.193
12	Total net interest	£m	3	-7.113	-20.142

**Table 18d – Analysis of dividends and interest charges**

There has been no financial reorganisation during the year.

Interest receivable (£1.813m) relates to monies held on deposit.

Interest payable (£17.899m) relates to the Loan Notes held with DRD and increased by £8.158m (84%) primarily due to the drawdown of £150m additional loan notes in 2008/09. The interest payable 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 (£0.137m) relate to post employment costs and the finance credit calculated by the actuaries on the pension fund at year end.

During 2008/09 an amount of £4.193m has been included for the first time under other finance charges. This relates to the imputed interest on the finance lease underpinning the on balance sheet Alpha PPP Project.

The following table compares the actual net interest payable and balance of loan notes with the 2008/09 budget and the SBP:

	<b>Actual</b>	<b>Budget</b>	<b>SBP</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>
Net Interest payable	16.086	16.900	20.577
Loan notes	457.600	487.600	524.710

The drawdown of loans is £67.11m less than the SBP projected for 2008/09. This is primarily driven by a lower working capital requirement than was anticipated particularly for capital creditors.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 19 REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)  
BALANCE SHEET AS AT 31 MARCH**

				1	2
DESCRIPTION				2007-08	2008-09
UNITS DP					
<b>A FIXED ASSETS</b>					
1	Tangible fixed assets	£m	3	1103.597	1435.239
2	Investment - loan to group company	£m	3	0.000	0.000
3	Investment - other	£m	3	0.106	0.106
4	Total fixed assets	£m	3	1103.703	1435.345
<b>B CURRENT ASSETS</b>					
5	Stocks	£m	3	2.400	1.896
6	Debtors	£m	3	30.570	29.706
7	Cash	£m	3	2.843	3.554
8	Short term deposits	£m	3	54.000	19.000
9	Infrastructure renewals prepayment	£m	3	0.000	0.091
10	Total current assets	£m	3	89.813	54.247
<b>C CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR</b>					
11	Overdrafts	£m	3	0.000	0.000
12	Infrastructure renewals accrual	£m	3	-9.695	0.000
13	Creditors	£m	3	-110.408	-131.461
14	Borrowings	£m	3	0.000	0.000
15	Corporation tax payable	£m	3	0.000	0.000
16	Ordinary share dividends payable	£m	3	-33.538	0.000
17	Preference share dividends payable	£m	3	0.000	
18	Total creditors	£m	3	-153.641	-131.461
19	Net current assets	£m	3	-63.828	-77.214
<b>D CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR</b>					
20	Borrowings	£m	3	-307.560	-457.560
21	Other creditors	£m	3	-3.422	-110.808
22	Total creditors	£m	3	-310.982	-568.368
<b>E PROVISION FOR LIABILITIES AND CHARGES</b>					
23	Deferred tax provision	£m	3	-16.566	-30.653
24	Deferred income - grants and contributions	£m	3	-9.757	-15.099
25	Post employment asset / (liabilities)	£m	3	5.619	5.942
26	Other provisions	£m	3	-15.131	-20.638
<b>F PREFERENCE SHARE CAPITAL</b>					
27	Preference share capital	£m	3	0.000	0.000
28	Net assets employed	£m	3	693.058	729.315
<b>G CAPITAL AND RESERVES</b>					
29	Called up share capital	£m	3	500.000	500.000
30	Share premium	£m	3	0.000	0.000
31	Profit and loss account	£m	3	21.368	57.625
32	Other reserves	£m	3	171.690	171.690
33	Capital and reserves	£m	3	693.058	729.315

**Table 19 – HC Balance Sheet as at 31 March 2009**

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 £34.591m. The P&L reserves in the Balance Sheet move by £36.257m with the pension scheme gain net of deferred tax accounting for the difference of £1.666m as shown in the STRGL below:

	<b>Appointed business</b>	<b>Non- Appointed business</b>	<b>Total</b>
	2008/09 £m	2008/09 £m	2008/09 £m
Profit for the financial year	34.591	0.931	35.522
Actuarial gain recognised in the pension scheme	2.314	0.000	2.314
Deferred tax arising on gains in the pension scheme	(0.648)	0.000	(0.648)
<b>Total recognised gains and losses relating to the financial year</b>	<b>36.257</b>	<b>0.931</b>	<b>37.188</b>

No minority interests exist.

The elements of PPP included in the table are as follows:

**Line 1 - Tangible Fixed Assets**

	<b>Alpha</b>	<b>Omega</b>	<b>Kinnegar</b>	<b>Total</b>
	£m	£m	£m	£m
Gross	111.962 *	1.597	1.754	<b>115.313</b>
Acc. Deprec	(1.156)	-	-	<b>(1.156)</b>
<b>NBV</b>	<b>110.806</b>	<b>1.597</b>	<b>1.754</b>	<b>114.157</b>

	£m
* Initial expenditure	111.708
Additions to Capital Maintenance fund	<u>0.254</u>
	<u>111.962</u>

**Line - 13 Creditors falling due within one year**

	<b>Alpha</b>	<b>Omega</b>	<b>Kinnegar</b>	<b>Total</b>
	£m	£m	£m	£m
Lease obligation due < 1 yr	2.888	-	-	<b>2.888</b>
Accruals	1.939	7.507	0.993	<b>10.439</b>
<b>Total</b>	<b>4.827</b>	<b>7.507</b>	<b>0.993</b>	<b>13.327</b>

**Line 21 - Other creditors falling due after more than one year**

	<b>Alpha</b>
	£m
Lease obligation due > 1 yr	108.390

**Significant features and movements****Fixed Assets**

Increased broadly in line with additions of approximately £370m in year (including £111.962m for Alpha PPP).

**Other Creditors > 1 yr**

Significant increase of approximately £107m due to the Alpha PPP on balance sheet finance lease.

**Short term deposits**

Short term deposits have decreased from £54m to £19m. This was mainly due to the drawdown of loans at year end 2007/08.

**Infrastructure renewals prepayment / accrual**

The infrastructure renewals accrual of £9.695m at 31 March 2008 has moved to an infrastructure renewals prepayment of £0.091m at 31 March 2009. This was primarily as a result of a significant increase within the capital works programme during 2008/09 on expenditure on base maintenance for the water network (Infrastructure Renewals Expenditure - IRE).

The 2008/09 position is shown below:

<b>2008/09</b>	<b>Water</b>	<b>Sewerage</b>	<b>Total</b>
	£m	£m	£m
Infrastructure Renewals Expenditure (IRE)	37.458	6.600	44.058
Infrastructure Renewals Charge (IRC)	(25.905)	(8.367)	(34.272)
<b>In year Prepayment / (Accrual)</b>	<b>11.553</b>	<b>(1.767)</b>	<b>9.786</b>
<b>Opening Accrual</b>	<b>(7.499)</b>	<b>(2.196)</b>	<b>(9.695)</b>
<b>Closing Prepayment / (Accrual)</b>	<b>4.054</b>	<b>(3.963)</b>	<b>0.091</b>

### **Borrowings > 1 year**

Borrowings have increased from £307.56m to £457.56. The additions to capital expenditure during the year were £282.446m (excluding PPP Alpha assets of £111.708m). The increase in borrowings were used to partly fund these additions to capital expenditure with the balance of capital being financed through working capital.

### **Deferred tax**

The deferred tax balance has increased from £16.566m to £30.653m. An explanation for this has been included in the commentary to Table 18.

### **Deferred Income**

Deferred income has increased from £9.757m to £15.099m, an increase of £5.342m. This can be shown as follows:

	£m
Additions to non infrastructure contributions	5.749
Amortisation of non infrastructure contributions	(0.060)
Amortisation of deferred grants	(0.347)
<b>Total</b>	<b>5.342</b>



## NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 19a ANALYSIS OF BORROWINGS DUE AFTER MORE THAN ONE YEAR (HISTORICAL COST ACCOUNTING)  
BALANCE SHEET AS AT 31 MARCH

	1	2	3	4	5	6	7	8	9
	DESCRIPTION	YEARS TO MATURITY	PRINCIPAL SUM £m 3dp	Years to maturity x principle sum	REAL COUPON %	NOMINAL INTEREST RATE %	FULL YEAR EQUIVALENT NOMINAL INTEREST COST £m 3dp	FULL YEAR EQUIVALENT REAL CASH INTEREST PAYMENT £m 3dp	CARRYING VALUE £m 3dp
<b>A</b>	<b>BORROWINGS IN HEDGING RELATIONSHIPS</b>								
<b>A1</b>	<b>Fixed rate instruments</b>								
1				0.000	0.40%		0.000	0.000	
"				0.000	0.00%		0.000	0.000	
50				0.000	0.00%		0.000	0.000	
<b>A2</b>	<b>Floating rate instruments</b>								
51				0.000	0.40%		0.000	0.000	
"				0.000	0.00%		0.000	0.000	
100				0.000	0.00%		0.000	0.000	
<b>A3</b>	<b>Index linked instruments</b>								
101				0.000		-0.40%	0.000	0.000	
"				0.000		0.00%	0.000	0.000	
150				0.000		0.00%	0.000	0.000	
	<b>TOTAL FOR HEDGING INSTRUMENTS</b>		0.000				0.000	0.000	0.000
<b>B</b>	<b>BORROWINGS DESIGNATED AT FAIR VALUE THROUGH PROFIT AND LOSS</b>								
<b>B1</b>	<b>Fixed rate instruments</b>								
151				0.000	0.40%		0.000	0.000	
"				0.000	0.00%		0.000	0.000	
200				0.000	0.00%		0.000	0.000	
<b>B2</b>	<b>Floating rate instruments</b>								
201				0.000	0.40%		0.000	0.000	
"				0.000	0.00%		0.000	0.000	
250				0.000	0.00%		0.000	0.000	
<b>B3</b>	<b>Index linked instruments</b>								
251				0.000		0.00%	0.000	0.000	
"				0.000		0.00%	0.000	0.000	
300				0.000		0.00%	0.000	0.000	
	<b>TOTAL FOR BORROWINGS DESIGNATED AT FAIR VALUE THROUGH PROFIT AND LOSS</b>		0.000				0.000	0.000	0.000
<b>C</b>	<b>OTHER BORROWINGS</b>								
<b>C1</b>	<b>Fixed rate instruments</b>								
301	Capital loan note issued under GBPE1.2802bn Fixed Coupon Unsecured Loan note instrument 2027	18	457.560	8236.080	5.65%	5.25%	24.022	24.022	457.560
"				0.000	0.00%		0.000	0.000	
350				0.000	0.00%		0.000	0.000	
<b>C2</b>	<b>Floating rate instruments</b>								
351				0.000	0.00%		0.000	0.000	
"				0.000	0.00%		0.000	0.000	
400				0.000	0.00%		0.000	0.000	
<b>C3</b>	<b>Index linked instruments</b>								
401				0.000		0.00%	0.000	0.000	
"				0.000		0.00%	0.000	0.000	
450				0.000		0.00%	0.000	0.000	
	<b>TOTAL FOR OTHER BORROWINGS</b>		457.560		5.65%	5.25%	24.022	24.022	457.560
<b>D</b>	<b>TOTALS</b>		457.560	8236.080			24.022	24.022	457.560
<b>E</b>	<b>RPI assumption</b>		-0.40%						
<b>F</b>	<b>ANALYSIS</b>								
<b>F</b>	<b>INDICATIVE INTEREST RATES</b>								
F1	Nominal interest		5.25%						
F2	Cash interest		5.25%						
<b>G</b>	<b>INDICATIVE DEBT PORTFOLIO BREAKDOWN</b>								
G1	Floating rate debt as percentage of total debt		0%						
G2	Fixed rate debt as percentage of total debt		100%						
G3	Index linked debt as percentage of total debt		0%						
G4	Fixed rate debt and index linked debt as percentage of total debt		100%						
G5	Weighted average years to maturity		18						

**Table 19a - Analysis of Borrowings Due After More Than One Year**

At 31 March 2009 NIW borrowings related to Capital Loan notes issued under a £1,280,200,000 Fixed Coupon Unsecured Loan note 2027. Further loan notes may be issued under this facility in the period to 31 March 2014. This facility is available to provide finance for capital investment only.

The loan notes in issue and those issued 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. At 31 March 2009 the gilt reference rate was 3.9666% (31 March 2008: 4.5708%) equating to an equivalent borrowing rate of 4.8166% (31 March 2008: 5.4208%).

In 2008/09 Capital loan notes were accounted for as held to maturity borrowings.

In addition to the capital loan note instrument NIW has committed facilities available in a £20m overdraft facility and a £55m Revolving Credit facility. These facilities were not utilised at 31 March 2009.

The **Overdraft facility**, for £20m, provides financing for working capital requirements of NIW. This is available until 31 March 2014 at a cost of Libor + 0.35%.

The **Revolving credit facility (RCF)** was established to finance unanticipated costs incurred by NIW.

The facility is split into two tranches:

- Facility A which provides finance for costs classed as notifiable to the Regulator and recoverable from users, on which interest is charged at Market rate Libor + 0.35%; and
- Facility B which provides finance for costs classed as unrecoverable from users, on which interest is charged at Market rate LIBOR +2.0%.

This facility is available until 31 March 2014, increasing from a commitment of £34m in 2007/08 to £55m for 2008/09 to 2013/14.

# **NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

## **ANNUAL INFORMATION RETURN - TABLE 20 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING) PROFIT AND LOSS ACCOUNT FOR YEAR ENDING 31 MARCH 2009**

				1	2
DESCRIPTION				2007-08	2008-09
UNITS	DP				
1	Turnover	£m	3	294.056	327.395
2	Current cost operating costs (including CCD & IRC)	£m	3	-278.250	-315.427
3	Operating income	£m	3	-0.056	-0.050
4	Working capital adjustment	£m	3	1.327	-0.292
5	Current cost operating profit	£m	3	17.077	11.626
6	Other income	£m	3	0.000	0.000
7	Net interest receivable less payable	£m	3	-7.113	-20.142
8	Financing adjustment	£m	3	6.543	-1.044
9	Current cost profit before taxation	£m	3	16.507	-9.560
10	Current tax	£m	3	0.000	0.000
11	Deferred tax	£m	3	-15.562	-13.531
12	Current cost profit on ordinary activities	£m	3	0.945	-23.091
13	Extraordinary items	£m	3	0.000	0.000
14	Current cost profit attributable to shareholders	£m	3	0.945	-23.091
15	Dividends	£m	3	-33.538	0.000
16	Current cost profit retained	£m	3	-32.593	-23.091

**Table 20 – CC Profit and Loss account for year ending 31 March 2009**

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 can be summarised as follows:

	<b>Gross Charge</b>	<b>Residual interest credit</b>	<b>Lease repayment</b>	<b>Capital maintenance</b>	<b>CC Depreciation</b>	<b>Net P&amp;L Charge</b>
	£m	£m	£m	£m	£m	£m
Alpha	1.973	0.000	(0.430)	(0.254)	1.156	2.445
Omega	9.377	(1.294)	0.000	0.000	0.000	8.083
Kinnegar	1.460	(0.226)	0.000	0.000	0.000	1.234
<b>Total</b>	<b>12.810</b>	<b>(1.520)</b>	<b>(0.430)</b>	<b>(0.254)</b>	<b>1.156</b>	<b>11.762</b>

Line 7 Net interest receivable less payable includes £4.193m interest payable on Alpha PPP finance lease.

**Comparison with prior year results**

	<b>2008-2009</b>	<b>2007-2008</b>	<b>Variance</b>
	£m	£m	%
Turnover	327.395	294.056	11.3%
CC Operating profit	11.626	17.077	(31.9%)
CC (loss) / profit attributable to shareholders	(23.091)	0.945	100.0%
Dividends	-	(33.538)	(100.0%)
CC loss retained	(23.091)	(32.593)	29.2%

Sales have increased in 2009 by £33.3m (11.3%) primarily due to:

- increase in subsidy for households (£15.2m);
- new income streams for unmeasured commercial customers (£3.3m) and road drainage (£17.2m);
- a decrease in existing income streams due to falling consumption (£2.3m).

However operating costs have risen by 13.4% over the same period and this

has subsequently lowered the CC operating profit margin by 2.2%. The main additional pressures on operating costs in 2009 have been due to:

- Further rollout of Omega PPP and commencement of Alpha PPP increasing the provider charges - £8m.
- Additional capital expenditure, commissioning of assets and the on balance sheet Alpha PPP giving rise to an increase in CCD - £15m.
- Power costs rising due to price increases - £10m.

The profit attributable to shareholders has decreased by approximately £24m due to:

- Interest payable rising by £13m. This includes £4m relating to Alpha PPP finance lease interest and £8m on DRD loans with increasing drawdown of DRD loan notes.
- A fall in RPI has resulted in the indexation adjustments in the current cost books for Working Capital and Financing adding £9.2m to costs.

There was no dividend declared or approved for 2008/09.

### **Voluntary Early Retirement and Pension**

The VER schemes in 2007/08 and 2008/09 can be summarised as follows:

	<b>2008-2009</b>	<b>2007-2008</b>
Number	89*	32
Non pension element	£0.770m	£0.600m
Pension element	£6.773m	£3.800m
Total	£7.543m	£4.400m

\* including 14 ill health retirees

The above figures are for VER only and do not include the impact of the Voluntary Severance (VS) scheme in 2008/09.

The future schemes are still being finalised.

The total costs, payments and accruals for VER are as follows:

	<b>2008-2009</b>	<b>2007-2008</b>
Total Cost	£7.543m	£4.400m
Payments in year	£0.234m	-
Accrual at year end due to employees	£0.536m	£0.600m
Accrual at year end due to pension fund	£6.773m	£3.800m

The entries for the pension related elements of VER and the change in the pension asset over the year can be summarised as follows:

£m	BS Pension	BS Bank	BS STRGL	P&L Superann Indus trial	P&L Supera nn Non- industri al	P&L Retire ment Movem 't Prov.	P&L Int Rec	P&L Total P&L
<b>TB ACCT</b>	<b>2956 BS</b>	<b>1752 BS</b>	<b>3119 BS</b>	5117 P&L	5115 P&L	5140 P&L	4511	
Opening surplus	7.804							<b>0.000</b>
PYA	(6.154)		6.154					<b>0.000</b>
Current Service Costs	(10.487)			4.507	5.980			<b>10.487</b>
Past Service Costs	(6.700)				1.019	5.681		<b>6.700</b>
Paid	15.183	(15.183)						<b>0.000</b>
Net finance income /(costs)	0.137						(0.137)	<b>(0.137)</b>
Actuarial gain / (loss)	8.468		(8.468)					<b>0.000</b>
Bulk Transfer	0.000			0.000				<b>0.000</b>
<b>Closing surplus/(deficit)</b>	<b>8.251</b>	<b>(15.183)</b>	<b>(2.314)</b>	4.507	6.999	5.681	(0.137)	<b>17.050</b>

The non pension related lump sum entries for 2008/09 are as follows:

Dr 5140 Retirement movement in provision	£0.770m
Cr 2313 Accruals	£0.770m

Dr 2313 Accruals	£0.234m
Cr 1752 Bank	£0.234m

### NIW Pension Fund

The Options exercise was completed in February 2009 and 25% by headcount (20% as a percentage of liabilities) of Water Service PCSPS(NI) members opted to transfer their accrued benefits to the NIW Pension Scheme.

The Statutory Accounts at 31 March 2009 Note 25 shows a full disclosure of the impact of the options exercise on the NIW pension fund. An extract of this is shown below:

**Movements in present value of defined benefit obligation**

	Scheme year to 31 March 2009 £m	Estimated bulk transfer year to 31 March 2009 £m	Total year to 31 March 2009 £m
Benefit obligation at the beginning of the year	13.300	108.640	121.940
<i>Movement in year</i>			
Actuarial (gains) as a result of change in Bulk transfer uptake	0.000	-65.184	-65.184
Current service cost	10.487	0.000	10.487
Interest on scheme liabilities	1.091	2.600	3.691
Past service costs	6.700	0.000	6.700
Actuarial (gain)	-6.941	-10.383	-17.324
Contributions by plan participants	0.751	0.000	0.751
Benefits paid	-1.469	-0.248	-1.717
Benefit obligation at end of the year	23.919	35.425	59.344
<b>Analysis of defined benefit obligation</b>			
Plans that are wholly or partly funded	23.919	35.425	59.344
Plans that are wholly unfunded	0.000	0.000	0.000
Total	23.919	35.425	59.344

**Movements in fair value of plan assets**

	Scheme year to 31 March 2009 £m	Estimated bulk transfer year to 31 March 2009 £m	Total year to 31 March 2009 £m
Fair value of plan assets at the beginning of the year	10.848	118.896	129.744
<i>Movement in year</i>			
Actuarial (losses) as a result of change in Bulk transfer uptake	0.000	-71.338	-71.338
Expected return on assets	1.013	2.815	3.828
Contributions by plan participants	0.751	0.000	0.751
Contributions by employer	15.183	0.000	15.183
Actuarial gain/(loss)	-2.600	-6.256	-8.856
Benefits paid	-1.717	0.000	-1.717
Fair value of plan assets at end of the year	23.478	44.117	67.595
Funded status	0.441	-8.692	-8.251
Unrecognised past service cost/ (benefit)	0.000	0.000	0.000
Effect of surplus cap	0.000	0.000	0.000
Net amount recognised	0.441	-8.692	-8.251

The year end pension asset as shown above before deferred tax is £8.251m.

There have been no pension costs allocated to non appointed costs as the information is currently not available to separate these costs from the appointed 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:

	<b>£m</b>
Salaries	0.533
Other staff costs	0.156
Hired and contracted	7.537
Materials and equipment	0.063
Other costs of employment	0.059
Other expenses	0.073
<b>Total</b>	<b>8.421</b>

Reprofiling of costs may occur during the year as part of the quarterly reforecasting process.



**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**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
<b>SERVICE ANALYSIS - WATER</b>						
<b>A</b>	<b>DIRECT COSTS</b>					
1	Employment costs	£m	3	9.263	22.317	31.580
2	Power	£m	3	8.652	2.994	11.646
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	5.159	6.580	11.739
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	4.822	1.804	6.626
7	Service charges	£m	3	0.000	0.000	0.000
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	1.575	1.067	2.641
10	Total direct costs	£m	3	29.471	34.761	64.232
11	General and support expenditure	£m	3	3.571	5.265	8.836
12	Functional expenditure	£m	3	33.042	40.027	73.068
<b>B</b>	<b>OPERATING EXPENDITURE</b>					
13	Customer services	£m	3			7.930
14	Scientific services	£m	3			1.382
15	Other business activities	£m	3			1.602
16	Total business activities	£m	3			10.914
17	Rates	£m	3			6.656
18	Doubtful debts	£m	3			3.225
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			93.863
21	Third party services - opex	£m	3			0.952
21a	Total PPP Unitary Charges	£m	3			0.000
22	Total operating expenditure	£m	3			94.815
<b>C</b>	<b>REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)</b>					
23	Reactive and planned maintenance infrastructure	£m	3	0.000	8.850	8.850
24	Reactive and planned maintenance non-infrastructure	£m	3	2.839	5.139	7.978
<b>D</b>	<b>CAPITAL MAINTENANCE</b>					
25	Infrastructure renewals charge (excluding third party services)	£m	3			22.500
26	Current cost depreciation (allocated)	£m	3	15.277	15.371	30.648
27	Amortisation of deferred credits	£m	3			-1.117
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities current cost depreciation (non-allocated)	£m	3			0.073
30	Capital maintenance excluding third party services	£m	3			52.104
31	Third party services - current cost depreciation	£m	3			
32	Third party services - infrastructure renewals charge	£m	3			0.000
33	Total capital maintenance	£m	3			52.104
34	Total operating costs	£m	3			146.919

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**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
<b>SERVICE ANALYSIS - WATER</b>							
<b>A DIRECT COSTS</b>							
1	Employment costs		£m	3			
2	Power		£m	3			
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	Bulk supply imports		£m	3			
9	Other direct costs		£m	3			
10	Total direct costs (payment by Concessionaire to Operating Company)		£m	3			
11	General and support expenditure (NIW Only)		£m	3	0.074	0.000	0.074
11a	General and Support (PPP operator only)		£m	3			
12	Functional expenditure (NIW and PPP)		£m	3			
<b>B OPERATING EXPENDITURE</b>							
13	Customer services		£m	3			
14	Scientific services		£m	3			
15	Other business activities		£m	3			
16	Total business activities		£m	3			
17	Rates		£m	3			
18	Doubtful debts		£m	3			
19	Exceptional items		£m	3			
20	Total opex less third party services		£m	3			
21	Third party services - opex		£m	3			
21a	Total PPP Unitary Charges		£m	3			
22	Total operating expenditure		£m	3			
<b>C REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)</b>							
23	Reactive and planned maintenance infrastructure		£m	3			
24	Reactive and planned maintenance non-infrastructure		£m	3			
<b>D CAPITAL MAINTENANCE</b>							
25	Infrastructure renewals charge (excluding third party services)		£m	3			3.405
26	Current cost depreciation (allocated)		£m	3	1.156		1.156
27	Amortisation of deferred credits		£m	3			
28	Amortisation of intangible assets		£m	3			
29	Business activities current cost depreciation (non-allocated)		£m	3			
30	Capital maintenance excluding third party services		£m	3			4.561
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			4.561
34	Total operating costs		£m	3			

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**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
<b>SERVICE ANALYSIS - WATER</b>						
<b>A DIRECT COSTS</b>						
1	Employment costs	£m	3	9.263	22.317	31.580
2	Power	£m	3			
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	5.159	6.580	11.739
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	4.822	1.804	6.626
7	Service charges	£m	3	0.000	0.000	0.000
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	1.575	1.067	2.641
10	Total direct costs	£m	3			
11	General and support expenditure	£m	3	3.645	5.265	8.911
11a	General and Support (PPP operator only)	£m	3			
12	Functional expenditure	£m	3			
<b>B OPERATING EXPENDITURE</b>						
13	Customer services	£m	3			7.930
14	Scientific services	£m	3			
15	Other business activities	£m	3			1.602
16	Total business activities	£m	3			
17	Rates	£m	3			6.656
18	Doubtful debts	£m	3			3.225
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			
21	Third party services - opex	£m	3			0.952
21a	Total PPP Unitary Charges	£m	3			
22	Total operating expenditure	£m	3			
<b>C REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)</b>						
23	Reactive and planned maintenance infrastructure	£m	3	0.000	8.850	8.850
24	Reactive and planned maintenance non-infrastructure	£m	3	2.839	5.139	7.978
<b>D CAPITAL MAINTENANCE</b>						
25	Infrastructure renewals charge (excluding third party services)	£m	3	0.000	0.000	25.905
26	Current cost depreciation (allocated)	£m	3	16.433	15.371	31.804
27	Amortisation of deferred credits	£m	3			-1.117
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities current cost depreciation (non-allocated)	£m	3			0.073
30	Capital maintenance excluding third party services	£m	3			56.665
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			56.665
34	Total operating costs	£m	3			

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)**

**ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (NIW Only)**

				1	2	3	4
DESCRIPTION				SEWERAGE	SEWAGE TREATMENT	SLUDGE TREATMENT & DISPOSAL	SEWERAGE SERVICE TOTAL
UNITS							
DP							
SERVICE ANALYSIS - SEWERAGE							
A DIRECT COSTS							
1	Employment costs	£m	3	12.058	10.504	2.684	25.246
2	Power	£m	3	5.989	8.850	2.542	17.380
3	Agencies	£m	3	0.000	0.000	0.000	0.000
4	Hired and contracted services	£m	3	10.001	5.456	11.173	26.630
5	Associated companies	£m	3	0.000	0.000	0.000	0.000
6	Materials and consumables	£m	3	1.035	1.520	1.219	3.773
7	Service charges	£m	3	0.000	0.000	0.000	0.000
8	Other direct costs	£m	3	1.451	1.037	0.727	3.215
9	Total direct costs	£m	3	30.533	27.367	18.345	76.245
10	General and support expenditure	£m	3	1.890	1.572	1.135	4.597
							0.000
11	Functional expenditure	£m	3	32.423	28.939	19.480	80.842
B OPERATING EXPENDITURE							
12	Customer services	£m	3				8.943
13	Scientific services	£m	3				1.494
14	Other business activities	£m	3				1.806
15	Total business activities	£m	3				12.243
16	Rates	£m	3				5.587
17	Doubtful debts	£m	3				0.000
18	Exceptional items	£m	3				0.000
19	Total opex less third party services	£m	3				98.672
20	Third party services - opex	£m	3				0.000
20a	Total PPP Unitary Charges	£m	3				0.000
21	Total operating expenditure	£m	3				98.672
C REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)							
22	Reactive and planned maintenance infrastructure	£m	3	6.046	0.000	0.000	6.046
23	Reactive and planned maintenance non-infrastructure	£m	3	11.971	3.846	0.000	15.817
D CAPITAL MAINTENANCE							
24	Infrastructure renewals charge (excluding third party services)	£m	3				8.367
25	Current cost depreciation (allocated)	£m	3	1.798	38.546	3.790	44.134
26	Amortisation of deferred credits	£m	3				-1.504
27	Amortisation of intangible assets	£m	3				0.000
28	Business activities current cost depreciation (non-allocated)	£m	3				0.173
29	Capital maintenance excluding third party services	£m	3				51.170
30	Third party services - current cost depreciation	£m	3				
31	Third party services - infrastructure renewals charge	£m	3				
32	Total capital maintenance	£m	3				51.170
33	Total operating costs	£m	3				149.842

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)**  
**ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (PPP Only)**

				1	2	3	4
DESCRIPTION				SEWERAGE	SEWAGE TREATMENT	SLUDGE TREATMENT & DISPOSAL	SEWERAGE SERVICE TOTAL
SERVICE ANALYSIS - SEWERAGE							
A	DIRECT COSTS						
1	Employment costs	£m	3				
2	Power	£m	3				
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				
9	Total direct costs (payment by Concessionaire to Operating Company)	£m	3				
10	General and support expenditure (NIW Only)	£m	3		0.158		0.158
10a	General and Support (PPP operator only)	£m	3				
11	Functional expenditure (NIW and PPP)	£m	3				
B	OPERATING EXPENDITURE						
12	Customer services	£m	3				
13	Scientific services	£m	3				
14	Other business activities	£m	3				
15	Total business activities	£m	3				
16	Rates	£m	3				
17	Doubtful debts	£m	3				
18	Exceptional items	£m	3				
19	Total opex less third party services	£m	3				
20	Third party services - opex	£m	3				
20a	Total PPP Unitary Charges	£m	3				
21	Total operating expenditure	£m	3				
C	REACTIVE AND PLANNED MAINTENANCE (INCLUDING 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				
25	Current cost depreciation (allocated)	£m	3				
26	Amortisation of deferred credits	£m	3				
27	Amortisation of intangible assets	£m	3				
28	Business activities current cost depreciation (non-allocated)	£m	3				
29	Capital maintenance excluding third party services	£m	3				
30	Third party services - current cost depreciation	£m	3				
31	Third party services - infrastructure renewals charge	£m	3				
32	Total capital maintenance	£m	3				
33	Total operating costs	£m	3				

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)**  
**ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (Total)**

			1	2	3	4
DESCRIPTION			SEWERAGE	SEWAGE TREATMENT	SLUDGE TREATMENT & DISPOSAL	SEWERAGE SERVICE TOTAL
UNITS DP						
<b>SERVICE ANALYSIS - SEWERAGE</b>						
<b>A</b>	<b>DIRECT COSTS</b>					
1	Employment costs	£m 3	12.058	10.504	2.684	25.246
2	Power	£m 3				
3	Agencies	£m 3	0.000	0.000	0.000	0.000
4	Hired and contracted services	£m 3	10.001	5.456	11.173	26.630
5	Associated companies	£m 3	0.000	0.000	0.000	0.000
6	Materials and consumables	£m 3	1.035	1.520	1.219	3.773
7	Service charges	£m 3	0.000	0.000	0.000	0.000
8	Other direct costs	£m 3	1.451	1.037	0.727	3.215
9	Total direct costs	£m 3				
10	General and support expenditure	£m 3	1.890	1.730	1.135	4.755
10a	General and Support (PPP operator only)	£m 3				
11	Functional expenditure	£m 3				
<b>B</b>	<b>OPERATING EXPENDITURE</b>					
12	Customer services	£m 3				8.943
13	Scientific services	£m 3				
14	Other business activities	£m 3				1.806
15	Total business activities	£m 3				
16	Rates	£m 3				5.845
17	Doubtful debts	£m 3				0.000
18	Exceptional items	£m 3				0.000
19	Total opex less third party services	£m 3				
20	Third party services - opex	£m 3				0.000
20a	Total PPP Unitary Charges	£m 3				
21	Total operating expenditure	£m 3				
<b>C</b>	<b>REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)</b>					
22	Reactive and planned maintenance infrastructure	£m 3	6.046	0.000	0.000	6.046
23	Reactive and planned maintenance non-infrastructure	£m 3	11.971	3.846	0.000	15.817
<b>D</b>	<b>CAPITAL MAINTENANCE</b>					
24	Infrastructure renewals charge (excluding third party services)	£m 3	0.000		0.000	8.367
25	Current cost depreciation (allocated)	£m 3	1.798	38.546	3.790	44.134
26	Amortisation of deferred credits	£m 3				-1.504
27	Amortisation of intangible assets	£m 3				0.000
28	Business activities current cost depreciation (non-allocated)	£m 3				0.173
29	Capital maintenance excluding third party services	£m 3				51.170
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				51.170
33	Total operating costs	£m 3				

## **Tables 21 & 22 Activity Costing Analysis – Water & Sewerage Service**

A significantly improved methodology was used for AIR09 which has resulted in a significantly improved analysis and allocation of the 'General Support Expenditure' across the other areas within 'Direct Costs'.

The costs in Tables 21 & 22 are populated with the information available at 3 July 2009 for the year ended 31 March 2009.

### **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 £3,000 (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 £3,000 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.

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 (comprising 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 Waters 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 service activities segment are mapped to the NIAUR service areas – **appendix 2** provides details of this mapping.

The only exception to this is indirect General & Support expenditure, which can relate to more than one service area or activity. These costs are collated into 4 separate 'overhead pots' and are apportioned either on the basis of the directly coded spend or on the basis of the total direct costs. This year there have been significant improvements in the area of indirect General & Support expenditure. The apportionment of the general Overhead Pots has reduced significantly from circa £51M to circa £12M this year and as a result it has been possible to change the basis of allocation from the direct labour charge basis to the total direct costs basis. The table below shows the basis of apportionment of 'indirect' general and support expenditure between service activities.

Allocation of General and Support		Water		Sewerage			Comments
Description	Total £	R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp	
<b>BASIS - Total Direct Costs</b>	<b>143,419,702</b>	<b>22.2%</b>	<b>24.2%</b>	<b>21.3%</b>	<b>19.5%</b>	<b>12.8%</b>	
G&S Overhead Pot 1	7,783,193	22.2%	24.2%	21.3%	19.5%	12.8%	Non ops general spend. Excludes CS, SS & Regulation
G&S Overhead Pot 2a - Water	3,443,147	47.8%	52.2%	0.0%	0.0%	0.0%	Water related activities only
G&S Overhead Pot 2b - Sewerage	300,947	0.0%	0.0%	39.7%	36.4%	23.9%	Sewerage activities only
G&S Overhead Pot 3	531,869	22.2%	24.2%	21.3%	19.5%	12.8%	Water and sewerage networks spend only

### Allocation of costs to business activities

Responsibility codes are part of the NI Water accounting structure and are used to identify individual areas of the business. Responsibility codes are used to specifically identify Customer Services, Scientific Services and Other Business Activities (Regulatory costs). The total expenditure attributable to these activities is apportioned to water and sewerage on the basis of the directly coded spend. This basis has not changed since the 2007/08 return.



The table below shows the basis of apportionment.

Apportionment of business activities		Water		Sewerage		
Description	Total £	R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp
<b>BASIS</b> - Total spend (Includes general & Support)	145,026,434	22.0%	25.0%	21.1%	19.3%	12.6%
<b>Apportionment</b>						
Water / Sewerage split	100%	47.0%		53.0%		

## Rates

The NI Water rates annual charge is split between Water and Sewerage and there is a separate calculation for each. The Sewerage charge is based on the Rateable value of each Wastewater treatment works and these can be separately identified from the bills. The Water charge is based on a formula using water volumes and can also be separately identified from the bills. The percentage split of the rates bill is based on the water/sewerage split identified directly from the bills and the split is 53% Water and 47% Sewerage. In 2007/08 the split was based on direct labour costs (51% Water and 49% Sewerage).

## Allocation of costs to unappointed activities

A final allocation of costs has been made to unappointed activities based on an assumption that these activities are either charged on a full cost recovery basis, and thus costs broadly mirror income generated, or the income does not give rise to any additional operational costs (e.g. rents received or fishing rights). This is consistent with the basis of the 2007/08 return.

## Atypical costs and provisions:

### Decrease in flooding provision

A flooding provision of £170k was released through Hired and Contracted costs in 2008/09. This was split 51% Table 21 and 49% Table 22.

### 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	£8.4M	Lines 1-10 where appropriate
Steria Contract Termination	£2.7M	Customer Services
Voluntary Early Retirement Scheme \ Voluntary Severance (VER \ VS)	£11.7M	Employment Costs
<b>Total</b>	<b>£22.8M</b>	

## Business Improvement Programme

The Business Improvement Programme ("BIP") is fundamental to the restructuring and modernisation of the water industry in Northern Ireland. Spanning over three years through to March 2010, the Programme is designed to improve working practices, increase efficiency and put service at

the forefront of all NI Water's operations. More information on the BIP is contained within the Annual Report.

### **Steria Contract Termination**

As a result of the postponement of domestic billing, NI Water terminated a contract for a wide range of services managed centrally by Steria. In 2008/09 an allowance of £2.7M was made in respect of these termination costs, being the best estimate that could be provided at the sensitive time of ongoing negotiations.

### **Voluntary Early Retirement**

During 2008/09 NI Water significantly increased the number of staff reductions 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 £11.7m shown above can be broken down as follows:

Pension related VER past service costs	£6.8m
Non pension lump sums	£0.8m
VS scheme payments	£4.1m
<b>Total</b>	<b>£11.7m</b>

Of the above £1.3M was paid during 2008/09 with the balance accrued at year end.

### **Employment Costs**

Employment costs for total NI Water amount to £67.9M which includes £11.7M of VER\VS costs. However only £56.8M is included in Line 1 in Tables 21 & 22. The table below provides the reconciliation between these amounts:

<b>Description</b>	<b>Amount</b>	<b>Table 21/22 location</b>
Industrial Wages	£25.8M	
Salaries	£26.3M	
Temporary Staff	£3.0M	
Other Costs of Employment	£11.0M	
Staff Expenses	£1.8M	
<b>Total NI Water employment costs</b>	<b>£67.9M</b>	
Less:		
Customer Services	(£3.8M)	Customer Services
Scientific Services	(£1.4M)	Scientific Services
Third Party Opex	(£0.3M)	Third Party Opex
Regulation	(£0.4M)	Other Business Activities
Unallocated	(£5.2M)	General & Support
<b>Total Employment Costs</b>	<b>£56.8M</b>	<b>£31.6M Table 21 and £25.2M Table 22</b>

The unallocated amount of £5.2M is included in General & Support and has

been apportioned between Table 21 and 22, across each of the columns, based on total direct costs. Employment costs have increased significantly from AIR08 as a result of the improved apportionment of costs by each of the Finance Business Partners. The main expenditure in temporary support staff in the 2008/09 financial year was in the Operations and Asset Management directorates (£0.9M and £1.3M respectively). These costs were allocated by the Finance Business Partners across the appropriate columns in Table 21 and 22.

### Hired & Contracted

Hired and Contracted Services in Table 21 and 22 are split out in the table below:

	£M		
<b>Hired &amp; Contracted Services:</b>	<b>Table 21</b>	<b>Table 22</b>	<b>TOTAL</b>
Operational Contractors	6.6	20.8	27.4
Other Contractors	0.3	0.1	0.4
Consultants	4.8	5.8	10.6
<b>TOTAL</b>	<b>11.7</b>	<b>26.7</b>	<b>38.4</b>

Within the Operational Contractors costs of £6.6M in Table 21, £2.9M relates to the cost of contractors for Water Treatment and £3.7M is the cost for hire of plant and contractors to facilitate the maintenance of the networks. In Table 22 Operational Contractors total of £20.8M includes, £10M for the cost of the various Sludge Disposal Routes, £7.7M for the maintenance of the Sewerage network and £3.1M relates to the costs of Sewage Treatment (includes the costs of Skip Hire etc.). Consultants Fees primarily relate to Business Improvement projects such as Mobile Work Management, Operations Change Programme, People Efficiency Programme, etc. Each project was split between the columns in Table 21 and 22 by the Finance Business Partner for Business Improvement.

### General & Support Costs

General & Support costs have reduced significantly in AIR09 due to the improved allocation of costs by the Finance Business Partners across all directorates. The principal costs in this expenditure line are;

<b>Description</b>	<b>Amount</b>	<b>Table 21/22 location</b>
Unallocated Employment Costs	£5.2M	Included in General & Support (Removed from Employment Costs)
Unallocated Hired & Contracted Costs	£0.8M	Included in General & Support (Removed from Hired & Contracted)
Unallocated Materials & Consumables	£0.1M	Included in General & Support (Removed from Materials & Consumables)
Unallocated Other Direct Costs	£1.4M	Included in General & Support (Removed from Other Direct Costs)
Communication	£1.6M	General & Support
Mobile V&P Charges & Repairs	£1.9M	General & Support
Staff Training	£0.6M	General & Support

Audit & Environmental Regulatory Costs	£1.4M	General & Support
Other	£0.7M	General & Support
<b>Total</b>	<b>£13.7M</b>	<b>£8.9M Table 21 and £4.8M Table 22</b>

General & Support costs were apportioned across Table 21 & Table 22 based on the total direct costs allocated to each column.

### Reconciliation to PC10

Late adjustments of circa £3.7M were reflected through Customer Services and the Unitary Charges lines in Tables 21 and 22 of the AIR09 Return. However, due to PC10 deadlines it was not possible to adjust the PC10 return. The difference is reflected in the reconciliation overleaf:

Table 21 Total Operating Expenditure (Row22)	£ 98.5M
Table 22 Total Operating Expenditure (Row 21)	£109.1M
Total per AIR09	£207.6M

Equivalent PC10 figure	£211.3M
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<u>Difference – Late Adjustments</u>	<u>£ 3.7M</u>
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Reduction in unitary charge	£ 4.2M
Increase in customer services	(£ 0.5M)

<u>Total - Late Adjustments</u>	<u>£ 3.7M</u>
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### Cost performance

#### Changes in costs

During 2008/09 significant work was undertaken to understand the cost drivers within each directorate in NI Water. The Finance Business Partner responsible for each directorate was then able to allocate Employment Costs, Power, Hired & Contracted, Materials & Consumables and Other Direct Costs between the 5 categories:

- Water Resources & Treatment;
- Water Distribution;
- Sewerage;
- Sewage Treatment; and
- Sludge Treatment & Disposal

This has resulted in significant improvements over the AIR08 return, but by vastly reducing the amount of costs allocated to General & Support (Line 11 in Table 21 and Line 10 in Table 22) it has distorted the costs when compared to

the previous year.

Tables 21 & 22 have been split into three sections in AIR09, NIW Only, PPP Only, and NIW Total. It must be noted that some of the PPP costs borne by NI Water are in lines which were not be completed in the PPP only table. The PPP table also includes costs which are already included within the Unitary Charge, and therefore the sum of the NIW Only and PPP Only tables will not equal the NIW Total table. This has been highlighted in the commentary overleaf

To compare AIR08 with AIR09 Table 21 & 22 (NIW Total) has been used in the following commentary.

## **Table 21**

### **A - Direct Costs**

Total Functional Expenditure has decreased by circa £2M from AIR08 to AIR09. This is primarily due to the increase in volumes of water produced by the PPP providers, but is explained on a line by line basis below;

- Line 1: Employment costs have increased in Water Resources & Treatment (WRT) by circa £4M and in Water Distribution (WD) by circa £7M. The overall increase of over £10M is primarily due to the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 11). There have also been large VER/VS costs incurred throughout the year. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 2: Power costs include electricity costs and fuel costs for power generation. Power costs are directly coded to water treatment for each works and water distribution for each water pumping station. The costs have increased in AIR09 primarily due to the increased cost per unit, which was circa 30% higher than 2007/08. The total power costs include PPP sites paid for by NIW. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 3: Agencies – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 4: Hired and Contracted have increased by circa £4M, split £2M in WRT and £2M in WD. This is primarily due the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 11). NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 5: Associated companies– there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 6: Materials & Consumables have remained consistent with AIR08 costs, with only a slight decrease. The decrease is within WD and is primarily due consolidation of stores combined with enhanced stock control. WRT remains broadly in line with 2007/08. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 7: Service Charges– there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.

- Line 8: Bulk Supply imports – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 9: Other Direct Costs have increased by circa £2M. This is primarily due to the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 11). NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 10: Total Direct Costs – this is a calculated line and is the total of Line 1-9.
- Line 11: General & Support expenditure has significantly reduced from AIR08. It has fallen from £31.1M to £8.9M resulting in a more accurate view of the NI Water costs. Where possible the Finance Business Partners across each directorate allocated the costs to direct costs and between the two columns. This reduced the General & Support expenditure which is allocated across the columns on a percentage basis of total direct costs. This is a considerable improvement from AIR08. A small element of these costs relate to PPP. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 11a: General & Support (PPP operator only) – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 12: This is the calculated total line for functional expenditure which has decreased by circa £2M mainly due to the increased provision of water from PPP providers, thus reducing functional expenditure

## **B - Operating Expenditure**

- Line 13: Customer Services costs have fallen by circa £1M compared to AIR08 following the transfer of the communication function and relevant costs to the Chief Executive Directorate. There was also a change in the apportionment method used to allocate this cost which resulted in a percentage change from 50% to 47%. In AIR09 these costs are allocated on the percentage of direct costs rather than direct labour which was used in AIR08. This meant a 3% decrease in the allocation of the figure for Table 21. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 14: Scientific Services costs have fallen marginally from AIR08 due to the reduction of staff costs and a change in the apportionment method used to allocate this cost from 50% to 47%. Overall Scientific Services Staff Costs have decreased as a result of internal restructuring. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 15: Other Business Activities – Regulatory costs have increased in 2008/09 financial year. This is primarily due to the increased Utility Regulator (UR) fees and staff increases (from 12 to 18). AIR09 also includes the cost of the reporter which was included in General & Support in AIR08. These costs are apportioned on the basis of directly coded spend, consistent with Line 13 and Line 14. NIW Only Table plus PPP only Table equals NIW Total Table.

- Line 16: Total Business Activities – this is a calculated line and is the total of Line 13, 14 and 15. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 17: Local authority rates have increased in AIR09 and agree with the rates bills from LPS (Land & Property Services). Rates charges increased in the year as a result of the increase in the non domestic council rates. The rates charge for water treatment can be specifically identified from the rates bill which is consistent with AIR08. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 18: Doubtful debts increased in the 2008/09 financial year due to the following:
  1. a negative adjustment was made to bad debts in 2007/08 given the initial postponement in implementing domestic billing, as a result the negative bad debts figure reported in 2007/08 significantly under stated the typical level of annual bad debts in respect of non-domestic billing;
  2. test meters – in 2008/09 there was a one-off write-off in respect of bills issued on test meters;
  3. Rechargeables – the provision in respect of rechargeable items was increased in 2008/09 on the basis of the 2007/08 outturn.
 NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 19: Exceptional items– there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- 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.
- Line 21: Third party services have fallen marginally due to a fall in rechargeable works. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 21a: Total PPP Unitary Charge has increased by approx £1M, a result of increased volumes produced by the PPP providers. NIW Only Table plus PPP only Table equals NIW Total Table.
- 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 circa £3M from AIR08 mainly due to the increased PPP unitary charge; increased power costs and the increase in doubtful debts (see line 21a, 2 and 18). This agrees to Table 35 line 24.

### **C Reactive & Planned Maintenance**

- Line 23: Infrastructure, this figure has reduced due to significantly improved coding by the operational staff throughout the Networks Water Function.
- Line 24: Non-infrastructure, this figure has increased due to the inclusion of the maintenance costs at Water Treatment Works carried out by the M & E function, identified by responsibility code. This was not included in AIR08 and is recorded in the WRT Column. There is no specific service activity for building and grounds maintenance therefore these costs are not included in Line 24.

**PPP – Alpha**

A contract with Dalriada Water Ltd. 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 has commenced roll-out from 2008. The contract is for 25 years with an end date of 29 May 2031.

**Leakage costs**

Operating costs relating to leakage amounted to £3.8M in 2008/09. The operating costs are lower than the 2007/08 expenditure of £4.2M and the capital expenditure reduced slightly from £6.5M to £6.4M. This is a result of staff restructuring.

As a result of AIR08 NI Water indicated that it would undertake a complete review of the water balance which would take two years to complete. Phase 1 of the water balance review has been included in AIR09 and as a result the reported level of leakage has increased to a level of approximately 181 MI/d. The company continued its effort in relation to detection and repair of defects and infrastructure improvements as well as the water balance review.

**Table 22****A - Direct Costs**

Total Functional Expenditure has increased by circa £13M from AIR08 to AIR09. This is primarily due to the increase in power costs and hired and contracted costs, and is explained on a line by line basis below:

- Line 1: Employment costs have increased in Sewerage (S) by circa £7M, Sewage Treatment (ST) by circa £5M and in Sludge Treatment and Disposal (ST&D) by circa £1M. The overall increase of circa £13M is primarily due to the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 10). There have also been large VER/VS costs incurred throughout the year. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 2: Power costs include electricity costs and fuel costs for power generation. The costs have increased by circa £5M from AIR08 due to the increased cost per unit and Opex from Capex. The increased cost per unit was circa 30% higher than 2007/08.

A more accurate allocation was made between power costs for sewage treatment and sludge treatment. In AIR08 the power costs under ST (Column 2) included all those for the WWTWs excluding Belfast and under ST&D (Column 3) included all those for the Incinerator plus Belfast. In AIR09 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.

There is one electricity meter at Duncrue Street which includes the costs for the Belfast WWTWs and the Incinerator. The power team



supplied an estimated 60:40 split between the Belfast WWTWs and the Incinerator which has been used to calculate the amount relating to sewage treatment at Belfast and sludge treatment at the Incinerator.

NIW Only Table plus PPP only Table equals NIW Total Table.

- Line 3: Agencies – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 4: Hired and Contracted have increased by circa £8M, circa £2M in Sewerage, circa £2M in Sewage Treatment and circa £4M in Sludge Treatment & Disposal. The increase in Sewerage and Sewage Treatment is a result of the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 10).

The bulk of the Sludge Treatment & Disposal increase is linked to the steep rise in contractors' rates during the year (up to 40% increase in some cases) and the change in disposal routes as a result of updates to NIEA legislation. The change in legislation has meant that more expensive disposal routes have been used during the 2008/09 financial year. There are also several new WWTWs that have come on line during the year which impacted slightly on contractors spend.

NIW Only Table plus PPP only Table equals NIW Total Table.

- Line 5: Associated companies– there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 6: Materials & Consumables have increased by circa £1M. The increase under Sewerage and Sewage Treatment is a result of the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 10).

There are also several new WWTWs that have come on line during the year which impacted slightly on materials spend. The increase under Sludge Treatment & Disposal is due to the increased chemical expenditure at the Incinerator. More expensive chemicals were used during the year because of the poor sludge quality.

NIW Only Table plus PPP only Table equals NIW Total Table.

- Line 7: Service Charges – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 8: Other Direct Costs have increased by circa £2M. This is primarily a result of the improved allocation of costs from all other directorates and the subsequent reduction in the General & Support costs (line 10). NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 9: Total Direct Costs – this is a calculated line and is the total of lines 1-8

- Line 10: General & Support expenditure has significantly reduced from AIR08. It has fallen from circa £21M to circa £5M providing a more accurate view of the NI Water costs. The Finance Business Partners across each directorate directly allocated the costs, where possible, between the three classifications. This reduced the General & Support expenditure which is allocated across the columns on a percentage basis of total direct costs. This is a significant improvement over the AIR08 return. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 11: This is the calculated total line for functional expenditure which has increased by £13M in total. The most significant increase is with sludge treatment which is due to the reasons mentioned in Lines 2 (power) and 4 (hired and contracted services) above.

## **B - Operating Expenditure**

- Line 12: Customer Services costs have remained consistent with AIR08. There was a change in the apportionment method used to allocate this cost which resulted in a percentage change from 50% to 53%. In AIR09 these costs are allocated on the percentage of direct costs rather than direct labour which was used in AIR08. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 13: Scientific Services costs have fallen marginally from AIR08 due to the reduction in staff costs and a change in the apportionment method used to allocate this cost from 50% to 53%. Overall Scientific Services Staff Costs have decreased as a result of internal restructuring.
- Line 14: Other Business Activities - Regulatory costs have increased in 2008/09 financial year. This is primarily due to the increased Utility Regulator (UR) fees and staff increases (from 12 to 18). AIR09 also includes the cost of the reporter which was included in General & Support in AIR08. These costs are apportioned on the basis of directly coded spend, consistent with Line 12 and Line 13. NIW Only Table plus PPP only Table equals NIW Total Table.
- Line 15: Total Business Activities – this is a calculated line and is the total of Line 12, 13 and 14.
- Line 16: Local authority rates have remained consistent with AIR08. Kinnegar Rates (approx £0.3M) are paid by NIW and have been removed in the NIW (only) Table 22 as they relate to the PPP site not NIW. However rates were not to be completed in the PPP only table. Therefore the NIW Only Table plus PPP only Table does not equal the NIW Total Table.

NIW Only	£5.587M
PPP Only	£0.000M
Plus PPP Kinnegar Rates (paid by NIW)	<u>£0.258M</u>
<b>Total NIW</b>	<b>£5.845M</b>

- Line 17: Doubtful debts – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.

- Line 18: Exceptional items – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- 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
- Line 20: third party services – there are no costs in this line. NIW Only Table plus PPP only Table equals NIW Total Table.
- 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 circa £20M from AIR08 for all the reasons mentioned above and the increased PPP unitary charge. This agrees to Table 36 line 21.

### **C - Reactive & Planned Maintenance**

- Line 22: Infrastructure, this figure has reduced due to significantly improved coding by the operational staff throughout the Networks Sewerage Function.
- Line 23: Non-infrastructure, this figure has increased due to the inclusion of the maintenance of the sewage treatment works carried out by the M & E function, identified by responsibility code. This was not included in AIR08 and is recorded in Column 2. There is no specific service activity for building and grounds maintenance therefore these costs are not included in Line 23.

### **PPP**

#### **Kinnegar**

A contract with Coastal Clearwater Ltd was signed on 30 April 1999 for the provision of sewerage treatment which covered the upgrading of the Kinnegar Waste Treatment Works with a capital cost in the region of £11m. The contract is for 25 years with an end date of 30 April 2024.

The PFI property involved is not an asset of NIW but the assets will revert to NIW at the end of the contract.

#### **Omega**

A contract with Glen Water Ltd was signed on 6 March 2007 for the provision of sewerage treatment and sludge disposal at five sites with a capital cost in the region of £122M. The contract is for 25 years with an end date of 5 March 2032.

The PFI property involved is not an asset of NIW but since the assets will revert to NIW at the end of the contract part of the unitary charge has been capitalised as a residual interest asset.

### **Reactive and planned maintenance**

The overall approach and allocation process for Tables 21 and 22 has remained consistent with AIR08. The inclusion of an additional activity and the maintenance costs for Sewage Treatment works and water treatment works carried out by the M & E Function are the only changes to AIR09. 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**

Total pension costs of £17.187M (£17.05m net of interest credit) were charged to the profit and loss account. This is made up of current service costs of £10.487m and past service costs of £6.700m. These costs have been included in 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 £15.183M (including £3.677M relating to payment of 2007/08 past service costs).

These costs have been included in 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.

The actual percentage contribution level of approx. 29.3% of pensionable pay for 2008/2009 within the profit and loss account is the same level used in the Integrated Financial Model that supported the final agreed SBP.

Pensions 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.

Further disclosures on pensions are contained at note 26 to the statutory accounts which are based on the company's actuarial report at 31 March 2009.

### **Third party costs**

Third party costs relate primarily to services recharged to third parties. These costs include labour, materials, vehicles and overheads to reflect a best estimate of the full cost to the company of supplying these services. These services include unplanned work (e.g. repairs to rectify damage by third parties to company assets) and planned work (requests for the company to carry out small works). The associated income is reported in Table 23 as third party income.

### **Infrastructure Renewals Charge (IRC)**

See Commentary for Table 33.

### **System Controls**

Internal audit carried out an audit on AIR08 during the 2008/09 financial year and came up with recommendations regarding sign offs, password protection of files and process notes. Where possible these recommendations have been implemented for AIR09.

**Appendix 1 – Expense group mapping**

Expense Group	Description	Table 21 & 22 mapping
511X	Industrial Wages	1 Employment
513X	Other Wage Costs	1 Employment
514X	Other Costs of Employment	1 Employment
515X	Salaries	1 Employment
516X	Non-Industrial Expenses	1 Employment
517X	Temporary Support Staff	1 Employment
611X	Costed Wages Charge	1 Employment
612X	Wages Overheads	1 Employment
613X	Costed Wages Recovery	1 Employment
614X	Costed Wages Overhead Recovery	1 Employment
521X	Power	2 Power
531X	Operational Contractors	4 Hired and Contracted
532X	Other Contractors	4 Hired and Contracted
534X	Out sourcing	4 Hired and Contracted
538X	Consultants Fees	4 Hired and Contracted
541X	Materials and Equipment	6 Materials & consumables
544X	Non Operations Materials	6 Materials & consumables
547X	Stock Adjustments	6 Materials & consumables
548X	Chemicals	6 Materials & consumables
536X	Office and Computer Services	9 other direct costs
537X	Legal and other professional fees	9 other direct costs
551X	Accommodation	9 other direct costs
553X	Insurance - Premiums	9 other direct costs
553Y	Insurance - Claims	9 other direct costs
554X	Public Liability	9 other direct costs
555X	Employer's Liability	9 other direct costs
616X	Vehicle and Plant Charges	9 other direct costs
695X	Management Task	9 other direct costs
759X	Overheads Capitalised	9 other direct costs
518X	Staff Training & Hospitality	11 General & support
533X	V&P repairs	11 General & support
539X	Audit	11 General & support
546X	Mobile V&P Charges	11 General & support
552X	Communication	11 General & support
556X	Other Grants and Subscriptions	11 General & support
557X	Advertising and Publicity	11 General & support
641X	Intra Departmental Notionals	11 General & support
651X	Inter Departmental Notionals	11 General & support
775X	Discount Allowed	13 Customer services
556Y	Regulatory Costs	15 Other Business Activities
558X	Rates	17 Rates
772X	Bad Debts	18 Doubtful debts
534Y	PPP	20/21a 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)	
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	
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	790	
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 - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 23 REGULATORY ACCOUNTS  
ANALYSIS OF TURNOVER AND OPERATING INCOME**

			1	2	3	4	5	6	
DESCRIPTION	UNITS	DP	2007-08			2008-09			CG
			WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	
<b>A TURNOVER</b>									
1 Unmeasured - household	£m	3	104.560	99.245	203.805	114.082	104.945	219.027	A2
2 Unmeasured - non- household	£m	3	0.000	0.000	0.000	1.699	1.638	3.337	A2
3 Unmeasured	£m	3	104.560	99.245	203.805	115.781	106.583	222.364	A2
4 Measured - household	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	A2
5 Measured - non- household	£m	3	40.623	37.164	77.787	39.768	36.965	76.733	A2
6 Measured	£m	3	40.623	37.164	77.787	39.768	36.965	76.733	A2
7 Trade effluent	£m	3		5.471	5.471	0.000	4.712	4.712	A2
8 Large user and special agreement	£m	3	5.863	0.000	5.863	5.352	0.000	5.352	A2
9 Revenue grants	£m	3	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	A2
11 Rechargeable works	£m	3	0.307	0.000	0.307	0.192	0.192	0.384	A2
12 Bulk supplies/inter company payments	£m	3	0.000		0.000	0.000	0.000	0.000	A2
13 Other appointed business (third party)	£m	3	0.557	0.267	0.824	0.000	0.000	0.000	A2
14 Third party services (excluding non-potable water)	£m	3	0.864	0.267	1.131	0.192	0.192	0.384	A2
15 Other sources (excluding large users, third parties and special agreements)	£m	3	0.000	0.000	0.000	0.407	17.443	17.850	A2
16 Total turnover	£m	3	151.910	142.147	294.057	161.500	165.895	327.395	A2
<b>B OPERATING INCOME</b>									
17 Current cost profit or loss on sale of fixed assets	£m	3	0.021	-0.077	-0.056	-0.072	0.022	-0.050	A2
18 Exceptional items	£m	3	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	A2
20 Total operating income	£m	3	0.021	-0.077	-0.056	-0.072	0.022	-0.050	A2
<b>C WORKING CAPITAL ADJUSTMENT</b>									
21 Working capital adjustment	£m	3	1.327	0.000	1.327	-0.292	0.000	-0.292	A2



**Table 23 – Analysis of turnover and operating income****Working Capital Adjustment**

The commentary to Table 27 outlines the methodology for the Working Capital adjustment.

The adjustment shown in Table 23 has been entirely attributed to Water. There will be an element relating to Sewerage but the information is currently not available to calculate this split.

**Monitoring Of Revenue****Measured and Unmeasured Water and Sewerage – non household**

Revenue is monitored at each month end when figures are made available by Crystal Alliance. Each revenue stream is compared to the budget set at the beginning of the year with PTD and YTD variances calculated and analysed. A forecasting process is also in place to take account of trends and variances that are emerging and the actual PTD and YTD are also compared to the recent forecast. The forecast process is ongoing during the year (normally quarterly) with the budget set and fixed at the start of the financial year.

The Finance and Customer Services (CS) teams meet on a monthly basis to discuss any emerging variances. This monitoring system has continued to improve during the year with the use of the Dynamic Consumption Report. This report allows underlying trends in consumption to be compared to the volumetrics underpinning the forecasted information and this can begin to provide logical explanations for under or over achievement in revenue targets. In particular key customer accounts are examined for consumption trends and economic activity as these customers can have a significant influence on results.

**Comparison of 2007/08 and 2008/09**

The revenue subsidy from DRD has been allocated to the classifications within table 23 in line with the posting of these categories of subsidy in Oracle. The subsidy element is shown separately in the table below for 2008/09 and compared to the position in 2007/08.

**Non- Household**

	<b>UNM W</b>	<b>UNM S</b>	<b>MW</b>	<b>MS</b>	<b>TE</b>	<b>MW Large User</b>	<b>Other S</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>
Customer	1.699	1.638	33.016	14.217	4.712	5.352	0.675
Subsidy	-		6.752	22.748	-	-	17.175
<b>Total 2008-09</b>	<b>1.699</b>	<b>1.638</b>	<b>39.768</b>	<b>36.965</b>	<b>4.712</b>	<b>5.352</b>	<b>17.850</b>
Customer			29.584	-	5.471	5.863	-
Subsidy			11.039	37.164	-	-	-
<b>Total 2007-08</b>	<b>-</b>	<b>-</b>	<b>40.623</b>	<b>37.164</b>	<b>5.471</b>	<b>5.863</b>	<b>-</b>
Variance	New revenue in 8-9	New revenue in 8-9	(0.855) (2.1%)	(0.199) (0.5%)	(0.759) (13.9%)	(0.511) (8.7%)	New revenue - £17.15m Road Drainage subsidy

In Measured Water the subsidy is related to domestic allowance and is agreed with DRD based on customer numbers and consumption. As consumption has fallen in 2008/09 this subsidy has reduced. The variance in Trade Effluent shown above is also due to a fall in activity across the non domestic sector reflecting the downturn in the economy particularly within the manufacturing sub sector.

**Household**

	<b>UNM W</b>	<b>UNS S</b>
	<b>£m</b>	<b>£m</b>
Customer	-	-
Subsidy	114,083	104,945
<b>Total 2008-09</b>	<b>114,083</b>	<b>104,945</b>
Total 2007-08	104,560	99,245
Variance	9,523 9.1%	5,700 5.7%

Variances in domestic subsidy revenue are in line with RPI and the funding agreement under SBP.

**Reported Turnover and Billed Amounts**

Each month Management Accounts carry out a number of adjustments to the information provided by Crystal Alliance (CA) on the billed amounts. A schedule is produced that maps the CA information to the final Oracle General

Ledger balances on the five main revenue accounts in the Profit and Loss Account. The adjustments can be summarised as follows:

**Account 4211 Measured Water and Account 4311 Measured Sewerage**

- a. Accrued Income from the CA Accrued Income Report is added to billed amounts for the month.
- b. Referred Income – this relates to bills produced by CA and included in the billing information are not issued because they have exceeded the value range expected for the bill ('the bill ceiling) or the bill is under query (N stops) or the address is not certain. Although most of these bills will eventually be released at the month end an amount is debited from billed amounts in case the full value of the bill is not finally released.
- c. Other adjustments – in 2008/09 two issues came to light in relation to over and under billing and until these could be fully investigated and actioned by CA through the billing mechanism manual adjustments were made by NIW to the figures obtained from CA. The under-billing related to test meters where customers should have been billed for consumption and had not been (approximately £1.62m MW and approximately £81k MS). The overbilling related to an error in relation to legacy data whereby customers had been assigned the incorrect pipe size with a consequent overstatement of the bill issued approximately £885k overstatement to MW income). Manual adjustments were made for both items at year end (see billed income reconciliation).

**Account 4251 Unmeasured Water and Account 4351 Unmeasured Sewerage**

The billing information from CA will show the annual bills issued to cover 12 months in advance for unmeasured customers. An adjustment is completed by NIW to spread this initial advance billing over the twelve months of the year. This is achieved by deferring the income relating to the months billed in advance by debiting income and crediting a deferred income account on the balance sheet. At year end the amount of the deferral is zero as the billing year is in line with the financial year ended 31 March.

**Account 4411 Trade Effluent (TE)**

TE income from CA is adjusted for the TE element of the Accrued Income Report. There is no adjustment for referred bills.

**Crystal Alliance Reporting Packs**

The Crystal Alliance billing and accrued income reports are sent to NIW at each month end on a disk. All information is in excel spreadsheet form with twenty three separate sheets. The listing of these sheets and the reconciliations and checks completed by CA are shown in Appendix 1. The tasks carried out by NIW Finance, NIW Customer Services and CA are included in Appendix 2.

**Reconciliations of CA data to General Ledger (GL) Balance Sheet Accounts**

A monthly exercise is carried out by Financial Accounts to ensure the following information is reconciled to the relevant GL balances on Oracle:

- Aged debtors balances provided by CA;
- Bad Debt Provisions calculated by Customer Services;
- Accrued Income Report provided by CA;
- Unreconciled receipts information from CA;

At year end the position on all relevant balance sheet nominal ledger accounts was:

1210 Measured and Unmeasured Water and Sewerage Debtors	£10.834m
1213 Trade Effluent Debtors	£ 0.480m
1218 Unreconciled Receipts	£(0.261)m
1220 Metered Water Bad Debt Provision	£(4.989)m
1223 Trade Effluent Bad Debt Provision	£(0.166)m
1420 Metered Water Accrued Income*	£11.630m
1423 Trade Effluent Accrued Income	£ 0.964m

\* includes metered sewerage accrued income.

**Monthly Monitoring Actual versus Budget**

The monthly revenue monitoring procedures have been outlined at the start of this commentary. The year end position of income against budget can be shown as follows:

	<b>YTD Budget (£000)</b>	<b>YTD Actual (£000)</b>	<b>Variance (£000)</b>	<b>Variance (%)</b>
Measured Water / Sewerage	60,083	52,585	(7,498)	(12.5)
Unmeasured Water / Sewerage	4,362	3,337	(1,025)	(23.5)
Trade Effluent	4,812	4,712	(100)	(2.1)
Subsidy	267,000	267,549	549	0.2
Other	3,247	3,388	141	4.4
<b>Total</b>	<b>339,504</b>	<b>331,571</b>	<b>(7,933)</b>	<b>(2.3)</b>

The monthly monitoring against budget is carried out against the above lines. It should be noted subsidy is monitored at a total subsidy level and not by the income streams it is associated with. Unappointed activities are included above in both other income (vehicle maintenance, septic tank emptying etc.) and subsidy (septic tank subsidy).

**Meter Reading Routestar and Rapid Xtra**

In the latter half of 2008/09 a module was designed by CA to allow a reconciliation to take place between the system that collects meter readings (Routestar) to the Rapid Xtra system for bill generation. The aim was to

compare the number of monthly readings being taken against the number of bills generated with an explanation of why for legitimate reasons ( e.g. test meters) each reading may not give rise to a bill. This reconciliation was carried out for the last three months of 2008/09 and the output was examined by Customer Services, Internal Audit and External Audit. The reconciliation is now able to provide a completeness check on the numbers of readings versus the number of bills raised and it is the intention that the system should now be extended in 2009/10 to cover consumption data read versus billed.

### **Measured Accrual**

Accrued income is calculated by the RapidXtra system for Measured Water, Measured Sewerage and Trade Effluent income streams. The output is summarised in an Accrued Income Report and used by NIW when preparing the month end accrual.

The basis of the accrual is the same for all three income streams. At month end the number of days that has elapsed since the last bill date is multiplied by an appropriate accrual rate per day. The accrual rate is based on the historical daily consumption by the customer multiplied by the appropriate standing charge and consumption charge dependent on the customer pipe size etc. New customers without a billing history will have an industry average usage applied until a billing history has been established.

In the present economic climate historical consumption may tend to overstate future usage. This is particularly relevant for the large user accounts and a manual adjustment is applied to the accrued income to take account of this potential overstatement.

### **Reconciliation of Billed Income to P&L Account**

All sources of income from CA including MW,MS,UMW,UMS,TE.

	<b>£m</b>
Billed Income Per CA	55.077
Opening accrued income at 1 April 08	-7.396
Closing accrued income at 31 March 09	12.595
<b>Adjustments:</b>	
Referred Income Movement 2008-2009	-0.110
Deferred Income Movement 2008-2009	0.000
<i>Revenue adjustments</i>	
Test meters	1.696
Pipe size	-0.885
Other manual adjustments*	-0.343
<b>Income per P&amp;L Account at 31 March 2009</b>	<b>60.634</b>

\* Other manual adjustments in the above table primarily relate to adjustments made to the accrued income figures to correct manual journals in Oracle

**Variances in Accrued Income during 2008/09**

The accrued income balances at 31 March 2009 can be shown as follows:

	<b>2008-09</b>	<b>2007-08</b>	<b>Variance</b>
	<b>£m</b>	<b>£m</b>	<b>%</b>
MW and MS	11.630	6.261	85.8
TE	0.964	1.134	(15.0)
<b>Total</b>	<b>12.594</b>	<b>7.395</b>	<b>70.3</b>

The MW and MS customer (excluding subsidy) income has increased by 48.3% during the year (see earlier table) and this has contributed to the significant increase in the associated accrued income at the year end.

Trade Effluent income has decreased by 13.9% (see earlier table) and this is matched by a similar fall in the accrued income at the year end.

**Accrued versus Billed income**

This is currently not carried out although NIW are working with CA to incorporate this as part of the monthly analysis. This will ensure variances between the accrual calculation and subsequent billing are understood and action can be agreed to enhance the accuracy of the accrued amounts.

**APPENDIX 1 - THE TESTS CARRIED OUT BY THE ECHO ACCOUNTANT AND ASSISTANT ACCOUNTANT ON THE MONTHLY REPORTING PACK SENT TO NIW**

<u>File Name</u>	<u>Output</u>	<u>Reconciliations &amp; Checks</u>
CA_BSD_02 MMM Financial Summary Information_v1.0.xls	Day 3 Summary of Day 5 Files	Ensure all tabs relate to files for day 5 CD
CA_BSD_MMM Bank rec_V1.0.xls	Bank Reconciliation	Ensure reconciliation to FN012 Cash, FN012 credit card, FN012 refunds and Suspense
CA_BSD_Accrualdetail31052009_v1.0.xls	Details of accruals by customer	Analysis performed to examine changes in meters, consumption and summary given in Day 3 of income analysis
CA_BSD_AccrualexceptionsDC31052009_v1.0.xls	Details of meters not accrued	Ensure number of meters corresponds to Accrual Summary file
CA_BSD_AccrualsummaryDC31052009_v1.0.xls	Summary by Pipesize of accruals	Ensure that totals correspond to detailed file
CA_BSD_Aged Cash MMM 09_v1.0.XLS	Cash received aging	Reconciliation to FN012
CA_BSD_Aged Returned Payments MMM 09_v1.0.XLS	Returned Payments aging	Reconciliation to FN012
CA_BSD_FN012 Summary Split Extended MMM 09_v1.1.xls	Summary of FN012 by category with monthly summary and journals	Reconciliation to FN012, reconciliation of journal files to FN012
CA_BSD_FN012 Summary Split OLD - MMM 09_v1.0.xls	Summary of FN012 with VAT summary	Reconciliation to FN012

<u>File Name</u>	<u>Output</u>	<u>Reconciliations &amp; Checks</u>
CA_BSD_FN012 Summary Total Aged Debt Rec MMM 09_v1.0.xls	Reconciliation of 0-30 days transactions and FN012	N/a - this is a reconciliation
CA_BSD_FN012 Summary Total MMM 09_v1.0.xls	Summary by month of billing and cash received	Reconciliation to FN012
CA_BSD_FN015 Aged Debt By Industry MMM 09_v1.0.xls	Aged debt	Reconciliation to FN012 and FN016,FN017,FN018
CA_BSD_FN016 Aged Debt By Payment Plan MMM 09_v1.0.xls	Aged debt	Reconciliation to FN012 and FN015,FN017,FN018
CA_BSD_FN017 Aged Debt By Recovery Stage MMM 09_v1.0.xls	Aged debt	Reconciliation to FN012 and FN015,FN016,FN018
CA_BSD_FN018 Aged Debt By Recovery Profile MMM 09_v1.0.xls	Aged debt	Reconciliation to FN012 and FN015,FN016,FN017
CA_BSD_Manual Adjustments MMM 09_v1.0.xls	Details of manual adjustment transactions	Reconciles to FN012
CA_BSD_N-Stop Aging - MMM 09_v1.0.xls	Summary of N-Stops by age	Reconciles to GL99 - Ordinary Customers
CA_BSD_Referred Bills Summary MMM 09_v1.0.xls	N-Stops and Bill Ceilings	Reconciles to GL99 and CTLPRT04



<u>File Name</u>	<u>Output</u>	<u>Reconciliations &amp; Checks</u>
CA_BSD_Summary Suspense Report 090531 incl aged_v1.0.xls	Summary of FN013 (aged)	Reconciles to FN013 / Bank Rec
CA_BSD_TE FN012 Aged Debt Rec MMM 09_v1.0.xls	Reconciliation of TE FN012 to aged debt	N/a - this is a reconciliation
CA_BSD_TE_AI_20090531_V1.xls	Details of accruals by customer (TE)	Spot check on calculation sheets. Income test for TE accruals and invoices
CA_BSD_Transaction Report MMM 09_v1.0.xls	Full transactional detail of FN012 amounts	Reconciled to FN012
Vat Invoice Summary - MMM 09.xls	All VAT bill transactions for period	Reconciles to FN012 and summary split (old)

**APPENDIX 2**  
**TABLE 23****INCOME CHECKLIST**

	<b>NIW Mgt A/cs</b>	<b>NIW Fin A/cs</b>	<b>CA</b>	<b>NIW CS</b>
Email received from CA			●	
Income summary populated			●	
Journal Template Populated			●	
Income Summary Reconciled to GL	●			
Debtors per CA reconciled to GL		●		
Bad Debts Provision prepared and sent to Financial Accounts				●
Accrued Income provision prepared and sent to Financial Accounts				●
Bad Debts Provision reviewed		●		
Accrued Income provision reviewed		●		
DSO, Debtors days and Debt KPI prepared and sent to Financial Accounts				●
Income Summary quality checked		●		
Debtors Reconciliation quality checked	●			
Attend monthly Income meeting	●	●		●
Post Accrued Income	●			
Post Cash Received	●			
Post income and debtors	●			
Post referred bills adjustment	●			
Reconcile FN012/GL to income	●			
Post bad debt write off	●			

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 24 REGULATORY ACCOUNTS (CURRENT COST)  
BALANCE SHEET AS AT 31 MARCH 2009**

			1	2
DESCRIPTION	UNITS	DP	2007-08	2008-09
<b>A FIXED ASSETS</b>				
1 Tangible assets	£m	3	6,689.44	6,958.883
2 Third party contributions	£m	3	-91.814	-114.399
<b>B OTHER OPERATING ASSETS AND LIABILITIES</b>				
3 Working capital	£m	3	-77.318	-96.960
4 Cash	£m	3	2.844	3.554
5 Short term deposits	£m	3	54.000	19.000
6 Overdrafts	£m	3	0.000	0.000
7 Infrastructure renewals prepayment/(accrual)	£m	3	-9.695	0.091
8 Net operating assets	£m	3	-30.169	-74.315
<b>C NON-OPERATING ASSETS AND LIABILITIES</b>				
9 Borrowings	£m	3	0.000	0.000
10 Non-trade debtors	£m	3	1.490	1.486
11 Non-trade creditors due within one year	£m	3	-1.610	-4.385
12 Investment - loan to group company	£m	3	0.000	0.000
13 Investment - other	£m	3	0.106	0.106
14 Corporation tax payable	£m	3	0.000	0.000
15 Ordinary share dividends payable	£m	3	-33.538	0.000
16 Preference share dividends payable	£m	3	0.000	0.000
<b>D CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR</b>				
17 Borrowings	£m	3	-307.560	-457.560
18 Other creditors	£m	3	-3.422	-110.808
<b>E PROVISION FOR LIABILITIES AND CHARGES</b>				
19 Deferred tax provision	£m	3	-16.566	-30.653
20 Post employment asset / (liabilities)	£m	3	5.619	5.942
21 Other provisions	£m	3	-15.131	-20.638
<b>F PREFERENCE SHARE CAPITAL</b>				
22 Preference share capital	£m	3	0.000	0.000
23 Net assets employed	£m	3	6,196.840	6,153.659
<b>G CAPITAL AND RESERVES</b>				
24 Called up share capital	£m	3	500.000	500.000
25 Share premium	£m	3	0.000	0.000
26 Profit and loss account	£m	3	-17.632	-39.058
27 Current cost reserve at 31 March	£m	3	5,542.782	5,521.027
28 Other reserves	£m	3	171.690	171.690
29 Total capital and reserves	£m	3	6,196.840	6,153.659

**Table 24 – CC Balance Sheet as at 31 March 2009**

The retained current cost loss for the year is £(23.091m). The P&L reserves in the balance sheet move by £(21.426m). The difference of £1.666m represents the gain on the pension fund net of deferred tax as shown below:

**Current cost profit and loss reserve**

	<b>2008/09</b>	<b>2007/08</b>
	<b>£'000</b>	<b>£'000</b>
At 1 April	(17,632)	0
Retained current loss for year	(23,091)	(32,594)
FRS 17 actuarial gain	2,314	21,374
Deferred tax on actuarial gain	(649)	(6,412)
<b>At 31 March</b>	<b>(39,058)</b>	<b>(17,632)</b>

- No minority interests exist.

The elements of PPP included in the table are as follows:

**Line 1: Tangible Assets**

	<b>Alpha</b>	<b>Omega</b>	<b>Kinnegar</b>	<b>Total</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>
Gross	111.962 *	1.596	1.797	<b>115.355</b>
Acc. Deprec	(1.156)	-	-	<b>(1.156)</b>
<b>NBV</b>	<b>110.806</b>	<b>1.596</b>	<b>1.797</b>	<b>114.199</b>

*	£m
Initial expenditure	111.708
Additions to Capital Maintenance fund	<u>0.254</u>
	<u>111.962</u>

**Line 3: Working Capital**

	<b>Alpha</b>	<b>Omega</b>	<b>Kinnegar</b>	<b>Total</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>	<b>£m</b>
Accruals	1.939	7.507	0.993	<b>10.439</b>

**Line 11: Non-trade creditors due within one year**

	<b>Alpha</b>
	<b>£m</b>
Lease obligation due < 1 yr	2.888

**Line 18: Other Creditors**

	<b>Alpha</b>
	£m
Lease obligation due > 1 yr	108.390

**Significant features and movements****Line 1: Tangible assets**

See commentary to Table 19.

**Line 2: Third party contributions**

Increased by approximately £22.6m shown as follows:

	<b>£m</b>
Infrastructure contributions (including £14.8m sewers adopted)	19.8
Non Infrastructure contributions	5.7
Amortisation of non- infrastructure contributions and government grants	(2.6)
Indexation	<u>(0.3)</u>
	<u>22.6</u>

**Line 3: Working capital**

See commentary to Table 26.

**Line 5: Short term deposits**

See commentary to Table 19.

**Line 7: Infrastructure renewals prepayment / (accrual)**

See commentary to Table 19.

**Line 15: Ordinary share dividends payable**

There was no dividend declared and approved before the year end 31 March 2009. The 2007/08 dividend was paid in 2008/09 resulting in a nil balance on this account at year end 31 March 2009.

**Line 17: Borrowings**

See commentary to Table 19.

**Line 18: Other creditors > 1 yr**

See commentary to Table 19.

**Line 19: Deferred tax provision**

See commentary to Table 19.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 25 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)**  
**ANALYSIS OF FIXED ASSETS BY ASSET TYPE (incl. PPP)**

			1	2	3	4	5	6	7	8	9
DESCRIPTION	UNITS	DP	WATER SERVICE				SEWERAGE SERVICE				TOTAL
			INFRASTRUCTURE ASSETS	OPERATIONAL ASSETS	OTHER TANGIBLE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	OPERATIONAL ASSETS	OTHER TANGIBLE ASSETS	SUBTOTAL	
A GROSS REPLACEMENT COST											
1 Gross replacement cost at 1 April	£m	3	2610.480	680.558	22.975	3314.013	2466.582	938.297	31.884	3436.763	6750.776
2 AMP adjustment	£m	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3 RPI adjustment	£m	3	-9.535	-2.383	-0.079	-11.997	-8.914	-2.765	-0.096	-11.775	-23.772
4 Disposals	£m	3	0.000	-0.003	-0.909	-0.912	0.000	-0.006	-0.206	-0.212	-1.124
5 Additions	£m	3	47.781	116.844	4.781	169.406	89.338	107.445	3.717	200.500	369.906
6 Gross replacement cost at 31 March	£m	3	2648.726	795.016	26.768	3470.510	2547.006	1042.971	35.299	3625.276	7095.786
B DEPRECIATION											
7 Depreciation at 1 April	£m	3		26.504	2.798	29.302		29.629	2.411	32.040	61.342
8 AMP adjustment	£m	3		0.000	0.000	0.000		0.000	0.000	0.000	0.000
9 AMP adjustment - gross MEA revaluation	£m	3		0.000	0.000	0.000		0.000	0.000	0.000	0.000
10 AMP adjmt - amendment to remaining useful econ. lives	£m	3		0.000	0.000	0.000		0.000	0.000	0.000	0.000
11 RPI adjustment	£m	3		-0.099	-0.011	-0.110		-0.110	-0.009	-0.119	-0.229
12 Disposals	£m	3		0.000	-0.250	-0.250		0.000	-0.144	-0.144	-0.394
13 Charge for year	£m	3		28.539	3.338	31.877		41.489	2.818	44.307	76.184
14 Depreciation at 31 March	£m	3		54.944	5.875	60.819		71.008	5.076	76.084	136.903
15 Net book amount at 31 March	£m	3	2648.726	740.072	20.893	3409.691	2547.006	971.963	30.223	3549.192	6958.883
16 Net book amount at 1 April	£m	3	2610.480	654.054	20.177	3284.711	2466.582	908.668	29.473	3404.723	6689.434

**Table 25 – Analysis of Fixed Assets by Asset Type**

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 2008 have been brought forward from the total closing balances for gross replacement cost and depreciation at 31 March 2008. The analysis across asset categories is based on analysis within the fixed asset register.

**AMP Adjustment**

There was no AMP adjustment during the year. The next AMP adjustment is planned to report in PC13.

**RPI Adjustment**

In April 2008, all assets in the Fixed Asset Register (FAR) were indexed down using year end Retail Price Index (RPI) to be consistent with OFWAT. This was adjusted for assets disposed of in April 2008, if there were any, as they were not indexed.

**Disposals**

Disposals during the year mainly consisted of surplus land and mobile plants (lorries and vans). All disposals have depreciation in the month of disposal.

**Decommissioned Assets**

A significant number of assets (NCRC - £12,238,646) were decommissioned in April 2008. 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.

**PPP Assets**

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 £111,962,000.

There is also a residual interest for PFI Kinnegar asset and Omega asset totalling £3,393,000 which is included in Table 25 under specialised operational civil.

**Depreciation Charge for Year**

Current cost depreciation charge during the year was calculated based on the opening GCRC at 1 April 2008. Additions and disposals during the year were taken into account in calculating the depreciation charge.

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 totalling £58,028,058 could not be readily identified as water and sewerage services and has 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 - ANNUAL INFORMATION RETURN 2009**

## **ANNUAL INFORMATION RETURN - TABLE 26 REGULATORY ACCOUNTS WORKING CAPITAL**

DESCRIPTION				1	2
				2007-08	2008-09
UNITS	DP				
1	Stocks	£m	3	2.400	1.896
2	Trade debtors - measured household	£m	3	0.000	0.000
3	Trade debtors - unmeasured household	£m	3	0.000	0.000
4	Trade debtors - measured non household	£m	3	4.459	6.991
5	Trade debtors - unmeasured non household	£m	3	0.000	0.584
6	Other trade debtors	£m	3	2.021	0.710
7	Measured income accrual	£m	3	6.674	12.594
8	Prepayments and other debtors	£m	3	15.926	7.341
9	Trade creditors	£m	3	-26.515	-18.030
10	Deferred income - customer advance receipts	£m	3	-1.717	-1.509
11	Short term capital creditors	£m	3	-51.952	-64.335
12	Accruals and other creditors	£m	3	-28.614	-43.201
13	Total working capital	£m	3	-77.318	-96.959

**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 Crystal Alliance pack.

The elements of PPP included in the table are as follows:

**Line 12: Accruals and other creditors**

<b>Alpha</b>	<b>Omega</b>	<b>Kinnegar</b>	<b>Total</b>
£m	£m	£m	£m
1.939	7.507	0.993	<b>10.439</b>

**Significant movements from last year****Line 4: Trade debtors - measured non household**

This has increased from £4.5m to £7m (56%) primarily due to the introduction of charges in 2008/09 for measured sewerage.

**Line 7: Measured income accrual**

This has increased by £5.92m (89%) over the period accounted for as follows:

- Measured sewerage billing was introduced on 1 April 2008 and approximately £3.5m was included in accrued measured income at 31 March 2009 for measured sewerage (31 March 2008: nil);
- Trade effluent accrued income (2009: £0.964m, 2008: £1.134m) was categorised in last year's AIR table 26 in line 6: other trade debtors but in 2008/09 it is correctly shown in line 7: measured income accrual;
- Accrued income for measured water has risen by £1.6m from £7.2m at 31 March 2008 to £8.8m at 31 March 2009. £0.811m of this increase is due to the two manual revenue adjustments shown in the Reconciliation of Billed Income to P&L Account. The remaining increase in accrued income appears reasonable given the 8% increase in measured water income between the two years.

**Line 8: Prepayments and other debtors**

This balance has fallen by £8.585m (54%) primarily because of the VAT repayment debtor of only £6.974m at 31 March 2009 compared to £15.136m at 31 March 2008. The VAT related activity levels were similar in both years but at the end of 2008 two months VAT repayment were outstanding as opposed to one month at the end of 2009.

**Line 9: Trade creditors and Line 12: Accruals and other creditors**

Trade creditors have fallen by £8.485m (32%) in the period with a consequential rise in accruals and other creditors. This, coupled with a rise in operating costs of approximately 21% has resulted in a £14.587m (51%) rise in accruals and other creditors.

**Line 11: Short term capital creditors**

Additions to assets in the course of construction have risen by approximately 14% from 2008 to 2009. The rise in capital accruals is of a similar percentage.

# **NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

## **ANNUAL INFORMATION RETURN - TABLE 27 REGULATORY ACCOUNTS MOVEMENT ON CURRENT COST RESERVE**

				1	2
DESCRIPTION				2007-08	2008-09
UNITS	DP				
1	Current cost reserve at 1 April	£m	3	5,332.978	5,542.782
2	AMP adjustment	£m	3	0.000	0.000
<b>A RPI ADJUSTMENTS</b>					
3	Fixed assets	£m	3	220.187	-23.438
4	Working capital adjustment	£m	3	-1.327	0.292
5	Financing adjustment	£m	3	-6.543	1.044
6	Grants and third party contributions	£m	3	-2.513	0.347
7	Current cost reserve at 31 March	£m	3	5,542.782	5,521.027

**Table 27 – Movement on current cost reserve****Working capital adjustment**

The working capital adjustment includes all the opening short – term debtors and creditors at 1<sup>st</sup> April 2008 with the following exclusions from the calculation:

• <b>Debtors</b>	
EU grants receivable	£1.482m
Interest receivable	£0.008m
Debtors relating to unappointed activities	£0.145m
• <b>Creditors</b>	
EU grants payable	£1.482m
Deferred grants and contributions < 1 yr	£0.383m
Cash bond interest payable	£0.128m
Creditors relating to unappointed activities	£0.207m

The following indices have been used and applied to the opening working capital balance at 1 April 2008:

RPI	2009	2008
Year end RPI	211.3	212.1
Change in 2008-09	-0.3772%	

**Working capital adjustment = opening working capital at 1 April 2008 x change in RPI 2008-2009**

$$= £77,318k \times -0.3772\% = -£292k$$

**Financing adjustment**

The financing adjustment can be shown as follows:

	£m
Opening net assets	6,196.840
Opening net fixed assets	<u>6,597.621</u>
	-400.781
Add back: working capital	<u>77.318</u>
Opening net finance	-323.463
Add back:	
Ordinary share dividends payable	33.538
Deferred tax provision	16.566
Less:	
Pension asset	-5.619
Add back:	
Deferred tax asset on pension liability	2.185
Revised opening net finance	-276.793
RPI	-0.3772%
Financing Adjustment	<u>-1.044</u>

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 28 REGULATORY ACCOUNTS  
CASH FLOW STATEMENT FOR YEAR ENDING 31 MARCH**

DESCRIPTION			UNITS	DP	1	2
					2007-08	2008-09
1	Net cashflow from operating activities	£m	3		142.202	133.052
<b>A RETURN ON INVESTMENTS &amp; SERVICING OF FINANCE</b>						
2	Interest received	£m	3		2.228	1.840
3	Interest paid	£m	3		-9.613	-18.012
4	Interest in finance lease rentals	£m	3		0.000	-4.193
5	Non-equity dividends paid	£m	3		0.000	0.000
6	Net cashflow from returns on investments & servicing of finance	£m	3		-7.385	-20.365
<b>B TAXATION</b>						
7	Taxation (paid)/received	£m	3		0.000	0.000
<b>C CAPITAL EXPENDITURE AND FINANCIAL INVESTMENT</b>						
8	Gross cost of purchase of fixed assets	£m	3		-214.427	-226.011
9	Receipts of grants and contributions	£m	3		3.703	6.270
10	Infrastructure renewals expenditure	£m	3		-24.431	-44.058
11	Disposal of fixed assets	£m	3		0.379	0.790
12	Movements on long term loans to group companies	£m	3		0.000	0.000
13	Net cashflow from investing activities	£m	3		-234.776	-263.009
<b>D ACQUISITIONS AND DISPOSALS</b>						
14	Acquisitions and disposals	£m	3		0.000	0.000
<b>E EQUITY DIVIDENDS</b>						
15	Equity dividends paid	£m	3		0.000	-33.538
<b>F MANAGEMENT OF LIQUID RESOURCES</b>						
16	Net cashflow from management of liquid resources	£m	3		-54.000	35.000
17	Net cashflow before financing	£m	3		-153.959	-148.860
<b>G FINANCING</b>						
18	Capital in finance lease rentals	£m	3		0.000	-0.430
19	New bank loans taken out	£m	3		157.560	150.000
20	Repayment of bank loans	£m	3		0.000	0.000
21	Proceeds from share issues	£m	3		0.000	0.000
22	Net cash inflow from financing	£m	3		157.560	149.570
23	Increase/(decrease) in cash in the year	£m	3		3.601	0.710

**Table 28 – Cashflow statement****Significant movements from last period****Line 3: Interest paid**

Interest paid has increased by 87% from £9.613m to £18.012m. This is consistent with an additional loan drawdown of £150m in 2008-2009. 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)

**Line 4: Interest in finance lease rentals**

The commencement of operations of the Alpha project during 2008-2009 gave rise to £4.193m interest payable on the associated finance lease.

**Line 10: Infrastructure Renewals Expenditure**

IRE for 2008-2009 compared to 2007-2008 can be shown as follows:

IRE	2008-2009	2007-2008	Increase in period	Increase in period
	£m	£m	£m	%
Water	37.458	19.778	17.68	89.4
Sewerage	6.600	6.195	0.405	6.5
Total	44.058	25.973	18.085	69.6

Water IRE has risen significantly over the period for the following reasons:

- expenditure on Water infrastructure within the Capital Programme (base and enhancement) has risen in the period by approximately 60%.
- included in Water IRE for 2008-2009 is £4.924m relating to IRE for the Alpha Project.
- in 2007-2008 water zonal studies expenditure was erroneously allocated to enhancement instead of base and this led to an understatement of water IRE in 2007-2008 of £7.953m.

**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 has decreased by £35m from the end of 2007-2008 to the end of 2008-2009 with a consequent release into cashflow. (This change in liquid funds was partly due to a change in policy by DRD whereby at the end of 2007-2008 NIW were required to honour a commitment to subscribe for £42m in loan drawdown before the year end but with a change in status in 2008-2009 to Non Departmental Public Body (NDPB) this is no longer a requirement).

**Line 18: Capital in finance lease rentals.**

With the commencement of payments for the Alpha PPP an amount of £0.43m was made in payment against the associated finance lease.



**Line 19: New bank loans taken out**

In 2008-2009 £150m 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	11.626
2	Working capital adjustment	£m	0.292
3	Movement in working capital	£m	7.258
4	Depreciation	£m	76.184
5	Current cost profit on sale of fixed assets	£m	0.050
6	Infrastructure renewals charge	£m	34.272
7	Other non-cash profit and loss items	£m	3.370
8	Net cash flow from operating activities	£m	133.052

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 5.

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, 10 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 £0.254m 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 - ANNUAL INFORMATION RETURN 2009

### ANNUAL INFORMATION RETURN - TABLE 29 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING) RECONCILIATION OF OPERATING PROFIT TO NET CASH FLOW FROM OPERATING ACTIVITIES

DESCRIPTION				1	2
				2007-08	2008-09
UNITS	DP				
1	Current cost operating profit	£m	3	17.077	11.626
2	Working capital adjustment	£m	3	-1.327	0.292
3	Movement in working capital	£m	3	26.554	7.258
4	Receipts from other income	£m	3	0.000	0.000
5	Depreciation	£m	3	58.834	76.184
6	Current cost profit on sale of fixed assets	£m	3	0.056	0.050
7	Infrastructure renewals charge	£m	3	35.668	34.272
8	Other non-cash profit and loss items	£m	3	5.34	3.370
9	Net cash flow from operating activities	£m	3	142.202	133.052

**Table 29 – Reconciliation of Operating Profit to Net Cash Flow from  
Operating Activities**

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Table 29 commentary is not required

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 32 FINANCIAL MEASURES  
ANALYSIS OF FIXED ASSET ADDITIONS AND ASSET MAINTENANCE BY ASSET TYPE (CURRENT COST ACCOUNTING) (NIW Only)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7
			WATER SERVICE			SEWERAGE SERVICE			TOTAL
			INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	
<b>A ADDITIONS -NEW ASSETS (ENHANCEMENT)</b>									
1 Water resource facilities	£m	3	0.027	0.004	0.030				0.030
2 Water treatment works	£m	3		4.974	4.974				4.974
3 Water distribution mains	£m	3	44.835	0.656	45.478				45.478
4 Service reservoirs and water towers	£m	3		4.585	4.585				4.585
5 Pumping stations	£m	3		0.777	0.777				0.777
6 Water management and general	£m	3	0.027	1.204	1.230				1.230
7 Sewerage	£m	3				89.320	1.100	90.421	90.421
8 Sea outfalls and headworks	£m	3				0.000	0.141	0.141	0.141
9 Sewage treatment works	£m	3					61.449	61.449	61.449
10 Sludge treatment works	£m	3					0.930	0.930	0.930
11 Sludge disposal	£m	3				0.000	0.000	0.000	0.000
12 In-line pumping stations	£m	3					14.131	14.131	14.131
13 Terminal pumping stations	£m	3					2.632	2.632	2.632
14 Sewerage management and general	£m	3				0.017	1.421	1.439	1.439
15 Total infrastructure additions (Enhancement)	£m	3	44.888		44.888	89.338		89.338	134.226
16 Total non-infrastructure additions (Enhancement)	£m	3		12.199	12.199		81.804	81.804	94.003
17 Total additions (Enhancement)	£m	3	44.888	12.199	57.087	89.338	81.804	171.142	228.229
<b>B BASE SERVICE PROVISION</b>									
18 Water resource facilities	£m	3	0.000	0.229	0.229				0.229
19 Water treatment works	£m	3		2.537	2.537				2.537
20 Water distribution mains	£m	3	30.714	0.054	30.768				30.768
21 Service reservoirs and water towers	£m	3		6.189	6.189				6.189
22 Pumping stations	£m	3		0.507	0.507				0.507
23 Water management and general	£m	3	1.820	9.906	11.726				11.726
24 Sewerage	£m	3				5.408	0.446	5.854	5.854
25 Sea outfalls and headworks	£m	3				0.008	0.003	0.011	0.011
26 Sewage treatment works	£m	3					18.291	18.291	18.291
27 Sludge treatment works	£m	3					0.111	0.111	0.111
28 Sludge disposal	£m	3				0.000	0.496	0.496	0.496
29 In-line pumping stations	£m	3					3.005	3.005	3.005
30 Terminal pumping stations	£m	3					0.702	0.702	0.702
31 Sewerage management and general	£m	3				1.184	4.784	5.967	5.967
32 Total infrastructure renewals (Base)	£m	3	32.534		32.534	6.600		6.600	39.134
33 Total non-infrastructure expenditure (Base)	£m	3		19.423	19.423		27.838	27.838	47.260
34 Total expenditure (Base service provision)	£m	3	32.534	19.423	51.957	6.600	27.838	34.438	86.394

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 32 FINANCIAL MEASURES  
ANALYSIS OF FIXED ASSET ADDITIONS AND ASSET MAINTENANCE BY ASSET TYPE (CURRENT COST ACCOUNTING) (PPP Only)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7
			WATER SERVICE			SEWERAGE SERVICE			TOTAL
			INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	
<b>A ADDITIONS -NEW ASSETS (ENHANCEMENT)</b>									
1 Water resource facilities	£m	3	0.000	0.000	0.000				0.000
2 Water treatment works	£m	3		89.750	89.750				89.750
3 Water distribution mains	£m	3	2.892	0.000	2.892				2.892
4 Service reservoirs and water towers	£m	3		0.000	0.000				0.000
5 Pumping stations	£m	3		0.000	0.000				0.000
6 Water management and general	£m	3	0.000	0.000	0.000				0.000
7 Sewerage	£m	3				0.000	0.000	0.000	0.000
8 Sea outfalls and headworks	£m	3				0.000	0.000	0.000	0.000
9 Sewage treatment works	£m	3					0.000	0.000	0.000
10 Sludge treatment works	£m	3					0.000	0.000	0.000
11 Sludge disposal	£m	3				0.000	0.000	0.000	0.000
12 In-line pumping stations	£m	3					0.000	0.000	0.000
13 Terminal pumping stations	£m	3					0.000	0.000	0.000
14 Sewerage management and general	£m	3				0.000	0.000	0.000	0.000
15 Total infrastructure additions (Enhancement)	£m	3	2.892		2.892	0.000		0.000	0.000
16 Total non-infrastructure additions (Enhancement)	£m	3		89.750	89.750		0.000	0.000	89.750
17 Total additions (Enhancement)	£m	3	2.892	89.750	92.642	0.000	0.000	0.000	92.642
<b>B BASE SERVICE PROVISION</b>									
18 Water resource facilities	£m	3	0.000	0.000	0.000				0.000
19 Water treatment works	£m	3		0.254	0.254				0.254
20 Water distribution mains	£m	3	4.924	0.000	4.924				4.924
21 Service reservoirs and water towers	£m	3		0.000	0.000				0.000
22 Pumping stations	£m	3		0.000	0.000				0.000
23 Water management and general	£m	3	0.000	0.000	0.000				0.000
24 Sewerage	£m	3				0.000	0.000	0.000	0.000
25 Sea outfalls and headworks	£m	3				0.000	0.000	0.000	0.000
26 Sewage treatment works	£m	3					0.000	0.000	0.000
27 Sludge treatment works	£m	3					0.000	0.000	0.000
28 Sludge disposal	£m	3				0.000	0.000	0.000	0.000
29 In-line pumping stations	£m	3					0.000	0.000	0.000
30 Terminal pumping stations	£m	3					0.000	0.000	0.000
31 Sewerage management and general	£m	3				0.000	0.000	0.000	0.000
32 Total infrastructure renewals (Base)	£m	3	4.924		4.924	0.000		0.000	4.924
33 Total non-infrastructure expenditure (Base)	£m	3		0.254	0.254		0.000	0.000	0.254
34 Total expenditure (Base service provision)	£m	3	4.924	0.254	5.178	0.000	0.000	0.000	5.178

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

ANNUAL INFORMATION RETURN - TABLE 32 FINANCIAL MEASURES  
ANALYSIS OF FIXED ASSET ADDITIONS AND ASSET MAINTENANCE BY ASSET TYPE (CURRENT COST ACCOUNTING) (Total)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7
			WATER SERVICE			SEWERAGE SERVICE			TOTAL
			INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	
<b>A ADDITIONS -NEW ASSETS (ENHANCEMENT)</b>									
1 Water resource facilities	£m	3	0.027	0.004	0.031				0.031
2 Water treatment works	£m	3		94.724	94.724				94.724
3 Water distribution mains	£m	3	47.727	0.656	48.383				48.383
4 Service reservoirs and water towers	£m	3		4.585	4.585				4.585
5 Pumping stations	£m	3		0.777	0.777				0.777
6 Water management and general	£m	3	0.027	1.204	1.231				1.231
7 Sewerage	£m	3				89.320	1.100	90.421	90.421
8 Sea outfalls and headworks	£m	3				0.000	0.141	0.141	0.141
9 Sewage treatment works	£m	3					61.449	61.449	61.449
10 Sludge treatment works	£m	3					0.930	0.930	0.930
11 Sludge disposal	£m	3				0.000	0.000	0.000	0.000
12 In-line pumping stations	£m	3					14.131	14.131	14.131
13 Terminal pumping stations	£m	3					2.632	2.632	2.632
14 Sewerage management and general	£m	3				0.017	1.421	1.439	1.439
15 Total infrastructure additions (Enhancement)	£m	3	47.780		47.780	89.338		89.338	137.118
16 Total non-infrastructure additions (Enhancement)	£m	3		101.949	101.949		81.804	81.804	183.753
17 Total additions (Enhancement)	£m	3	47.780	101.949	149.729	89.338	81.804	171.142	320.871
<b>B BASE SERVICE PROVISION</b>									
18 Water resource facilities	£m	3	0.000	0.229	0.229				0.229
19 Water treatment works	£m	3		2.791	2.791				2.791
20 Water distribution mains	£m	3	35.638	0.054	35.692				35.692
21 Service reservoirs and water towers	£m	3		6.189	6.189				6.189
22 Pumping stations	£m	3		0.507	0.507				0.507
23 Water management and general	£m	3	1.820	9.906	11.726				11.726
24 Sewerage	£m	3				5.408	0.446	5.854	5.854
25 Sea outfalls and headworks	£m	3				0.008	0.003	0.011	0.011
26 Sewage treatment works	£m	3					18.291	18.291	18.291
27 Sludge treatment works	£m	3					0.111	0.111	0.111
28 Sludge disposal	£m	3				0.000	0.496	0.496	0.496
29 In-line pumping stations	£m	3					3.005	3.005	3.005
30 Terminal pumping stations	£m	3					0.702	0.702	0.702
31 Sewerage management and general	£m	3				1.184	4.784	5.968	5.968
32 Total infrastructure renewals (Base)	£m	3	37.458		37.458	6.600		6.600	44.058
33 Total non-infrastructure expenditure (Base)	£m	3		19.677	19.677		27.838	27.838	47.515
34 Total expenditure (Base service provision)	£m	3	37.458	19.677	57.135	6.600	27.838	34.438	91.573

**Table 32 - Analysis of Fixed Asset Additions and Asset Maintenance by Asset Type****NIW only**

The main types of new assets constructed in the year were distribution mains, sewerage assets and waste water treatment works to ensure compliance with obligations to improve quality standards as agreed with the Drinking Water Inspectorate and the Northern Ireland Environment Agency. A large portion of this investment as in 2008/09 is the result of a legacy of under funding in the former Water Service.

The majority of asset maintenance expenditure related to water distribution mains (Water rehabilitation projects), sewerage assets (Drainage Area Plan projects) and wastewater treatment works in order to maintain the serviceability of the asset base for customers.

The Capital investment Driver allocation methodology has changed significantly since the SBP. The Methodology is explained in Chapter 34 which in summary is the process adopted in 07/08 with some further system advancements.

The allocation methodology for Management and General expenditure is reflective of that included within the 'Strategic Business Plan' (SBP) allocation at 41%:59% (Water/Sewerage). This is only applied when projects have not already been allocated within Management and General to either Water or Sewerage within individual projects and is typical of projects within Human Resources and Finance and Regulation which are common to both Water and Sewerage. 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.

Expenditure for Zonal Study investigations has been allocated to Water M & G/ Base/Infrastructure Expenditure and Drainage Area studies have been allocated to Sewerage M & G/Base/Infrastructure/ for 08/09 reporting. Expenditure in these two areas has been separately identified within Asset Management Directorate expenditure in 08/09 and is not confused with the resultant delivery projects managed within Engineering Procurement Directorate.

Sewer adoptions paid by third parties of £14.835m are included in column 4, line 7 of Table 32 within Sewerage infrastructure enhancements. Sewerage Pumping Stations paid by third parties of £4.449 are included in Col 5, line 12 within Sewerage non infrastructure enhancements.

The calculation of gross asset valuation for adopted sewerage assets is based on the unit costs derived for the SBP which was indexed to 08/09 prices by RPI. The unit costs are applied by diameter banding and total lengths laid. The unit costs adopted in the SBP were developed from historic actual costs of projects completed by NI Water Service and reported in 06/07 prices.

Of the total capital expenditure of £314.623m (net of grants and contributions on infrastructure maintenance expenditure and inclusive of sewerage adoptions), £86.394m (27%) related to base service position.

In all the Capex Financial tables Backlog Base as defined in the SBP has been allocated consistently as per the SBP. This amounts to £1.21m for water service and £10.83m for sewerage service and is allocated to 'Enhanced Service Levels' for financial reporting purposes.

Infrastructure Renewals expenditure has been reported net of any grants and contributions in this table. Grants and contributions (Infrastructure Charges) have been apportioned 59% IRE and 41% MNI for both Water and Sewerage for 08/09 reporting. The apportionment has been derived from the SBP predictions.

Within the NIW water table is £460k as spent on a PPP Omega site Ballyrickard to comply with an additional standard for nutrient removal imposed shortly before the Omega contract was signed and was instructed as a mandatory change post financial close. This is reported on the NIW table as the expenditure was NIW capital and will be depreciated. It was determined best value for NIW to accrue the capital rather the negotiating a new unitary charge to take account of the new quality standard.

In addition £14.142m is reported on row 3 column 1 which is for new pipelines which were delivered by the PPP contractor but are being operated by NIW.

#### **PPP only (Water)**

The methodology for population of this table is contained within chapter 34 and relates only to Water Expenditure as delivered via the Alpha project.

The majority of the expenditure within this table is shown under new ASSETS (ENHANCEMENT). Of this reported expenditure 27% relates to Backlog Base which being consistent with the SBP Financial Model is reported as Enhanced Service Levels. A total of £97.82m is reported within this table of which £97.57 relates to the initial capital investment and £0.254m relates to the Capital Maintenance element of the expenditure for 08/09. The £0.254m is reported in column 2 row 19. It has been assumed for reporting purposes that no Capital Maintenance will be required on the pipeline element of Alpha within the project lifespan.

#### **PPP only (Sewerage)**

In 2008-2009 amounts of £226k for Kinnegar and £1294k for Omega were credited to the profit and loss account in respect of Residual Interest Asset. The PFI property involved in both projects is not an asset of the company but since the assets will revert to the company at the end of the contract part of the unitary charge has been capitalised as a residual interest asset which should reflect the value of the asset at that time.



These figures have not been included in this table as NIW does not have sufficient data to allow us to complete the tables. This is explained in more detail in Chapter 34.

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

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	CG	9	10	11	12
							WATER SERVICE					SEWERAGE SERVICE					TOTAL			
							2006-07	2007-08	Per SBP 2008-09	Actual 08-09		2006-07	2007-08	Per SBP 2008-09	Actual 08-09		2006-07	2007-08	Per SBP 2008-09	Actual 08-09
A DEPRECIATION CHARGE FOR THE YEAR																				
1	CCD on enhancement assets		£m	3	N/C		9.776	12.217	11.719	C4	N/C		24.017	24.239	33.230	C4	0.000	33.793	36.456	44.949
2	CCD on MNI assets		£m	3	N/C		19.529	19.931	19.002	C4	N/C		8.027	8.080	11.077	C4	0.000	27.556	28.011	30.079
3	Total depreciation charge for the year		£m	3	N/C		29.305	32.148	30.721	C4	N/C		32.044	32.319	44.307	C4	0.000	61.349	64.467	75.028
B INFRASTRUCTURE RENEWALS CHARGES, EXPENDITURE AND PROVISION																				
4	Infrastructure renewals expenditure		£m	3	N/C		19.778	20.724	32.534	B2	N/C		6.195	12.308	6.600	B2	0.000	25.973	33.032	39.134
5	Infrastructure renewals charges		£m	3	N/C		27.277	28.747	22.500	C5	N/C		8.391	9.275	8.367	C5	0.000	35.668	38.022	30.867
6	Infrastructure renewals prepayment/ (accrual)		£m	3	N/C		-7.499	-10.106	2.535		N/C		-2.196	7.623	-3.963		0.000	-9.695	-2.483	-1.428

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

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
DESCRIPTION	UNITS	DP	WATER SERVICE				CG	SEWERAGE SERVICE				CG	TOTAL							
			2006-07	2007-08	Per SBP 2008-09	Actual 08-09		2006-07	2007-08	Per SBP 2008-09	Actual 08-09		2006-07	2007-08	Per SBP 2008-09	Actual 08-09				
<b>A DEPRECIATION CHARGE FOR THE YEAR</b>																				
1	CCD on enhancement assets	£m	3			1.156	1.156	C4				0.000	0.000	C4		0.000	0.000	1.156	1.156	
2	CCD on MNI assets	£m	3			0.000	0.000	C4				0.000	0.000	C4		0.000	0.000	0.000	0.000	
3	Total depreciation charge for the year	£m	3	0.000	0.000	1.156	1.156	C4	0.000	0.000	0.000	0.000	C4		0.000	0.000	1.156	1.156		
<b>B INFRASTRUCTURE RENEWALS CHARGES, EXPENDITURE AND PROVISION</b>																				
4	Infrastructure renewals expenditure	£m	3		0.000	0.000	4.924	B2		0.000	0.000	0.000	B2		0.000	0.000	0.000	4.924		
5	Infrastructure renewals charges	£m	3		0.000	0.000	3.405	C5		0.000	0.000	0.000	C5		0.000	0.000	0.000	3.405		
6	Infrastructure renewals prepayment/ (accrual)	£m	3		0.000	0.000	1.519			0.000	0.000	0.000			0.000	0.000	0.000	1.519		

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)**  
**DEPRECIATION CHARGE BY ASSET TYPE (Total)**

DEPRECIATION CHARGE BY ASSET TYPE (Total)			1	2	3	4		5	6	7	8		9	10	11	12	
DESCRIPTION	UNITS	DP	WATER SERVICE				CG	SEWERAGE SERVICE				CG	TOTAL				
			2006-07	2007-08	Per SBP 2008-09	Actual 08-09		2006-07	2007-08	Per SBP 2008-09	Actual 08-09		2006-07	2007-08	Per SBP 2008-09	Actual 08-09	
<b>A DEPRECIATION CHARGE FOR THE YEAR</b>																	
1	CCD on enhancement assets	£m	3	0.000	9.776	13.373	12.875	C4	0.000	24.017	24.239	33.230	C4	0.000	33.793	37.612	46.105
2	CCD on MNI assets	£m	3	0.000	19.529	19.931	19.002	C4	0.000	8.027	8.080	11.077	C4	0.000	27.556	28.011	30.079
3	Total depreciation charge for the year	£m	3	0.000	29.305	33.304	31.877	C4	0.000	32.044	32.319	44.307	C4	0.000	61.349	65.623	76.184
<b>B INFRASTRUCTURE RENEWALS CHARGES, EXPENDITURE AND PROVISION</b>																	
4	Infrastructure renewals expenditure	£m	3	0.000	19.778	20.724	37.458	B2	0.000	6.195	12.308	6.600	B2	0.000	25.973	33.032	44.058
5	Infrastructure renewals charges	£m	3	0.000	27.277	28.747	25.905	C5	0.000	8.391	9.275	8.367	C5	0.000	35.668	38.022	34.272
6	Infrastructure renewals prepayment/ (accrual)	£m	3	0.000	-7.499	-10.106	4.054		0.000	-2.196	7.623	-3.963		0.000	-9.695	-2.483	0.091

**Table 33 – Depreciation Charge by Asset Type & Infrastructure Renewals Charge****Current Cost Depreciation (CCD) Charge**

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.

The final depreciation report from the CCA book was then analysed to each of the 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 has been split as per IFM: Water 41% and Sewerage 59%.

Historical data to provide the split between Base Service Provision (BSP) and Enhancement (E) is not available for assets in existence at 01/04/07. In addition to this most of the assets commissioned in 08/09 have had no former CIDA completed and thus no data is available to complete the split between BSP and E. In order to populate the tables the split is derived from Table 34 as follows:

Water, Enhancement (38%), Base Service Provision (62%)  
Sewerage, Enhancement (75%), Base Service Provision (25%)

The exception to this is the PPP Alpha asset that is deemed to be 100% enhancement and the CCD for Alpha has been allocated to the PPP table on this basis.

With respect to Confidence Grades this is reported as DX for CCD. This is the case as no historical data is available to provide a robust analysis.

Assets to be decommissioned or written off result in accelerated depreciation in the year. Assets with a NCRC of £12,238,646 were decommissioned in April 2008. This resulted in additional CCD of this value to write these assets down to a nil NCRC.

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.

*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.

During the year, there were on-balance sheet additions to the Alpha PPP assets. Therefore, there was an element of depreciation (£1.156m) in the table relating to PPP assets. This is separately identified in the second table for PPP only.

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.

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 (£118k) relating to this has been adjusted through Water Services – CCD on MNI assets. This is the only adjustment made in populating Table 33.

There were 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 2001. NI Water plans to address this limitation by preparing the next AMP which is planned as part of PC13.

There were no MEA revaluations during the year and therefore no impact on CCD charge in the year.

CCD has increased from £61.349m to £76.184m - £14.835m. This is mostly accounted for by the accelerated depreciation described at point 6 above. The following table illustrates the comparison with 2007-2008 for water and sewerage CCD.

	Water (08/09)	Sewerage (08/09)	Total (08/09)
	£m	£m	£m
CC Depreciation in year	29.483	34.463	63.946
Accelerated Depreciation	2.394	9.844	12.238
<b>Total (2008/2009)</b>	<b>31.877</b>	<b>44.307</b>	<b>76.184</b>

	Water (07/08)	Sewerage (07/08)	Total (07/08)
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	£m	£m	£m
CCD	29.305	32.044	61.349
Variance (%)	9%	38%	24%

### Infrastructure Renewals Accounting

The IRC calculation for 08/09 is based on a ten year average of Infrastructure Renewals Expenditure (IRE). The ten year annual figures comprise a four year 'look back' to 03/04, the current year 2008-2009 and a 'look forward' for the five years to 12/13.

The look back relies upon data captured in 01/02 as actual expenditure. This information is captured from a 'June Return' completed by Water Service. A return was completed for 01/02 which was subject to audit but not a full reporter review. A QBEG allocation was completed for the largest projects in the capital programme which constituted 80% of the total value of the programmes. It is recognised that this approach is not as robust as would be liked, and likely to deliver a lower value of IRE as Maintenance (IRE) projects are largely completed within smaller capital projects. However, given the lack of historical information on IRE no better solution exists to provide a reasonable calculation of IRC.

The look forward to 12/13 was calculated directly from the SBP base spreadsheets. The three base spreadsheets contributing to the E & P Capital programme were examined and where base expenditure was allocated via QBEG this was defined as either IRE or MNI at a project level. The IRE, MNI figures were carried forward to a separate spreadsheet where the analysis was completed. A review was completed of Drainage Area Plans (DAPs) following the initial assessment to correct for Sewerage Pumping stations as they are designated as non infrastructure (MNI). Initially DAPs were noted as infrastructure so the correction removed anticipated costs for Sewerage Pumping stations from IRE to MNI. Separate analysis was completed of all remaining capital and is summarised as follows:

- a. Wastewater Treatment – assumed as 100% MNI as these are above ground assets.
- b. Water Supply – assumed as 100% MNI as these are above ground assets.
- c. Networks – an analysis was completed of expenditure in the first 6 months of 06/07 and a QBEG allocation was completed on each project. The IRE output from this is 38% of networks expenditure (14% water and 24% sewerage) and 18% MNI. The balance of 44% is allocated to Capital Enhancement.
- d. Leakage – assumed as 100% IRE.
- e. The remaining areas of capital investment have been allocated 100% to MNI based on a split of 41% water and 59% sewerage. This split was derived from the SBP allocation within the Base Spreadsheets for the SBP. Typical examples include investment in Asset Management and Head Office areas which are clearly not infrastructure.

The final output from the above is an average over the first 5 years. This is

actual predictions of investment based on historical unit costs as applied in the SBP re-costing exercise and verified by the interim reporter. NB the Base spreadsheets used for the SBP had the 06/07 programme included. Whilst not part of the final SBP the 06/07 data was used for the IRC calculation process. The blank years between 02/03 and 06/07 were populated using extrapolation from the 01/02 analysis. The extrapolation provided for an increasing IRE in Water and a decreasing IRE in Sewerage. Since no historical data was available no alternative mechanism was available. As a consequence the IRC calculation has a degree of uncertainty attached to it but by completing comparisons with England and Wales IRE programmes it was deemed to be reasonable. Table 1 below shows the summary output as agreed with the interim reporter. This demonstrates that the IRE figure for NIW is at the higher end of the England and Wales numbers when compared on a like for like basis. It should be noted that Backlog Base was not included in the NIW determination of IRC. In summary the IRC was last calculated as part of the SBP process in 2007.

Table 1: Comparison with E &amp; W IRE figures.

Service Area	E&W Benchmarks AMP4 (Post-efficiency) (£m)			Base Expenditure	NIW efficiency) (£m) (Post- efficiency)			
	Min	Ave	Max		3yr Ave	5yr Ave	9yr Ave	
Water IRE	8.8	14	17.6	Water IRE	25.0	22.6	26.3	adjusted to post-efficiency figures from above data
				Backlog Base	4.0	5.9	6.7	adjusted to post-efficiency figures from above data
				Water IRE + BB	29.0	28.5	33.0	adjusted to post-efficiency figures from above data
Wastewater IRE	4.8	6.7	10.7	Wastewater IRE	9.2	9.1	10.8	adjusted to post-efficiency figures from above data
				Backlog Base	4.8	6.6	5.3	adjusted to post-efficiency figures from above data
				Wastewater IRE + BB	14.0	15.7	16.1	adjusted to post-efficiency figures from above data

The difference between the IRE and IRC is treated as an accrual or prepayment.

Based on the information available management has not finalised its view of



IRC due to the uncertainty around the base data, to ensure it reflects the medium to long term view of the maintenance needs of its infrastructure assets. IRC is towards the maximum when compared to England & Wales but this is necessary to counteract the historical under investment.

### 2008-2009 IRC

The IRC for 2008-2009 based on the above methodology and incorporated in the final Strategic Business Plan can be summarised as follows:

Water	- £28.747m
Sewerage	- £ 9.275m
Total	- £38.022m

This would have been the figure used in the 2008-2009 financial statements but a reduction of approximately 9.9% (£3.769m) to the total IRC figure for 2008-2009 was agreed with the Regulator. This reduction was pro-rated against the original SBP charge to give the following water and sewerage IRC:

Water	- £25.905m
Sewerage	- £ 8.367m
Total	- £34.272m

The Interim Reporter (Halcrow) had previously provided NIW with a statement that the projected levels of IRE underpinning the SBP would be sufficient to ensure that there is a low risk of decline in the aggregate serviceability of infrastructure assets. In light of the reduction in IRC of 9.9% Halcrow were requested to review this opinion. Although the original IRE figures were not amended to achieve a calculated IRC at the lower agreed level Halcrow took account of the reduction and issued a second statement reiterating their original view.

The IRE for 2008-2009 can be shown as follows:

Water	- £37.458m
Sewerage	- £ 6.600m
Total	- £44.058m

The prepayment /accrual at 31 March 2009 can be shown as follows:

	<b>W TOTAL £m</b>	<b>S TOTAL £m</b>	<b>Total TOTAL £m</b>
<b>IRE</b>	37.458	6.600	44.058
<b>IRC</b>	25.905	8.367	34.272
<b>In year prepayment / (accrual)</b>	11.553	-1.767	9.786
<b>c/f prepayment / (accrual)</b>	-7.499	-2.196	-9.695
<b>Cumulative prepayment / (accrual)</b>	4.054	-3.963	0.091

In the first year of operations the IRC for Water and Sewerage was higher than actual IRE. This gave rise to the accrual for the year. As this was the first

year of the calculated IRC and since the trend for IRE was expected to be upwards the accrual position was anticipated to begin to readjust in 2008-2009. Water IRE was significantly up in 2008-2009 and this reflected the emphasis on Water base expenditure. Sewerage IRE however remained lower than IRC and the long-term trends in this will need to be examined to ensure a continuing rising accrual does not occur within sewerage IRE compared to the IRC charge taken to the profit and loss account. The Water IRE in 2008-2009 of £37m compared to an IRC of £26m has eliminated the 2007-2008 total water and sewerage accrual and negated the impact of the continuing sewerage accrual giving an overall small prepayment of £0.091m.

### **PPP**

The Alpha PPP has given rise to £4.924m of the total IRE for Water of £37.458m for 2008-2009. The IRC for Water is £25.905m and in the absence of specific information on the allocation of this to the PPP project a pro rata exercise has been carried out as follows:

$$\text{PPP IRC} = \frac{4.924}{37.458} \times £25.905 = £3.405\text{m.}$$

The SBP columns could not be populated for PPP elements as the Financial Model supporting the SBP did not allocate IRE and IRC separately to the Alpha Project.

There is no difference between the IRC in the statutory accounts and the IRC in the regulatory accounts.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 34 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)  
ANALYSIS OF NON-INFRASTRUCTURE FIXED ASSET ADDITIONS BY LIFE CATEGORIES**

DESCRIPTION			UNITS	DP	1	2	3		4	5	6	
					WATER SERVICE				SEWERAGE SERVICE			
					2006-07	2007-08	REPORT YEAR 2008-09	CG	2006-07	2007-08	REPORT YEAR 2008-09	CG

A	ACCOUNTING FIXED ASSET ADDITIONS			
	NON-INFRASTRUCTURE ASSET ADDITIONS (ENHANCEMENT) BY ASSET LIFE			
	1	Very Short	£m	3
	2	Short	£m	3
	3	Medium	£m	3
	4	Medium long	£m	3
	5	Long	£m	3
	6	Land	£m	3
	7	Land Disposals	£m	3
8	Total	£m	3	

N/C	0.000	0.000	B2
N/C	4.797	1.634	B2
N/C	2.146	4.310	B2
N/C	0.000	0.000	B2
N/C	2.210	6.229	B2
N/C	0.678	0.025	B2
N/C	-0.199	-0.531	B2
N/C	9.632	11.668	B2

N/C	0.000	0.000	B2
N/C	6.206	7.319	B2
N/C	27.800	32.232	B2
N/C	0.000	0.000	B2
N/C	32.290	41.759	B2
N/C	3.406	0.495	B2
N/C	-0.003	-0.001	B2
N/C	69.700	81.804	B2

B	NON-INFRASTRUCTURE ASSET ADDITIONS (BASE SERVICE) BY ASSET LIFE			
	9	Very Short	£m	3
	10	Short	£m	3
	11	Medium	£m	3
	12	Medium long	£m	3
	13	Long	£m	3
	14	Total	£m	3

N/C	0.000	0.000	B2
N/C	11.578	5.291	B2
N/C	1.851	6.404	B2
N/C	0.000	0.000	B2
N/C	5.928	7.728	B2
N/C	19.356	19.423	B2

N/C	0.000	0.000	B2
N/C	5.859	5.117	B2
N/C	6.460	12.370	B2
N/C	0.000	0.000	B2
N/C	10.978	10.351	B2
N/C	23.297	27.838	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

N/C	0	0	B2
N/C	10	10	B2
N/C	20	20	B2
N/C	0	0	B2
N/C	60	60	B2

N/C	0	0	B2
N/C	10	10	B2
N/C	20	20	B2
N/C	0	0	B2
N/C	60	60	B2

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 34 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)  
ANALYSIS OF NON-INFRASTRUCTURE FIXED ASSET ADDITIONS BY LIFE CATEGORIES - PPP**

				1	2	3		4	5	6		
DESCRIPTION				UNITS	DP	WATER SERVICE		CG	SEWERAGE SERVICE		CG	
						2006-07	2007-08		REPORT YEAR 2008-09	2006-07		2007-08
A	ACCOUNTING FIXED ASSET ADDITIONS											
	NON-INFRASTRUCTURE ASSET ADDITIONS (ENHANCEMENT) BY ASSET LIFE											
	1	Very Short	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	2	Short	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	3	Medium	£m	3	N/C	N/C	48.389	B3	N/C	N/C	0.000	B3
	4	Medium long	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	5	Long	£m	3	N/C	N/C	41.361	B3	N/C	N/C	0.000	B3
	6	Land	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	7	Land Disposals	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
8	Total	£m	3	N/C		89.750	B3	N/C		0.000	B3	
B	NON-INFRASTRUCTURE ASSET ADDITIONS (BASE SERVICE) BY ASSET LIFE											
	9	Very Short	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	10	Short	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	11	Medium	£m	3	N/C	N/C	0.137	B3	N/C	N/C	0.000	B3
	12	Medium long	£m	3	N/C	N/C	0.000	B3	N/C	N/C	0.000	B3
	13	Long	£m	3	N/C	N/C	0.117	B3	N/C	N/C	0.000	B3
	14	Total	£m	3	N/C		0.254	B3	N/C		0.000	B3
	NON-INFRASTRUCTURE ADDITIONS AVERAGE LIFE (YEARS)											
15	Very Short	years	0	N/C	0	0	B2	N/C	0	0	B2	
16	Short	years	0	N/C	10	10	B2	N/C	10	10	B2	
17	Medium	years	0	N/C	20	20	B2	N/C	20	20	B2	
18	Medium long	years	0	N/C	0	0	B2	N/C	0	0	B2	
19	Long	years	0	N/C	60	60	B2	N/C	60	60	B2	

**Table 34 – Analysis of Non-Infrastructure Fixed Asset Additions by Life Categories**

All the capital expenditure tables have been populated using project data extracted from the company's core project control system (CAPTRAX), as well as ORACLE (Financial management system).

Internal training and mentoring has been ongoing with key staff mainly contained Engineering Procurement, Operations, Asset Management, PPP and Finance and Regulation directorates.

**Methodology NIW Table**

Capital expenditure is analysed in 2 separate streams as follows:

- Capital Works Programme delivered by Engineering and Procurement
- Operating Capital and Management & General (M & G).

The methodology is explained in detail under these 2 areas as follows.

**Capital Works Programme**

Capital investment driver allocation (CIDA) processes have been further developed from 2007/08 to reflect weaknesses identified during AIR08 audit and internal experience gained in our first year as NI Water. As noted in AIR08 the CIDA methodology is significantly different from the Capital Proportional allocation (QBEG) process adopted in the Strategic Business Plan (SBP).

During 2008/09 the CIDA data capture and analysis process has developed significantly and this is explained as follows:

- CIDA calculator spreadsheet – This spreadsheet was developed in 2007/08 to capture engineering data from the complex projects where proportional allocation is required and convert this to CIDA outputs for Regulatory reporting in accordance with the processes as outlined in the CIDA Manual, dated June 2007 and the Regulatory Accounting Guideline 2.03. Calculations to complete the analysis are built within the spreadsheet. During the 2008/09 year the following has been completed:
  1. CIDA allocations for all WwTWs have been reviewed as the Q allocations in 2007/08 were found to be underestimated.
  2. CIDA allocations for Zonal Studies and Drainage Area Studies have been separated for projects to distinguish the Study stage from the Design and Delivery stage. Allocations in 2008/09 have been completed in EP only for the design and delivery stage as the Studies are now delivered by Asset Management Directorate.
  3. The spreadsheet has been developed to provide a CIDA output for input to CAPTRAX and also the spreadsheet now provides an output at Facility level to allow NIW to improve our Fixed Asset level by containing detail at Facility Level to align with the

Cooperate Asset Register (CAR). CAPTRAX has been developed to date to retain CIDA at project level but NIW will determine in 09/10 if we can progress this to Facility level within the projects.

- CAPTRAX – This is NIW's Capital Management Database for the CWP. It has been developed in 2008/09 to retain all CIDA information and provide CIDA reports which can be used for Regulatory reporting. Gateway approval no longer can proceed without CIDA either being input for the first time (A0) or reviewed (A1 and A4). For projects with more than one investment driver the CIDA calculator spreadsheet is adopted to generate the CIDA for input to CAPTRAX. For projects with only 1 investment driver the input to CAPTRAX can be completed directly (eg sewer extension for a new development). CAPTRAX is reconciled on a monthly basis with ORACLE so the final reports can be run directly from CAPTRAX with no additional merge required from ORACLE as was required in 2007/08. Salaries and overheads are now being reported to CAPTRAX from ORACLE on a monthly basis so for the first time CAPTRAX contains all the CWP expenditure which can be used to generate the AIR09 reports. Three CIDA reports are generated from CAPTRAX as follows:
  1. CIDA non lands. – this reports the accrual in 2008/09 against each project, excluding land acquisition, with a full CIDA output
  2. CIDA lands – this reports the accrual in 2008/09 against land acquisition and the associated CIDA output
  3. Projects with no CIDA – In 2007/08 555 projects had no CIDA applied. The expenditures on these projects were very small, and on projects largely completed as part of the former company Water Service. Typical projects contributing to this were watermain projects completed in 05/06 and 06/07 and indeed in earlier years, where wayleave compensation had only been agreed in 07/08. NB The projects with no CIDA completed are mainly large projects (Rehab projects etc) with small expenditure in the current year which would take considerable time to analyse for CIDA. They are not to be confused with projects less than £100k which have had allocations completed. In 2008/09 the number of projects with no CIDA has been reduced to 149 with a related expenditure of £278k. This relates to 0.1% of the CWP in 2008/09.
- CWP AIR reporting Model – A model has been developed in Excel which takes the outputs from the above reports from CAPTRAX and completes the tables 32, 34, 35, 36, 37 and 38 with the CWP element of Capital expenditure. Using this model we are now able to monitor monthly Capital Works Programme expenditure including Infrastructure Renewals expenditure.

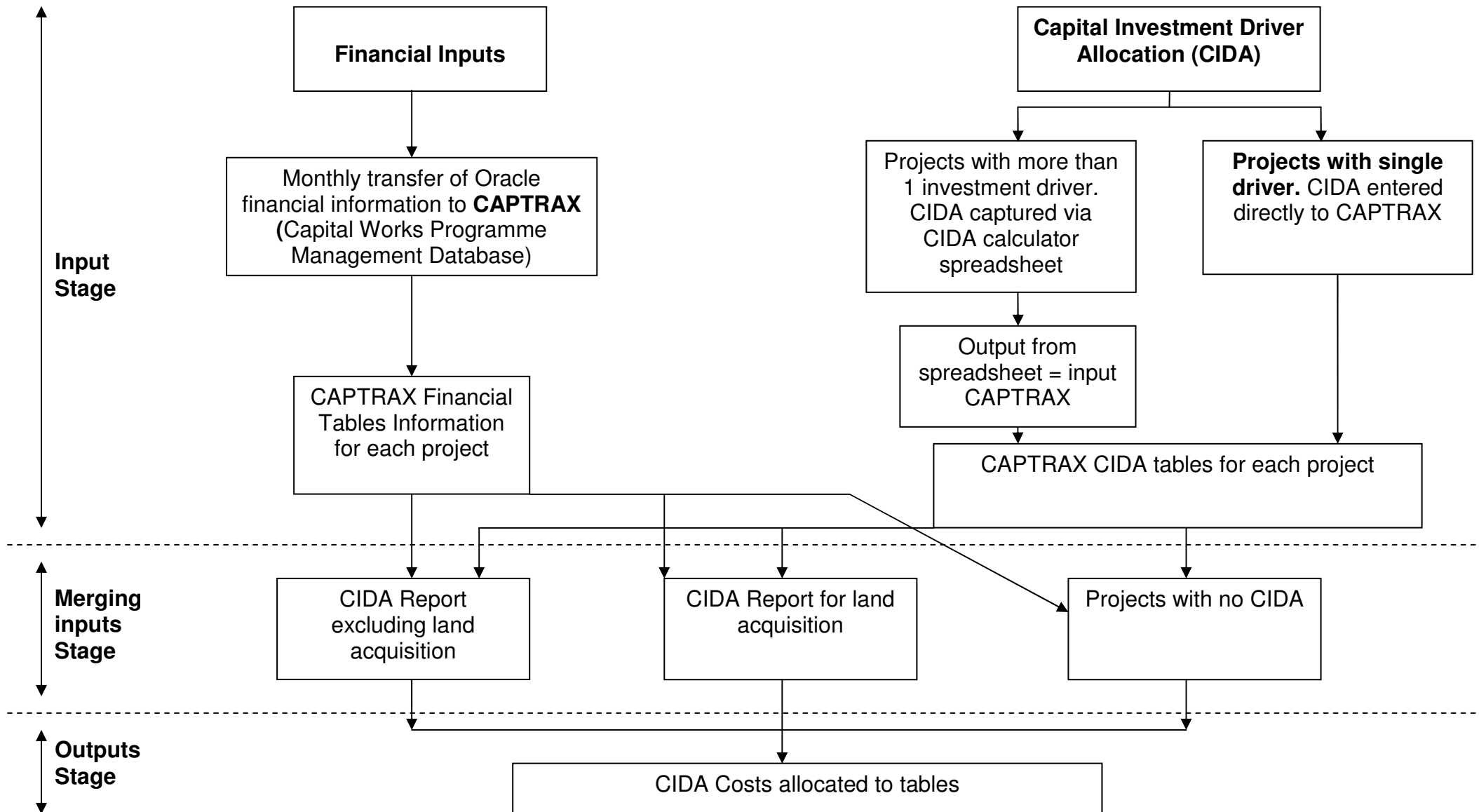
**Operating Capital and M & G**

This area captures all Capital expenditure which is not managed via the CWP. For all Capital projects not on the CWP (herein referred to Operating Capital expenditure) the CIDA information has been captured on the Project Setup form at Project approval and recorded on a Database (AICC) in Finance and Regulation Directorate. A single merged output from ORACLE and the AICC Database is input into a similar model as described above that is used to analyse the output for population of the AIR tables. All expenditure in this category had a full CIDA allocation in 08/09.

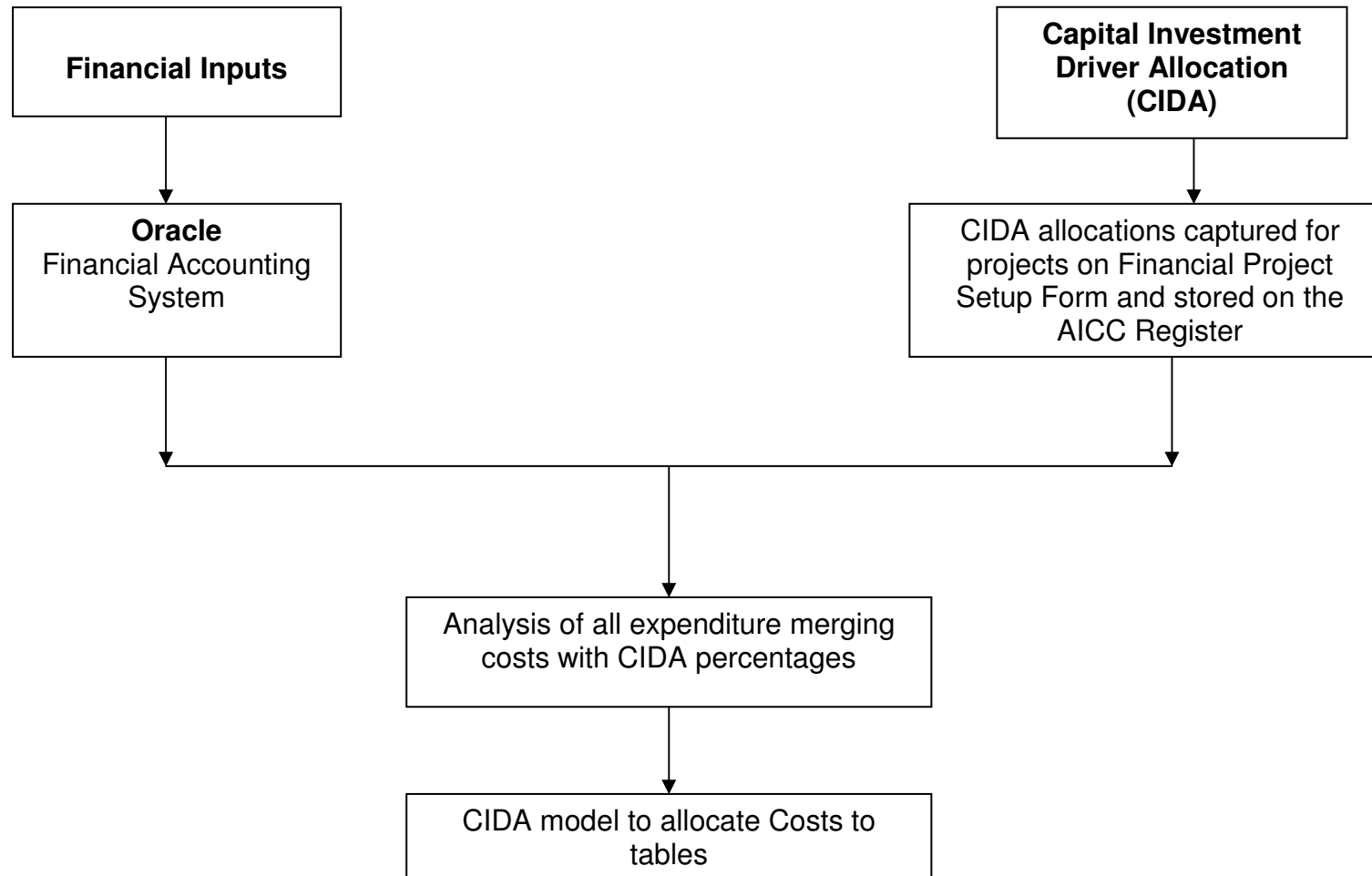
This information has been analysed separately from the CWP and merged on the final output tables.

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 unallocated percentage of CWP expenditure, 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**



**Process for Completion of Capex financial tables for Operating Capital and M & G Expenditure**

**Methodology PPP table**

A PPP reporting model was developed for AIR09 but was able only to be adopted for PPP Alpha. In order to populate Tables 32, 34, 35, and 36 both Asset type and Asset life information was required but since Tables 37 and 38 are not required a full CIDA analysis was not required but the detail is effectively a QBEG analysis similar to that as applied to the CWP during the SBP submission stage.

**PPP Alpha**

The following should be noted when using the PPP information as contained within the tables:

- Within the SBP submission PPP Alpha Capital of £106.272m in 06/07 prices was treated as 100% Enhancement and no QBEG breakdown was available. This is demonstrated on Table 35a.
- The Capital Cost split between Civils and M & E has been extracted from the Contractors Financial Model. Civils are reported as long life assets and M & E is treated as NIW Fixed plant and reported as medium life assets.
- No split is available from the PPP contractor for infra/ non infra but an examination of the individual projects which make up Alpha has been carried out and assumptions have been adopted to populate the tables as either infra or non infra. These assumptions are shown in the table below and are based on engineering knowledge.
- QBEG information has been captured on each project within ALPHA in a similar basis as was captured for the SBP submission which includes backlog base.
- For the application of the Alpha Capital Maintenance expenditure in 08/09 this has been assumed only to apply to the non infra projects as the asset life for infra extends beyond the period of the Alpha project.

<b>Project</b>	<b>Infra/non infra</b>	<b>Reporting</b>
Dunore Point	100% non infra	PPP
Castor Bay	100% non infra	PPP
Moyola	100% non infra	PPP
Ballinress	100% non infra	PPP
Ballymoney Link Main	100% infra	Reported in NIW table as not operated by PPP contractor
Limavady Link Main	100% infra	Reported in NIW table as not operated by PPP contractor
Castor Bay Link Main	100% infra	PPP

Using the above assumptions tables 32, 34, 35 and 35a have been populated

with the PPP finance.

**PPP - Omega**

No PPP OMEGA capital has been reported in the AIR09 financial tables for the following reasons:

- The Capital Cost split between Civils and M & E has been extracted from the Contractors Financial Model. This does not define 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.

**Commentary****NIW Only**

The allocation methodology for Management and General expenditure is reflective of that included within the 'Strategic Business Plan' (SBP) allocation at 41%:59% (Water/Sewerage). This is only applied when projects have not already been allocated within Management and General to either Water or Sewerage within individual projects. This was adopted by project managers when completing the CIDA data and no assumptions were required during the analysis.

The asset lives adopted for Regulatory reporting are consistent with those in the Fixed Asset Register (FAR). The links for reporting purposes are outlined in the Capital Investment Driver allocation manual with Digitisation studies being updated to a medium life from a short life. This is a former misalignment from the FAR which has been recognised and updated for AIR09.

The last comprehensive review of asset lives was completed as part of NIAMP2 in 2001. NIW are currently developing systems that a full review of asset lives can be reviewed in the future which is anticipated to take place for PC13.

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.

The value of assets which were fully depreciated but still in use at the year

end was £2,967m.

The value of assets that have been written off or replaced in the year (decommissioned) without having been previously fully depreciated was £12.24m.

Within the NIW water table is £460k as spent on a PPP Omega site Ballyrickard to comply with an additional standard for nutrient removal imposed shortly before the Omega contract was signed and was instructed as a mandatory change post financial close. This is reported on the NIW table as the expenditure was NIW capital and will be depreciated. It was determined best value for NIW to accrue the capital rather than negotiating a new unitary charge to take account of the new quality standard.

### **PPP Only (Water)**

The majority of the expenditure within this table is shown under new ASSETS (ENHANCEMENT). Of this reported expenditure 27% relates to Backlog Base which being consistent with the SBP Financial Model is reported as Enhanced Service Levels. A total of £90.0m is reported within this table of which £89.75m relates to the initial capital investment and £0.254m relates to the Capital Maintenance element of the expenditure for 08/09. The £0.254m is reported in Section B of the table. It has been assumed for reporting purposes that no Capital Maintenance will be required on the pipeline (infra) element of Alpha within the project lifespan.

### **PPP Only (Sewerage)**

In 2008-2009 amounts of £226k for Kinnegar and £1294k for Omega were credited to the profit and loss account in respect of Residual Interest Asset. The PFI property involved in both projects is not an asset of the company but since the assets will revert to the company at the end of the contract part of the unitary charge has been capitalised as a residual interest asset which should reflect the value of the asset at that time.

These figures have not been included in this table as NIW does not have sufficient data to allow us to complete the tables. This is explained in more detail in Methodology above.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 35 FINANCIAL MEASURES  
WATER SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)**

DESCRIPTION	UNITS	DP	1		2		3	
			SBP 2006-07		REPORTING YEAR -1 2007-08		REPORTING YEAR 2008-09	
				CG		CG		CG
<b>A BASE SERVICE PROVISION</b>								
1 Base operating expenditure	£m	3	N/C		95.308	B4	98.446	B4
2 Infrastructure renewals expenditure (net)	£m	3	N/C		19.778	B3	37.458	B2
3 MNI - gross of grants and contributions	£m	3	15.030		19.356	B3	19.677	B2
4 MNI - grants and contributions	£m	3	N/C		0.000		0.000	B2
5 MNI - net of grants and contributions	£m	3	15.030		19.356	B3	19.677	B2
6 Infrastructure renewals expenditure (Gross)	£m	3	35.730		19.778		37.458	B2
<b>B QUALITY ENHANCEMENTS</b>								
7 Capex: Total quality enhancement programme	£m	3	23.790		15.714	B3	49.245	B2
8 Opex: Total quality enhancement programme	£m	3	N/C		0.050	B4	0.053	B4
<b>C ENHANCED SERVICE LEVELS</b>								
9 Capital expenditure - customer service	£m	3	4.370		5.930	B3	33.118	B2
10 Additional operating expenditure - customer service	£m	3	N/C		0.000	B4	0.000	B4
<b>D MAINTAINING AND IMPROVING SUPPLY/DEMAND</b>								
11 Capital expenditure supply/demand balance	£m	3	16.530		18.069	B3	43.266	B2
12 Capex - new development	£m	3	N/C		17.758	B3	37.127	B2
13 Capex - growth	£m	3	N/C		0.311	B3	6.139	B2
14 Capex - free meter "selective and optants"	£m	3	N/C		0.000	B3	0.000	B2
15 Additional operating expenditure supply/demand balance	£m	3	N/C		0.000	B4	0.000	B4
16 Capital expenditure - security of supply	£m	3	N/C		1.541	B3	24.095	B2
17 Additional operating expenditure - security of supply	£m	3	N/C		0.000	B4	0.000	B4
<b>E NEW OUTPUTS/OBLIGATIONS SINCE THE SBP</b>								
18 New outputs/obligations - capex	£m	3	N/C		0.000	B3	0.000	B2
19 New outputs/obligations - opex	£m	3	N/C		0.000	B4	0.000	B4
<b>F GRANTS, CAPITAL CONTRIBUTIONS AND INFRASTRUCTURE CHARGES RECEIPTS FOR NEW CONNECTIONS</b>								
20 Infrastructure charge receipts - new connections	£m	3	N/C		1.486		1.584	A2
21 Enhancement requisitions, grants and contributions	£m	3	N/C		2.504		2.763	A2
<b>G ADOPTED ASSETS, NIL COST ASSETS</b>								
22 Assets adopted or acquired at nil cost	£m	3	N/C		0.000		0.000	A1
23 Adopted assets in return for a payment	£m	3	N/C		0.000		0.000	A1
<b>H EXPENDITURE TOTALS</b>								
24 Total operating expenditure	£m	3	N/C		95.358		98.499	B2
25 Infrastructure renewals expenditure (net)	£m	3	N/C		19.778	B3	37.458	B2
26 Total asset additions	£m	3	N/C		60.611	B3	169.401	B2
27 Total enhancement capital contributions	£m	3	N/C		3.990	B3	4.347	B2
28 Total capital expenditure (excl. adopted and nil cost assets)	£m	3	N/C		80.389	B3	206.859	B2

**Table 35 - Water service – Expenditure by purpose****Capital expenditure (Capex)**

In 2008/09 NIW invested £109.040m, excluding PPP and a total of £206.859m including PPP, capital expenditure in water service activities and outputs. Investment has been allocated to purpose categories in line with the CIDA manual and the methodology as outlined in Chapter 34. Detailed explanations of the expenditure and achievements are set out by purpose category below.

**Capex: base service provision – infrastructure renewals (NIW)**

In 2008/09 NIW invested £32.534m (net) in water service infrastructure renewals. This is a significant increase on the 07/08 figure of £19.778m which we noted as being understated in AIR08. By delivering this investment the company has:

- Renewed 288.62km of mains (including mains renewed for ENHANCMENT)
- Replaced 8,801 communication pipes (not including lead replacement)

**Capex: base service provision – infrastructure renewals (PPP)**

In 2008/09 NIW PPP invested £4.924m (net) in water service infrastructure renewals and is within the £37.458m shown on line 2 and relates to the initial capital invested for the Castor Bay Link Main.

**Capex: base service provision-maintenance non-infrastructure (NIW)**

In 2008/09 NIW invested £19.4m (gross) in the maintenance of water non-infrastructure assets. In doing so the company has:

- Invested at many sites/assets under our refurbishment programme. The Service reservoir rehab programme is the main highlight in this area for 08/09. Twenty six reservoirs and water towers have been refurbished in 08/09.
- Invested £9.906m in Management and General activities (water), to maintain non-operational assets including improvements to IT systems. In line with the SBP costs have been allocated in the proportions 41% water: 59% sewerage where not directly allocated to either Water or Sewerage by the Project Managers within CIDA.

**Capex: base service provision-maintenance non-infrastructure (PPP)**

In 2008/09 NIW invested £0.254m (gross) for PPP Alpha Capital Maintenance. This is contained within line 3 of the table.

**Serviceability**

In 2008, NIW has improved performance on all water quality parameters measured at the exit from the water treatment works. Water quality exiting the works out turned at 99.95% against a target of 99.8%. Following the introduction of PPP Alpha upgraded works along with asset improvements in 2008, the bacteriological compliance at our WTWs once again improved with

the number of compliance failures reducing from 15 in 2007 to 9 in 2008.

### **Expenditure to reduce leakage**

Operational leakage expenditure in 2008/09 was £3.86m

The following table shows the breakdown of leakage expenditure in 2008/09

**Table 1 – Leakage expenditure**

<b>Expenditure category (£m outturn prices)</b>	<b>2008/09 £m</b>
<b>Total Capex</b>	6.39
<b>Total Opex</b>	3.86
<b>Total Expenditure</b>	<b>10.29</b>

The leakage function has been restructured in 08/09 and has resulted in a reduction in OPEX.

Capex within leakage includes for the following 3 contracts: leakage detection contract, Leakage repair contract and Leakage Management Services Contract . In addition there is capex for work in relation to meters, PRVs etc as well as leakage infrastructure work associated with pressure management, DMA optimisation, and meter replacement/installation and a small amount of capitalised salaries for internal staff associated with this work. There is also some CAPEX for DG2 pressure/flow monitoring equipment. Investment in this area has been mainly allocated to Supply/Demand Balance.

Opex expenditure is mainly contributed to from staff costs, premises costs at 1 depot and Roads Service fees for Road opening permits (moleseye).

The above reported expenditure excludes the following which may have a contribution to leakage reduction

- Bursts repaired by Networks function
- Capital investment completed in the Capital programme for replacement watermain as part of the Watermain Rehabilitation Programme.

The determined figure for economic level of leakage by March 2010 is 136MI/d.

### **Capex: quality enhancements (NIW)**

In 2008/09 NIW invested £19.08m in water service quality programmes. In doing so the company has:

- Renewed 521km of mains as part of the water rehabilitation programme. The quality programme is a significant element of the Rehab programme.

- Upsized mains as part of the water rehabilitation programme. Some of this work is also driven by the quality programme.
- Completed work at the following WTW sites as part of the quality improvement programme agreed with DWI as part of the SBP
  1. Clay Lake WTW
- A more detailed review of the quality programme accompanies Table 37.

#### **Capex: quality enhancements (PPP Alpha)**

In 2008/09 NIW invested £30.17m in water service quality programmes. This is not reported on Table 37 which renders Row 7 no longer a copied cell.

#### **Capex: new obligations**

NIW have not completed any new obligations that were not listed in the SBP CWP in 2008/09.

#### **Capex: Enhanced Service Levels (PPP Alpha)**

In 2008/09 NIW invested £30.17m in water service ESL programmes.

#### **Capex: supply-demand balance (NIW)**

In 2008/09 NIW invested £9.95m providing security of supply projects and £6.14m on growth projects as part of the supply-demand balance. This expenditure results partially from proportional expenditure to this service area from delivery of the Quality enhancement programme as well as security of supply projects resulting from the Water Resource Strategy.

In 2008/09 NIW also invested £4.81m in water services supply/demand programme relating to new development (provision on new supplies/connections). In doing so it has:

- Connected 9091 new properties; (8358,household and 723 non-household)

Within Line 16 £14.14m relates to Capital expenditure delivered via the PPP unit for Trunk Mains that have been transferred back to NIW for operation.

#### **Capex: supply-demand balance (PPP Alpha)**

In 2008/09 NIW invested £32.3m providing new development projects.

#### **Operating Expenditure (opex)**

##### **Opex: Base Service Provision (line 1)**

The Opex in Base Service provision is taken as the Total Base Opex from Table 21 minus the Opex from Capex calculated for Enhancements.

##### **Base Service Provision: IRE and MNI (lines 2-6)**



**IRE**

There are no grants for IRE in 2008/09.

IRE related contributions would be those contributions from third parties towards work carried out on base projects e.g. diversions of water mains. This is shown as zero for 2008/09 as this income is currently not shown in the accounts as a capital contribution.

Thus IRE gross and IRE net are the same - lines 2 and 6.

**MNI**

There are no contributions or grants for non infrastructure base projects in 2008/09.

Thus MNI gross and MNI net are the same - lines 3 and 5 and line 4 – MNI grants and contributions is zero.

**OPEX from CAPEX**

OPEX from CAPEX has been calculated directly from the accounting general ledger for those sites identified as becoming operational during 2007/08 and 2008/09. A direct comparison has been completed on a site by site basis of expenditure on the relevant sites pre and post CAPEX investment. After adjusting for inflationary rises the difference is recorded as OPEX from CAPEX.

Apportionment within the Table has been completed in accordance with CIDA apportionments to ENHANCEMENT. A separate database has been developed to analyse these smaller number of projects using the CIDA ENHANCEMENT outputs (rebalanced to 100%) from the original Capital project to apportion the OPEX from CAPEX.

**Grants, capital contributions and infrastructure charge receipts for new connections (lines 20-21)****Line 20**

**Infrastructure charge receipts – new connections** of £1.584m in Line 20 represents the total gross receipts for 2008-2009 prior to the company applying the accounting policy for these. In the statutory accounts part of the infrastructure receipt is deemed to apply to non-infrastructure enhancement of assets (2008-2009 47.26%) and this element is not treated as a capital contribution toward infrastructure but is credited in the balance sheet to a deferred income account and is amortised over the average useful life of non-infrastructure assets (30 years).

**Line 21****Enhancement requisitions, grants and contributions comprise:**

<b>2008-2009</b>	<b>£m</b>
Water connections	1.366
Requisitions	1.397
<b>Total line 21</b>	<b>2.763</b>

Total asset additions – Processing rule. The processing rule for row 26 is not reconcilable for the following reason. Row 7 is copied from Table 37 but does not capture all the quality expenditure as row 9 on Table 37 is omitted in sum of total quality expenditure (line 18) on Table 37 accordance with the guidance. As a result the check to Table 32 is not able to be completed.

Total asset additions – Check to Table 25 line 5 col 4. For AIR 09 the reported numbers in these two tables are as follows:

Table 25 - £169.406m

Table 35 - £169.401m

The difference is explained for the following reason:

- The balance is line 9 on Table 37 which is excluded from Table 35.

**Confidence Grades**

CIDA allocation has made significant progress in 08/09 but still has a few minor shortcomings. With the allocation procedures, CATPRAX development for storage and reporting and reporting model all fully operational the Confidence grade has been raised to B2.

For OPEX as a result of CAPEX B4 has been assigned to all categories.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 35A FINANCIAL MEASURES  
WATER SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)**

RPI Inflator (Operating Expenditure) base year to report year prices

COPI Inflator (Capital Expenditure) base year to report year prices

DESCRIPTION			UNITS	DP	1	2	3	4	5	
					SBP PROJECTIONS FOR 2008/09	SBP PROJECTIONS UPLIFTED FOR RPI AND COPI	ACTUAL 2008/09 OUTTURN	DIFFERENCE FROM REVISED SBP FIGURES	% DIFFERENCE FROM REVISED SBP FIGURES	
									DP	2
A	BASE SERVICE PROVISION									
1	Base operating expenditure	£m	3				98.446	98.446		
2	Infrastructure renewals expenditure (net)	£m	3		21.436	23.091	37.458	14.367		62.22%
3	MNI (gross of grants and contributions)	£m	3		21.113	22.742	19.677	-3.066		-13.48%
4	MNI grants- grants and contributions	£m	3		0.000	0.000	0.000	0.000		
5	MNI (net of grants and contributions)	£m	3		21.113	22.742	19.677	-3.066		-13.48%
B	QUALITY ENHANCEMENTS									
6	Capex - total quality enhancement programme	£m	3		8.525	9.183	49.245	40.062		436.24%
7	Opex - total quality enhancement programme	£m	3				0.053	0.053		
C	ENHANCED SERVICE LEVELS									
8	Capital expenditure - customer service	£m	3		109.832	118.311	33.118	-85.193		-72.01%
9	Additional operating expenditure - customer service	£m	3				0.000	0.000		
D	MAINTAINING AND IMPROVING SUPPLY/DEMAND BALANCE									
10	Capital expenditure supply/demand balance	£m	3		18.695	20.138	43.266	23.128		114.84%
11	Total enhancement capital contributions	£m	3		5.377	5.792	4.347	-1.445		-24.95%
12	Capex net of enhancement capital contributions	£m	3		11.792	12.703	38.919	26.216		206.39%
13	Additional operating expenditure supply/demand balance	£m	3				0.000	0.000		
14	Capital expenditure - security of supply	£m	3				24.095	24.095		
15	Additional operating expenditure - security of supply	£m	3				0.000	0.000		
E	EXPENDITURE TOTALS									
16	Total gross capex - gross of grants (ire net) and excluding new outputs	£m	3		179.601	193.466	206.859	13.393		6.92%
17	Total opex excluding new outputs	£m	3		0.000	0.000	98.499	98.499		
18	Total gross capex - gross of grants (ire net) and including new outputs	£m	3		179.601	193.466	206.859	13.393		6.92%
19	Total opex including new outputs	£m	3		0.000		98.499	98.499		

**Table 35a - Water Service – Expenditure comparisons by purpose**

The Strategic Business Plan was not structured using the PR process and as a result the data used and the systems adopted for the SBP analysis are not easily utilised to populate this table accurately. Tables 35a and 36a SBP totals have been reconciled to £255.552m shown on page 17 of the full SBP document by adding PPP Alpha and excluding Capital Contributions.

It is difficult to report on the variations as noted on this table as the reporting methodology of the QBEG in the SBP and the CIDA allocation in 08/09 reporting year are derived differently. The variations are best examined on a project by project basis using the CIM template.

The Weighted average COPI factor adopted in the SBP Financial model of 7.72% has been adopted to determine the 08/09 figures.

Figures reported in Columns 1 and 2 of this table are post efficiency.

Opex figures have not been reported for columns 1 and 2 as these figures were not proportionally allocated for the SBP.

**PPP Alpha**

Within the SBP submission PPP Alpha of £106.272m in £06/07 was treated as 100% Enhancement and no QBEG breakdown was available. For the purpose of this table this has been allocated in Column 1, row 8. The actual expenditure in column 3 is apportioned in accordance with the applied QBEG as described in Chapter 34. The addition of PPP Alpha to this table makes like for like comparison no longer possible.

**Line 6**

The quality enhancement programme spent more than the SBP predictions. The total NIW expenditure of £19.076 is apportioned as £4.3m to WTW, and the majority of the remainder to Water Distribution Mains. This leaves £30.169m which is PPP alpha expenditure.

**Line 16**

The total SBP Water predicted expenditure as per the table is £193.47m in 08/09 prices. The actual expenditure was £206.86m.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 36 FINANCIAL MEASURES  
SEWERAGE SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)**

			1		2		3		
DESCRIPTION	UNITS	DP	BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR		
			2006-07	CG	2007-08	CG	2008-09	CG	
A BASE SERVICE PROVISION									
1	Base operating expenditure	£m	3	N/C		87.703	B4	107.531	B4
2	Infrastructure renewals expenditure (net)	£m	3	N/C		6.195	B3	6.600	B2
3	MNI (gross of grants and contributions)	£m	3	25.980		23.297	B3	27.838	B2
4	MNI - grants and contributions	£m	3	N/C		0.000		0.000	B2
5	MNI - net of grants and contributions	£m	3	25.980		23.297	B3	27.838	B2
6	Infrastructure renewals expenditure (Gross)	£m	3	9.640		6.195	B3	6.600	B2
B QUALITY ENHANCEMENTS									
7	Capex - total quality enhancement programme	£m	3	43.930		49.426	B3	79.419	B2
8	Opex - total quality enhancement programme	£m	3	N/C		0.096	B4	1.028	B4
C ENHANCED SERVICE LEVELS									
9	Capital expenditure - customer service	£m	3	17.210		49.691	B3	28.209	B2
10	Additional operating expenditure - customer service	£m	3	N/C		0.000	B4	0.044	B4
D IMPROVING SUPPLY/DEMAND BALANCE									
11	Capital expenditure supply/demand balance	£m	3	50.470		45.287	B3	44.230	B2
12	Capex - new development	£m	3	N/C		19.875	B3	38.339	B3
13	Capex - growth - sewage	£m	3					5.834	B3
14	Capex - growth - sewage treatment	£m	3					0.057	B3
15	Additional operating expenditure supply/demand balance	£m	3	N/C		0.596	B4	0.489	B4
E NEW OUTPUTS/OBLIGATIONS SINCE THE SBP									
16	New outputs/obligations - capex	£m	3	N/C		0.000	B3	0.000	B3
17	New outputs/obligations - opex	£m	3	N/C		0.000	B4	0.000	B2
F GRANTS, CAPITAL CONTRIBUTIONS AND INFRASTRUCTURE CHARGES RECEIPTS FOR NEW CONNECTIONS									
18	Infrastructure charge receipts - new connections	£m	3	N/C		1.132		1.164	A2
19	Enhancement requisitions, grants and contributions	£m	3	N/C		0.124		0.759	A2
G ADOPTED ASSETS, NIL COST ASSETS									
20	Assets adopted or acquired at nil cost	£m	3	N/C		19.859	B3	19.284	B3
H EXPENDITURE TOTALS									
21	Total operating expenditure	£m	3	N/C		88.395		109.092	B2
22	Infrastructure renewals expenditure (net)	£m	3	N/C		6.195	B3	6.600	B2
23	Total asset additions	£m	3	N/C		187.560	B3	198.980	B2
24	Total enhancement capital contributions	£m	3	N/C		1.256	B3	1.923	B2
25	Total capital expenditure (excluding adopted and nil cost assets)	£m	3	N/C		173.896	B3	186.296	B2

**Table 36 - Sewerage Service – Expenditure by purpose****PPP**

There are no PPP elements to this table as NIW does not have the detail available to apportion the PPP expenditure. This is explained in detail in Chapter 34. The expenditure of £226k at Kinnegar and £1296k at OMEGA sites is not included in the totals for the table.

**Capital expenditure (Capex)**

In 2008/09 NIW invested £186.3m (excluding adopted and nil cost assets) of capital expenditure in sewerage service activities and outputs. Investment has been allocated to purpose categories in line with the methodology as outlined in Chapter 34. Detailed explanations of the expenditure and achievements are set out by purpose category below.

**Capex: base service provision – infrastructure renewals**

In 2007/08 NIW invested £6.60m (net) in sewerage service infrastructure renewals. In doing so the company has:

- Replaced sewers primarily within Drainage Area Plan projects
- Addressed blockages, collapses etc which lead to flooding incidents
- Diverting network assets where necessary

NIW have been targeting Capital Maintenance activity during 2008/09 on both Critical and non-critical sewers in line with findings from the Drainage Area Studies.

**Capex: base service provision – maintenance non- infrastructure**

In 2008/09 NIW invested £27.84 million (net) in the maintenance of non-infrastructure assets.

In doing so the company has:

- Completed projects at wastewater treatment works. Refer to commentary in Chapter 38. These are quality driven projects but some contain a Base Service Provision apportionment within CIDA.
- Invested approximately £6 million in Management and General Activities to maintain non-operational assets.

**Capex: quality enhancements**

In 2008/09 NIW invested £79.4 million in sewerage service quality programmes. In doing so the company has:

- Completed 9 of wastewater treatment works as agreed in the SBP targets for 08/09 financial year and 3 wastewater treatment works that had 07/08 SBP completion dates.
- 2 projects with SBP target completions in 09/10 have been completed in 08/09.

**Capex: new obligations**

No new obligations are reported in 08/09.

**Opex: Base Service Provision (line 1)**

The Opex in Base Service provision is taken as the Total Base Opex from Table 21 minus the Opex from Capex calculated for Enhancements.

**Base Service Provision: IRE and MNI (lines 2-6)****IRE**

There are no grants for IRE in 2008/09.

IRE related contributions would be those contributions from third parties towards work carried out on base sewerage projects. This is shown as zero for 2008/09 as this income is currently not shown in the accounts as a capital contribution.

Thus IRE gross and IRE net are the same - lines 2 and 6.

**MNI**

There are no contributions or grants for non infrastructure base projects in 2008/09.

Thus MNI gross and MNI net are the same - lines 3 and 5 and line 4 – MNI grants and contributions is zero.

**OPEX from CAPEX**

OPEX from CAPEX has been calculated directly from the accounting general ledger for those sites identified as becoming operational during 2007/08 and 2008/09. A direct comparison has been completed on a site by site basis of expenditure on the relevant sites pre and post CAPEX investment. After adjusting for inflationary rises the difference is recorded as Opex from Capex.

Ten small WwTWs, do not have individual representation on the General ledger. Benchmarking against similar existing sites identified power costs as the main expenditure at each of these sites. It was possible to get the power costs for these sites. An improvement this year has been the identification of new pumping stations. However new pumping Stations cannot be identified individually in the General Ledger and where possible the same methodology as the small WwTWs has been used. However there remain some pumping stations for which it has not been possible to separately identify power costs.

It should be noted that in some cases the entire OPEX is treated as OPEX from CAPEX as the assets are entirely new. Examples include the Ballywalter and Cloughey WwTW where no form of Treatment was provided before. As the OPEX has been taken straight from the general ledger these costs will only relate to the portion of the year that the site is operational and therefore no apportionment is required.

Apportionment within the Table has been completed in accordance with CIDA

apportionments to ENHANCEMENT. A separate database has been developed to analyse these smaller number of projects using the CIDA ENHANCEMENT outputs (rebalanced to 100%) from the original Capital project to apportion the OPEX from CAPEX.

### **Grants, capital contributions and infrastructure charge receipts for new connections (lines 18-19)**

#### **Line 18**

**Infrastructure charge receipts – new connections** of £1.164m in Line 18 represents the total gross receipts for 2008-2009 prior to the company applying the accounting policy for these. In the statutory accounts part of the infrastructure receipt is deemed to apply to non-infrastructure enhancement of assets (2008-2009 47.26%) and this element is not treated as a capital contribution toward infrastructure but is credited in the balance sheet to a deferred income account and is amortised over the average useful life of non-infrastructure assets (30 years).

#### **Line 19**

**Enhancement requisitions, grants and contributions** comprise:

<b>2008-2009</b>	<b>£m</b>
Sewers for adoption – inspection fees	0.702
Requisitions	0.057
<b>Total line 21</b>	<b>0.759</b>

**Total asset additions** – Check to Table 25 line 5 col 8. For AIR 09 the reported numbers in these two tables are as follows:

Table 25 - £200.50m

Table 36 - £198.98m

The difference of £1.52m is the unallocated PPP expenditure referred to in the first paragraph of the chapter.

### **Health and Safety**

Health and Safety Expenditure has been allocated to Base Service Provision.



**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 36A FINANCIAL MEASURES  
SEWERAGE SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)**

RPI Inflator (Operating Expenditure) base year to report year prices  
COP1 Inflator (Capital Expenditure) base year to report year prices

DESCRIPTION		UNITS	DP	1	2	3	4	5
				SBP PROJECTIONS FOR 2008-09	SBP PROJECTIONS UNLIFTED FOR COP1 AND RPI FOR 2008- 09	ACTUAL 2008-09 OUTTURN	DIFFERENCE FROM REVISED SBP FIGURES	% DIFFERENCE FROM REVISED SBP FIGURES
							DP	2
<b>A BASE SERVICE PROVISION</b>								
1	Base operating expenditure	£m	3			107.531	107.531	
2	Infrastructure renewals expenditure (net)	£m	3	19.351	20.845	6.600	-14.246	-68.34
3	MNI (gross of grants and contributions)	£m	3	31.463	33.891	27.838	-6.054	-17.86
4	MNI - grants and contributions	£m	3	0.000	0.000	0.000	0.000	
5	MNI (net of grants and contributions)	£m	3	31.463	33.891	27.838	-6.054	-17.86
<b>B QUALITY ENHANCEMENTS</b>								
6	Capex: Total quality enhancement programme	£m	3	51.680	55.670	79.419	23.749	42.66
7	Opex: Total quality enhancement programme	£m	3			1.028	1.028	
<b>C ENHANCED SERVICE LEVELS</b>								
8	Capital expenditure	£m	3	21.261	22.902	28.209	5.307	23.17
9	Additional operating expenditure - customer service	£m	3			0.044	0.044	
<b>D MAINTAINING SUPPLY/DEMAND BALANCE</b>								
10	Capital expenditure supply/demand balance	£m	3	49.626	53.457	44.230	-9.227	-17.26
11	Total enhancement capital contributions	£m	3	4.081	4.396	1.923	-2.473	-56.25
12	Capex net of enhancement capital contributions	£m	3	45.545	49.062	42.307	-6.754	-13.77
13	Additional operating expenditure supply/demand balance	£m	3			0.489	0.489	
<b>E EXPENDITURE TOTALS</b>								
14	Total gross capex - gross of grants (ire net) and excluding new outputs	£m	3	173.382	186.767	186.296	-0.471	-0.25
15	Total opex (excluding new outputs)	£m	3	0.000	0.000	109.092	109.092	
16	Total gross capex - gross of grants (ire net) and including new outputs	£m	3	173.382	186.767	186.296	-0.471	-0.25
17	Total opex including new outputs	£m	3			109.092	109.092	

**Table 36a - Sewerage service – expenditure comparisons by purpose**

The Strategic Business Plan was not structured using the PR process and as a result the data used and the systems adopted for the SBP analysis are not easily utilised to populate this table accurately. Tables 35a and 36a SPB totals have been reconciled to £255.552m shown on page 17 of the full SBP document by adding PPP Alpha and excluding Capital Contributions.

It is difficult to report on the variations as noted on this table as the reporting methodology of the QBEG in the SBP and the CIDA allocation in 08/09 reporting year are derived differently. The variations are best examined on a project by project basis using the CIM template.

The Weighted average COPI factor adopted in the SBP Financial model of 7.72% has been adopted to determine the 08/09 figures.

Figures reported in Columns 1 and 2 of this table are post efficiency.

Opex figures have not been reported for columns 1 and 2 as these figures were not proportionally allocated for the SBP.

**PPP Omega and Kinnegar**

No PPP numbers are included in this table to ensure consistency with Table 36. The reasons for excluding this data are described in Chapter 34.

**Line 6**

Following the delay in some WWTW projects in 07/08 to allow for the mProve process completion investment in 07/08 in this category was behind the SBP predictions. This delayed investment has taken place in 08/09 and as a result total expenditure in this area has exceeded SBP expectations.

**Line 8**

Enhanced Service levels expenditure has increased for the following 2 main reasons.

Within the SBP all business improvement projects were allocated to Base Service Provision. These are now allocated to Enhanced Service Level (ESL) as they will contribute to a significant change within the company and deliver ESL outputs.

All structural grade 5 sewers that have been replaced have been allocated to Backlog Base which is reported as ESL. This contributes to both a reduction in Base expenditure and subsequently an increase to ESL expenditure.

**Line 14**

The total SBP Sewerage predicted expenditure as per the table is £186.8m in 08/09 prices. The actual expenditure was £186.3m.

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 37 FINANCIAL MEASURES WATER COMPLIANCE - EXPENDITURE REPORT

					1		2		3			
DESCRIPTION					UNITS	DP	BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR	
							2006-07	CG	2007-08	CG	2008-09	CG
A OBLIGATIONS PRIOR TO THE SBP												
1	Capex: Completion of programme of work funded prior to the SBP				£m	3	N/C		0.000		0.000	B4
2	Opex: Completion of programme of work funded prior to the SBP				£m	3	N/C		0.050	B4	0.053	B4
B WATER TREATMENT												
3	Capex: Nitrates				£m	3	N/C		0.000	B3	0.000	B2
4	Capex: Pesticides				£m	3	N/C		0.000	B3	0.004	B2
5	Capex: Cryptosporidium				£m	3	N/C		0.686	B3	0.084	B2
6	Capex: Lead water conditioning				£m	3	N/C		0.000	B3	0.000	B2
7	Capex : Other parameters				£m	3	N/C		2.886	B3	4.273	B2
8	Opex: Water treatment				£m	3	N/C		0.000	B4	0.000	B4
C WATER DISTRIBUTION												
9	Capex: Total S19 distribution expenditure				£m	3	N/C		0.000	B3	0.004	B3
10	Capex: Distribution expenditure allocated to quality				£m	3	N/C		11.675	B3	10.525	B3
11	Capex: Lead communication pipes				£m	3	N/C		0.168	B3	0.131	B3
12	Opex: Quality distribution				£m	3	N/C		0.000	B4	0.000	B4
D SECURITY RELATED MEASURES												
13	Capex: Security-related				£m	3	N/C		0.208	B3	3.973	B2
14	Opex: Security-related				£m	3	N/C		0.000	B4	0.000	B4
E ENVIRONMENTAL PROGRAMME												
15	Capex: Investigations				£m	3	N/C		0.000	B3	0.000	B3
16	Capex: Options appraisals/implementations				£m	3	N/C		0.090	B3	0.086	B3
17	Opex: Environmental obligations				£m	3	N/C		0.000	B4	0.000	B3
F CAPEX & OPEX TOTALS												
18	Capex: Total quality enhancement (water)				£m	3	N/C		15.714	B3	19.076	B2
19	Opex: Total quality enhancement (water)				£m	3	N/C		0.050	B4	0.053	B4

**Table 37 - Water Compliance – Expenditure Report****PPP**

No PPP information is reported in this table in accordance with the revised guidance issued on the 24/04/09 via the AIR09 Query log.

**NIW Capex**

The reporting of expenditure in Table 37 is consistent with the methodology outlined in Chapter 34. In summary proportional allocation is completed at project level and not at programme level as per the SBP.

The table below shows progress that NIW is making to deliver the DWI requirements as outlined in the SBP.

**Table 2**

	DWI ref no	2008/09	2009/10
<b>Planned Project completions (Agreed with DWI or SBP)</b>			
Clay Lake WTW	W2509	Aug 08	
Seaghan WTW	W2514		Nov 09
<b>Programme Delivery Schedule Actual/latest best estimate</b>			
Clay Lake WTW	W2509	July 08	
Seaghan WTW	W2514		Dec 09

Clay Lake WTW was substantially completed earlier than planned. Seaghan WTW is currently predicted to be operational within one month of the planned date.

**Pre SBP Obligations (line 1)**

No pre SBP obligations are reported in 08/09

**Water Compliance****Water Treatment (lines 3 – 7)**

The water compliance programme allowed in the SBP price limits addresses the need to improve the water quality supplied from Clay Lake WTW, which was supported by DWI. For the works completed the total design flow is 5Ml/d. The main drivers for this project were as follows: 94% quality Enhancement, 6% Base Service Provision.

**Water distribution (Lines 9 – 11)****Mains Rehabilitation (Lines 9 – 10)**

In the twelve months to the 31st March 2009 NIW has rehabilitated a large length of ferrous mains as part of the Quality programme.

In 2008/09 NIW has laid a total of 521km of mains as part of the mains rehab programme. A large portion of this is attributable to Quality Enhancement. The portion attributed to quality varies with each project as recorded within the Capital Investment Driver allocations.

Quality expenditure on water main rehabilitation is proportionally allocated on a project basis.

**Large Diameter Trunk Mains (line 10)**

Expenditure of £0.37million has taken place in 08/09 on the North Down Trunk Main project. 24% of this investment relates to Quality Enhancement. A further £1.93million has been spent on Design and Preliminary works for Castor Bay to Dungannon Strategic Trunk Main.

**Lead communication pipes (line 11)**

The £0.131million reported on this line related to lead communication pipe replacement. NIW does not have any obligation within the SBP from DWI to replace specific lead communication pipes. The finance reported here is a result of lead communication pipes replaced in conjunction with the watermain rehabilitation programme and individual homes replacing individual service pipe where NIW have replaced the company owned communication pipe at this connection.

**Security Related Measures (line 13)**

£3.973million was spent in 2008/09 to deliver work related to the Security and Emergency Measures. This expenditure was mainly delivered via the following 2 projects:

- Service Reservoir Enhanced Security
- Reservoir Rehab – Northern Area

**Options appraisals/implementation (line 16)**

The £86k reported on this line was spent in 2008/09 to complete options appraisals for the Strule intake for Derg WTW.

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009**

**ANNUAL INFORMATION RETURN - TABLE 38 FINANCIAL MEASURES  
SEWERAGE COMPLIANCE - EXPENDITURE REPORT**

DESCRIPTION			UNITS	DP	1		2		3		
					BASE YEAR SBP		REPORTING YEAR -1		REPORTING YEAR		
					2006-07	CG	2007-08	CG	2008-09	CG	
A OBLIGATIONS PRIOR TO THE SBP											
1	Capex: Completion of programme of work funded prior to the SBP - continuous discharge			£m	3	N/C		0.000		0.000	B3
2	Capex: Completion of programme of work funded prior to the SBP - intermittent discharge			£m	3	N/C		0.000		0.000	B3
3	Capex: Completion of programme of work funded prior to the SBP – sewage sludge management			£m	3	N/C		0.000		0.000	B3
4	Opex: Completion of programme of work funded prior to the SBP			£m	3	N/C		0.000		0.000	B4
B INTERMITTENT DISCHARGES											
5	Capex: Unsatisfactory intermittent discharges			£m	3	N/C		40.614	B3	40.378	B2
6	Opex: Unsatisfactory intermittent discharges			£m	3	N/C		0.000	B4	0.081	B4
C EU DIRECTIVES											
7	Capex: Continuous discharges - UWWTD			£m	3	N/C		0.515	B3	5.626	B2
8	Opex: Continuous discharges - UWWTD			£m	3	N/C		0.000	B4	0.115	B4
9	Capex: Continuous and intermittent discharges – Bathing Waters Directive			£m	3	N/C		0.087	B3	1.781	B2
10	Opex: Continuous and intermittent discharges – Bathing Waters Directive			£m	3	N/C		0.000	B4	0.067	B4
11	Capex: Continuous and intermittent discharges – Freshwater Fish Directive			£m	3	N/C		1.865	B3	6.852	B2
12	Opex: Continuous and intermittent discharges – Freshwater Fish Directive			£m	3	N/C		0.000	B4	0.030	B4
13	Capex: Continuous and intermittent discharges – Habitats Directive			£m	3	N/C		0.005	B3	0.025	B2
14	Opex: Continuous and intermittent discharges – Habitats/ Directive			£m	3	N/C		0.000	B4	0.000	B4
15	Capex: Continuous and intermittent discharges – Other EU Directives			£m	3	N/C		5.480	B3	23.365	B2
16	Opex: Continuous and intermittent discharges – Other EU Directives			£m	3	N/C		0.095	B4	0.735	B4
D OTHER ENVIRONMENTAL PROGRAMMES											
17	Capex: First Time Sewerage			£m	3	N/C		0.860	B3	1.392	B2
18	Opex: First Time Sewerage			£m	3	N/C		0.000	B4	0.000	B4
19	Capex: CReW Act			£m	3						
20	Opex: CReW Act			£m	3						
21	Capex: Chemicals – endocrine disruptor schemes			£m	3	N/C		0.000	B3	0.000	B2
22	Opex: Chemicals – endocrine disruptor schemes			£m	3	N/C		0.000	B3	0.000	B4
23	Capex: Other cost drivers			£m	3	N/C		0.000	B3	0.000	B2
24	Opex: Other cost drivers			£m	3	N/C		0.000	B3	0.000	B4
E INVESTIGATIONS											
25	Capex: Investigations			£m	3	N/C		0.000	B3	0.000	B2
26	Opex: Investigations			£m	3	N/C		0.000	B3	0.000	B4
F SEWAGE SLUDGE MANAGEMENT											
27	Capex: Enhanced sewage sludge management			£m	3	N/C		0.000	B3	0.000	B2
28	Opex: Enhanced sewage sludge management			£m	3	N/C		0.000	B3	0.000	B4
G CAPEX & OPEX TOTALS											
29	Capex: Total quality enhancement programme – sewerage service			£m	3	N/C		49.426	B3	79.419	B2
30	Opex: Total quality enhancement programme – sewerage service			£m	3	N/C		0.096	B4	1.028	B4

**Table 38 - Sewerage Compliance – Expenditure report****PPP**

No PPP information is reported in this table in accordance with the revised guidance issued on the 24/04/09 via the AIR09 Query log.

**NI Capex**

The allocation of expenditure in Table 38 is based upon the same methodology adopted for the other CAPEX tables. The detail for quality enhancement apportionment is as follows. NB. In NIW most Wastewater Treatment projects have multiple drivers with many projects having five or more environmental drivers.

Title		Completion Date	Year to be Delivered	Quality Enhancement Driver																
				UWWTD Failures for BOD/COD 1999/2000 (U1)	UWWTD Failures for BOD/COD 2005 (U2)	Nutrient removal in existing sensitive areas (U3)	Nutrient removal in new sensitive areas (U4)	Appropriate treatment at WWTW with p.e. 250 - 2,000 inlnd and - 10,000 c	Appropriate treatment for works < 250 p.e. category 1(U6)	Appropriate treatment for WWTWs < 250 p.e. category 2a (U7)	Hotspot failing UWWTD(HS1)	Hotspot failing RDS or public complaints (HS2)	Causing failure to comply with BWD mandatory standards(BWD)	Failure to meet Shellfish water requirements (SF)	Failure to meet Freshwater Fish Directive requirements (FF1)	Predicted failure to meet Freshwater Fish Directive requirements(FF2)	Failure to meet GOA or WFD standards (WQOWFD)	Expenditure required to remove dangerous substances (DS)	Responsible for breach of the habitats Directive (HD)	
AUGHER WWTW	Aug-07	2007/08																		
BALLINAMALLARD WWTW	May-07																			
BELCOO WWTW	Apr-07																			
BELFAST LOUGH NORTH SHORE - WHITEHOUSE	Nov-07											X								
BELLAGHY WWTW	Sep-07																			
BERAGH & SIXMILECROSS WWTWS	Apr-07																			
CABRAGH WWTW	Oct-07								X								X	X		
CLADY WWTW	Jun-07																			
CLAUDY WWTW	Nov-07																			
CLOUGH WWTW	Jul-07								X								X	X		
COOKSTOWN WWTW	Nov-07		X								X						X	X		
DERRYHALE WWTW	Jun-07																X	X		
IRVINESTOWN WWTW	Mar-08			X									X				X	X		
KILLYLEA/CALEDON WWTW	Jun-07								X								X	X		
KILLYMAN WWTW	Jan-08																X	X		
LARNE WWTW	Aug-07		X											X	X		X	X		
LENADERG/SEAPATRICK WWTWS	Jun-07								X								X	X		
LOUGHGUILLE WWTW (INC CORKEY)	Sep-07																			
MAGHERA WWTW	Jun-07			X													X	X		
NORTH COAST WWTW	Mar-08		X									X		X						
POMERoy WWTW	Sep-07													X						
RASHARKIN WWTW	Jul-07																X	X		
RATHERLAND WWTW	Apr-07																			
ROUGHFORT WWTW	Mar-08																X	X		
SION HILLS WWTW	Jan-08			EHS drivers not issued. Appropriate drivers include U2, HS2, and FF1																
TANDRAGEE MPS (INC SCARVA, AUGLISH & LAURALVALE)	Nov-07			EHS drivers not issued. Appropriate drivers include U1, U2, U3, HS1, HS2, and FF1																
BALLYNADOLLEY WWTW	Jun-07		These are Waste water Treatment Works with under 250 population equivalent (pe) for which EHS have only issued descriptive standards. Following planned inspections in 2008 EHS will decide upon a priority list for these works. The primary driver for these projects may not currently be Quality Enhancement.																	
BALLYNAGROSS WWTW	May-07																			
DRUMNAKILLY WWTW	Feb-08																			
LEITERGREEN SEWERAGE SCHEME (WWTW)	Feb-08																			
MORROWS CROSS PUMP AWAY	Jun-07																			
TAMNAMOREMULINAKILL & CLONTYCLAY RBGS	Dec-07																			
ANNAHILY WWTW (including Poundm PA)	Mar-09	2009/09														X	X			
BALLYBRAKES/GLENSTALL WWTWS	May-08		X			X					X					X	X			
BELLEK WWTW, NEW																				



**Table 6 SBP compared with 08/09 delivery**

<b>Project Title</b>	<b>SBP Date</b>	<b>Completion Date</b>
Annahilt WwTW	Mar-09	Nov-09
Ballybrakes/Glenstall WwTW	May-08	Nov-07
Belleek WwTW	Jul-08	Jun-08
Ballanalack WwTW	Sep-08	Mar-09
Bush WwTW	Feb-09	Mar-08
Derrylin WWW	Nov-08	Mar-09
Dromore WwTW	Oct-08	Oct-08
Gilford WwTW	Mar-09	May-09
Hilltown WwTW	Dec-08	Mar-09
Killen WwTW	Aug-08	Sep-08
Magheralin WwTW	Sep-08	Aug-09
Mullaghboy WwTW	May-08	Nov-10
Newtownbreda, Dunmurry and New Holland WwTW Nutrient Removal	Mar-09	Jan-09
Park WwTW	Feb-09	May-09
Strangford WwTW	Aug-09	Aug-08
Carrowclare WwTW	Apr-08	Nov-07
Cranagh WwTW	Dec-08	Aug-09

NIW Completed 3 of waste water treatment works as agreed in the SBP targets for 07/08 (see below) and 9 WwTWs of the 08/09 list during the 08/09 financial year.

Two projects with SBP target completions in 09/10 have been completed in 08/09. These are Warrenpoint WwTW and Raholp WwTW.

First Time Sewerage – The SBP had no First Time Sewerage projects listed as being required by EHS to be delivered to meet the quality programme outputs. NIW has invested capex in 08/09 on projects which are in accordance with the RAG20.03 definition of first time sewerage. This expenditure has been reported on line 17 of the Table.

### **SBP projects planned for 07/08**

In AIR08 we reported 3 works which were being delivered later than planned in the SBP. We can report that Killyman and Roughfort WwTWs are now substantially completed and Morrow's Cross pumpaway has been completed within the 08/09 financial year.

### **Methodology**

The general methodology for apportionment of these costs is outlined in Chapter 34. Where the scheme (or components of the scheme) have multiple Quality drivers, the costs have been split and assigned to the appropriate

drivers.

The Quality portion of each scheme (or component) can be split across a maximum of 6 drivers from the following list:

- Unsatisfactory Intermittent Discharge;
- U1 - UWWTD Failures for BOD/COD 1998/2000;
- U2 - UWWTD Failures for BOD/COD 2005;
- U3 - Nutrient removal in existing sensitive areas;
- U4 - Nutrient removal in new sensitive areas;
- U5 - Appropriate treatment of WwTW with PE 250 - 2,000 inland and 10,000 coastal;
- U6 - Appropriate treatment at WwTW <250 PE Category 1;
- U7 - Appropriate treatment at WwTW <250 PE Category 2a;
- HS1 - Hotspot failing UWWTD;
- HS2 - Hotspot failing RDS or public complaints;
- BWD - Causing failure to comply with BWD mandatory standards;
- SF - Failure to meet Shellfish Water Directive requirements;
- FF1 - Failure to meet Freshwater Fish Directive requirements;
- FF2 - Predicted failure to meet Freshwater Fish Directive requirements;
- WQO / WFD - Failure to meet GQA or WFD standards;
- DS - Expenditure required to remove dangerous substances;
- HD - Responsible for breach of the Habitats Directive;
- FTS - First Time Sewerage.

The proportion assigned to each contributing driver is derived from the WwTW scores provided by EHS. Where the WwTW does not appear on the list, or where no scores are provided, the supervising Engineer responsible for the scheme has applied his/her engineering judgement and project knowledge to identify the relevant driver(s) and to assign appropriate score(s). For example, if WwTW "A" has been assigned scores of 3 for FF2 and 2 for U6, then 60% (i.e. 3/5) of its Quality cost has been allocated to the FF2 driver and 40% (i.e. 2/5) has been assigned to the U6 driver."

### **Pre SBP obligations**

- NIW have not reported any pre SBP obligations in this table for 08/09.

**Table 40 – Capital Investment Monitoring Return**

This is the commentary for the CIM template for capital investment carried out during the period April 2008 to March 2009.

The CIM template, in its current form provides information on the capital investment programme managed by EP Directorate commonly referred to as the CWP.

Current CIDA allocations in 08/09 have been updated and reviewed following the AIR08 audit to reflect the best current project output definitions and reporter recommendations. A full CIDA methodology is included in Chapter 34.

**Future Submissions**

The quality and content of the CIM Template continues to develop and future submissions will contain additional information on non-financial outputs and against the relevant DG Registers.

**Indexation**

The CWP has been indexed to 06/07 prices using the COPI as assumed in the SBP. For 08/09 this is 8.02%.

# NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2009

## ANNUAL INFORMATION RETURN - TABLE 41 KEY OUTPUTS HEALTH & SAFETY INFORMATION

DESCRIPTION			1		2		3	
			BASE YEAR SBP 2006-07 CG		REPORTING YEAR -1 2007-08 CG		REPORTING YEAR 2008-09 CG	
<b>A</b>	<b>LOST TIME DUE TO SICKNESS AND ACCIDENTS AND INCIDENCE OF OCCUPATIONAL ILL HEALTH</b>							
1	Employee total	nr	0	1709 A2	1677 A2		1579 A2	
2	Total days lost due to sickness, accident and occupational ill health	nr	0	21871 A2	18882 A2		17170 A2	
3	Total days lost - rate per 1000 employees	nr	2	12815.00 A2	11259.39 A2		10873.97 A2	
4	Number of incidents of occupational ill health	nr	0	152 A2	172 A2		250 A2	
5	Incidents of occupational ill health - rate per 1000 employees	nr	2	88.96 A2	102.56 A2		158.00 A2	
<b>B</b>	<b>RIDDOR REPORTS</b>							
6	Total RIDDOR incidents	nr	0	17 A1	16 A1		11 A1	
7	RIDDOR - rate per 1000 employees	nr	2	9.95 A1	9.54 A1		6.97 A1	
8	3-day accident rate per 1000 employees	nr	2	9.95 A1	9.54 A1		11.00 A1	
9	Major/fatal accident rate per 1000 employees	nr	2	0 A1	0 A1		6.97 A1	
<b>C</b>	<b>CONTRACTORS' LOST TIME DUE TO SICKNESS AND ACCIDENTS, AND INCIDENCE OF OCCUPATIONAL ILL HEALTH</b>							
10	Contractors' employees total	nr	0		N/C		N/C	
11	Total days lost due to sickness, accident and occupational ill health	nr	0		N/C		N/C	
12	Total days lost - rate per 1000 employees	nr	2		N/C		N/C	
13	Number of incidents of occupational ill health	nr	0		N/C		N/C	
14	Incidents of occupational ill health - rate per 1000 employees	nr	2		N/C		N/C	
<b>D</b>	<b>CONTRACTORS' RIDDOR REPORTS</b>							
15	Total RIDDOR incidents	nr	0		N/C		N/C	
16	RIDDOR - rate per 1000 contractors' employees	nr	2		N/C		N/C	
17	3-day accident rate per 1000 contractors' employees	nr	0		N/C		N/C	
18	Major/fatal accident rate per 1000 contractors' employees	nr	2		N/C		N/C	

**Table 41 – Health & Safety Information****Lines 1-5**

In 2008/09 financial year NI Water lost a total of 17170 working days due to sickness which was equivalent to 10.9 working days per employee. The KPI for attendance in 2008/09 was 95.7% and NI Water delivered an actual attendance rate of 95.3%, 0.4% below the target but an increase of 0.3% on the previous year.

During 2008/09 NI Water underwent a major restructuring and redeployment process which resulted in the removal of 304 posts, of which 168 employees exited through a voluntary early severance/retirement (VER/VES) package. Nearly 1000 staff in affected areas were placed at risk, due to the uncertainty which was brought about by the restructuring and redeployment. NI Water also made substantial changes to working practices with the introduction of mobile work management technology and many staff had concerns about their futures within the organisation. This uncertainty led to an increase in “stress” related absences.

NI Water currently uses the Northern Ireland Civil Service Absence Management Policy. A new NI Water Attendance Management policy has been written and trade unions consulted on this. The policy is due for implementation in 2009. During the 2008/09 year Human Resources have worked in partnership with Line Managers, the NI Water Employee Support Officer, Independent Occupational Health, our counselling provider and employees to assist those on long term sick to return to work and to facilitate reasonable adjustments where required. A Managing Attendance training course was launched for all Line Managers in January 2009. To date over 100 managers have attended this course with more due to attend throughout 2009.

In 2008/09 NI Water's Health and Safety team launched it's Zero Accident Strategy with the aim of becoming a zero accident organisation. The strategy involved several initiatives and actions but the main focus which would impact upon NI Water's 2008/09 absence returns was the aim to achieve a target of no more than 15 'lost day' accidents. The campaign launched in partnership with our communications team focused on reducing 'slips, trips and falls' the main reasons for work related accidents and absences. NI Water over achieved and delivered an actual of 14 accidents.

In Quarter 4 2008/09 the NI Water Health and Safety team, to proactively manage stress related absence, designed Health and Safety Executive (HSE) approved Stress Risk Assessments at organisational, team and individual level. The assessment at organisational and team level are to be completed annually and reviewed throughout the year. Action planning to reduce the causes of stress is integral to this process. HR are currently utilising the individual stress risk assessments to support staff absent through stress. It is anticipated this process will support a reduction in stress absence in 2009/10.

Industrial employees are required to attend a medical assessment on a yearly

basis 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.

In 2007/08, as a proactive measure and in anticipation of the substantial 2008/09 restructuring programme NI Water launched its Health and Wellbeing Strategy. NI Water held a number of Health and Wellbeing roadshows across Northern Ireland Water offices in the latter part of 2007 and the first half of 2008. The roadshows were attended by Benenden Healthcare, NI Water's Employee Support Officer and Carecall counselling, all of whom, provided general advice to staff on Health and Wellbeing issues and contact points for each service should staff want to avail of the employee assistance services. Nurse practitioners from Independent Occupational Health also attended these sessions and carried out health checks including calculating BMI and cholesterol testing for employees.

NI Water 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. When calculating the occupational absence at Line 4 we included absences we had listed under:

- Anxiety, Stress and Depression
- Back Problems
- Injury/Fracture
- Joint Disorders
- Other Musculoskeletal

In future Human Resources will be looking to re-categorise absences so that we can report in line with the Utility Regulator's requirements.

#### **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 June 2008. All accidents must be reported with 24 hours to line management. It is the relevant Line Manager's responsibility to ensure all accident details are recorded in a prescribed Accident Book and that all relevant investigation details are recorded within an accident investigation (HS1) Form. The Line Manager signs off the HS1 Form and forwards it to the HR Directorate co-ordinator with a copy to the Safety Advisory Officer (SAO) for the particular function within which the accident took place. All accidents, incidents, near misses are examined by the SAO to facilitate transferable learning and for ensuring accident statistics are collected centrally for analysis by the Senior Safety Advisory Officer (SSAO).

It is a legal requirement that all RIDDOR Reports must be forwarded by the Line Manager to the Health and Safety Executive Northern Ireland (HSENI) on their prescribed NI2508 Form. The SSAO quality assures the HS1 Forms, checks that all necessary RIDDOR reports have been completed and

forwarded to the HSENI. The SSAO also cross references reports with NIW HR absence statistics to ensure that no accident reports have been overlooked. This process was audited in 2008/09 and three minor improvements implemented. Statistical trends are presented monthly by the Head of H&S both at Executive Level and at Board for comment and query. A separate H&S Report is also presented 4 times a year to the NIW Risk and Reputation Committee, which is chaired by a Non-Executive Director.

There were 11 RIDDOR reportable accidents within NIW in 2008/09. Specific posters have been designed and widely circulated to highlight the major causes of accidents to staff. The posters ask staff to:

- BE AWARE - of Slips Trips and Falls (70% of NIW accidents)
- TAKE CARE - when moving/lifting equipment (15% of accidents)
- AND WEAR - your PPE (15% of accidents)

A new and independent electronic Risk Reporting System, capable of “tracking accidents” was tested in the latter part of 2008/09. This new system, with its inbuilt audit-trail facility, will replace the former system in 2009/10.

#### **Line 7 – RIDDOR Rate per 1000 employees**

The information gathering process is as described for Line 6 above. The rate per 1000 employees is calculated using the average figure, based on monthly figures, of 1579 employees for 2008/09.

#### **Line 8 – 3 day accident Rate per 1000 employees**

The information gathering process is as described for Line 6 above. The information in Line 8 mirrors that of Line 7 as all RIDDOR accidents in 2008/09 were 3-day RIDDOR accidents.

#### **Line 9 – Major Fatal accident Rate per 1000 employees**

The information gathering process is as described for Line 6 above and no fatal injuries occurred in 2008/09.

Table 1 below shows NIW performance against its 2008/09 H&S Targets:

**Table 1 - NIW SAFETY STATISTICS, 2008/09**

Category	Target	Year end Out-turn
All “Lost Days” Accidents	Not more than 15	14 (11 RIDDOR) Target achieved
No. of minor accidents (no days lost associated)	Not more than 45	39 Target achieved
Dangerous occurrences	Not more than 3	0 Target achieved
Near Miss	More than 75	117 Target achieved

#### **Lines 10 – 18 Contractors’ H&S Statistics**

NIW has not historically collected these particular statistics. However, statistics are gathered on new-works and operational contractors, in similar fashion as for NIW for comparison purposes, as indicated in Table 2 below. Contractor performance is monitored monthly by the NIW Executive Team and Board and four times per year by the Risk and Reputation Committee.

**Table 2 - CONTRACTOR SAFETY STATISTICS, 2008/09**

Category	Target	Year end Out-turn
All "Lost Days" Accidents	Not more than 15	15 (8 RIDDOR) Target achieved
No. of minor accidents (no days lost associated)	Not more than 45	5 Target achieved
Dangerous occurrences	Not more than 3	1 Target achieved
Near Miss	More than 40	55 Target achieved

Comparing Tables 1 & 2, it is considered that there may have been under-reporting of minor accidents by Contractors. Action has been taken and communication will continue to increase minor and near-miss reporting by Contractors.

In line with NIW longer term "Zero Accident Ambition", new H&S Targets are being confirmed for 2009/10 for both NIW and our Contractors and performance will be monitored and necessary action taken throughout the year.

### **Key Events**

Two key events occurred in 2007/08 which have and will continue to have a beneficial effect on reducing accidents.

### **1. Audit**

Two Independent H&S focused Audits were carried out:

- a. The scope of the first review included the following sub-processes:
  - Procedures in place to manage and report on relevant KPIs (KPI 17):
    - Systems in place to report on Health and Safety incidents, specifically absence related accidents related to KPI 17;
    - Validation and monitoring of reported metrics;
    - Production of information to measure progress against KPI 17; and
    - Processes in place to measure and report on KPI 17.
  - Management Processes for managing and reporting on Health and Safety incidents:



- Policies and procedures in place to manage reporting of Health and Safety incidents;
  - Systems in place to report on other Health and Safety incidents not included in KPI 17, including incidents involving contractors;
  - Validation, monitoring and reporting of other key measures; and
  - Production of reports to meet HSE requirements.
- Reporting to the Safety, Health and Environment Committee.

The Audit Review recommended three enhancements which were implemented and are due to be re-examined for completeness in 2009/10.

b. The objectives of the second Audit were to:

- Assess the progress of implementation of the recommendations from the 2007/08 RoSPA Capability Audit and Report;
- Review documented procedures implemented to determine adequacy;
- Test the effective operation of the implemented recommendations; and
- Develop further action plans to address missing or ineffective controls.

The audit review concluded that out of a total of 30 prior recommendations, 24 had been fully implemented and 6 partially implemented and noted that significant progress had been made within a period of just over one year. Only the RoSPA recommendations on H&S training, for staff at different levels, now remain to be completed throughout 2009/10.

## **2. RoSPA Silver Award for Occupational Health and Safety**

In recognition of the recent H&S work and focus across the organisation, NIW has been awarded the UK-wide 2009 RoSPA Silver Award for Occupational Health and Safety.

This award independently confirms the importance NIW gives to H&S and provides assurance to NIW staff, its shareholders and stakeholders that NIW is on the path towards fulfilling its “Zero Accident Ambition”.



# **Annual Information Return 2009**

## **Section 3**

### **Service Target Report**

SERVICE TARGET REPORT - TABLE 1: WATER SERVICE

DESCRIPTION		UNITS	DP	LAST KNOWN PERFORMANCE			2008-09 TARGET	2008-09 OUT TURN		2009-10 TARGET
				Reporting Year	Outturn	CG			CG	
A Providing adequate pressure										
1	Percentage of NIW's connected properties experiencing inadequate pressure. (Where water pressure in a communication pipe fell below 7 metres static head on two occasions, each lasting not less than one hour, in a period of 28 consecutive days.)	%	2	None Set	N/C		None Set	N/A		None Set
2	Percentage of NIW's connected properties below the reference level of 10 metres head of pressure, at a flow of 9 litres per minute. (For ease of measurement NIW might adopt a surrogate pressure (usually 15 metres head) in the adjacent water main serving the property.)	%	2	None Set	N/C		None Set	0.72	B4	0.60
B Planned interruptions to water supply										
3	Percentage of connected properties experiencing a planned interruption where the supply of water was not restored within the time period specified by NIW in its advance notice.	%	2	None Set	3.80	B3	3.42	2.37	B3	3.08
4	Percentage of connected properties experiencing planned interruptions which lasted more than four hours, to whom NIW failed to provide adequate notification in writing at least 48 hours in advance.	%	2	None Set	6.71	B3	6.04	1.82	B3	5.43
C Unplanned interruptions to water supply				See STR Commentary for Last Known Performance as per guidance						
	Percentage of connected properties experiencing unplanned interruptions to their water supply of greater than:									
5	3 Hours	%	2	None Set	7.58	B3	6.80	7.02	B3	6.10
6	6 Hours Note: Last Known Performance relates to NI Water's own KPIs	%	2	2.00	1.35	B3	1.20	1.02	B3	0.897
7	12 Hours Note: Last Known Performance relates to NI Water's own KPIs	%	2	0.25	0.24	B3	0.15	0.25	B4	0.225
8	24 Hours Note: Last Known Performance relates to NI Water's own KPIs	%	2	0.03	0.01	B3	0.01	0.08	B4	0.01
9	Percentage of properties affected by an unplanned interruption due to a leak or burst on a strategic main, where the supply was not restored within 48 hours.	%	2	None Set	0.00	B3	0.55	1.92	B3	0.49
10	Percentage of connected properties affected by an interruption (planned or unplanned) which lasted more than 24 hours who were offered alternative water supplies.	%	2	None Set	100.00	B4	90.00	100.00	B3	95.00
D Water service (infrastructure)				Recalculated for PC10 Recalculated for PC10						
11	Number of mains bursts (per 1000km of main).	Nr	2	None Set	138.53	C3	175	141.38	B3	174
12	Percentage Mean Zonal Compliance with Prescribed Concentration/Value for Iron at the tap.	%	2	None Set	98.29		None Set	98.24	A2	None Set
E Water service (non-infrastructure)										
13	Water treatment works coliform non-compliance	%	2	0.20	0.12		None Set	0.08	A1	None set
14	Number of provisional DWI (NI) enforcement notices at NIW's water treatment works.	%	2	None Set	3		None Set	3.00	A1	None set
15	Number of final DWI (NI) enforcement notices at NIW's water treatment works.	%	2	None Set	0		None Set	0.00	A1	None set
16	Number of provisional DWI (NI) enforcement notices at NIW's service reservoirs.	%	2	None Set	0		None Set	0.00	A1	None set
17	Number of final DWI (NI) enforcement notices at NIW's service reservoirs.	%	2	None Set	0		None Set	0.00	A1	None set
18	Percentage of water treatment works with leaving water turbidity samples' 95%ile greater than or equal to 0.5 Nephelometric Turbidity Unit (NTU).	%	2	None Set	16.28		None Set	14.29	A2	None set
19	Percentage of water treatment works with leaving water turbidity samples' 95%ile below 0.5 Nephelometric Turbidity Unit (NTU).	%	2	None Set	83.72		None Set	85.71	A2	None set
F Security of Supply.										
20	Security of Supply Index Score (Planned).			None Set	N/C		51	42	B4	44
21	Security of Supply Index Score (Reference).			None Set	-26	B4	51	42	B4	44
22	Security of Supply Index Score (Critical).			None Set	N/C		None Set	N/C		None Set
23	Band Achieved (Planned).			None Set	D	B4	C	D	B4	D
24	Band Achieved (Reference).			None Set	D	B4	C	D	B4	D
25	Band Achieved (Critical).			None Set	N/C		None Set	N/C		None Set
A: No deficit against target headroom (Score 100) B: Marginal deficit against target headroom. (Score 90-99) C: Significant deficit against target headroom. (Score 50-89) D: Large deficit against target headroom (Score < 50)										
G Restrictions on water use										
	Percentage of population served by NIW that has experienced water usage restrictions involving:									
26	Hosepipe Restrictions	%	2	None Set	0.00	A1	None Set	0.00	A1	None Set
27	Drought Orders	%	2	None Set	0.00	A1	None Set	0.00	A1	None Set
28	Sprinkler Restrictions	%	2	None Set	0.00	A1	None Set	0.00	A1	None Set
29	Average number of person weeks of hosepipe restrictions imposed by NIW over a rolling 5 year period.	Nr	2	None Set	N/C		None Set	0.00	A1	None Set
H Leakage										
30	Percentage compliance with preset leakage targets over a 3 year period (ML/d)	%	2	157.00	156.50	B3	146.00	180.90	B3	176.90
I Drinking water quality										
31	Mean Zonal Compliance (All parameters)	%	2	99.44	99.30		99.35	99.49	A2	99.65
32	Compliance with Drinking Water Quality Regulations (Taking account of ADs)	%	2	99.72	99.66		None set	99.66	A2	None set
33	Compliance with Drinking Water Quality Regulations (Not taking account of ADs)	%	2	99.6	99.33		None set	99.47	A2	None set
34	Mean Zonal Compliance with six parameter Operational Performance Indicator. (Iron, Manganese, Aluminium, Turbidity, Faecal Coliforms, Trihalomethanes.)	%	2	None Set	95.81		None set	97.07	A2	None set
35	Mean Zonal Compliance with Operational Performance Indicator (turbidity, iron and manganese)	%	2	98.9	98.98		98.95	99.22	A2	99.1

**STR Table 1 – Water Service****Line 1: Providing Adequate Pressure****Outturn**

NIW is not currently in a position to report on the number of connected properties which received inadequate pressure below 7m static head on two occasions each lasting not less than 1 hour in a period of 28 consecutive days.

**Performance Assessment**

In order for NIW to set targets and report on this line it will be a requirement to provide comprehensive permanent pressure monitoring across the distribution network.

**Line 2: Providing Adequate Pressure****Outturn**

The following table provides a summary of the properties added and removed from the DG2 Register.

	<b>No. of Properties</b>
<b>DG2 Properties at start of reporting period</b>	<b>10321</b>
Additions due to better information	752
Reductions due to asset improvements – capital works	1808
Reductions due to better information	3431
Reductions due to operational changes	51
<b>DG2 Properties at end of reporting period</b>	<b>5783</b>

**Performance Assessment**

No target was set for 2008/09 regarding the number of properties receiving inadequate pressure. The 2008/09 objective was to commence validation of the data supporting the DG2 Register and to review 105,000 properties where anomalies in data had occurred during the 2007/08 work. All 105,000 properties were reviewed resulting in 752 additions to the Register. Watermain rehabilitation supported the removal of 1808 properties. The number of reported properties on the Register represents 0.72% of total connected properties. Validation work will continue throughout 2009/10 and will incorporate data from completed rehabilitation schemes. A target of 945 removals from the Register has been set for 2009/10.

**Line 3: Planned Interruptions****Outturn**

The percentage of connected properties experiencing a planned interruption where the supply of water was not restored within the time period specified by NIW in its advance notice is 2.37%. The following table provides a summary of the numbers of properties that were issued a re-connection time for a planned interruption:

<b>Interruption Types</b>	<b>Properties Affected &gt;6hrs</b>
Overruns of Planned and Warned	644
Planned and Warned	26,480
Planned re-classed as Unplanned (insufficient warning)	96
Planned re-classed as Unplanned (Actual Start before Planned Start)	0
<b>Total number of customers experiencing a planned interruption</b> (from above)	<b>27,220</b>
<b>Percentage</b>	<b>(644 / 27,220) x 100 = 2.366%</b>

### Assumption

Unlike the guidance for line 4 which clearly states that the assessment is to be based on interruptions lasting more than 4 hours, the guidance for this line provides no such indication. As this line relates to overruns of planned and warned interruptions and there is only an AIR09 Table 2 requirement to report on overruns lasting more than 6 hours, NI Water has assumed that this assessment would also be based on interruptions lasting more than 6 hours.

### Performance Assessment

Although NI Water has not introduced a Guaranteed Standards Scheme, the Company set provisional targets for 2008/09 and 2009/10 of 3.42% and 3.08% respectively and these targets continue to be monitored internally on a monthly basis via reporting on the Customer Charter Scorecard. The outturn percentage of 2.37% is within the yearend target of 3.42% which itself, was aimed at encouraging a 10% reduction in the outturn for 2007/08 (3.80%).

### Line 4: Planned Interruptions

#### Outturn

The percentage of connected properties experiencing planned interruptions which lasted more than four hours, to whom NIW failed to provide adequate notification in writing at least 48 hours in advance, is 1.82%. The following table provides a summary of the numbers of properties experiencing a planned interruption:

<b>Interruption Types</b>	<b>Properties Affected &gt;4hrs</b>
Planned re-classed as Unplanned (insufficient warning)	737
Overruns of Planned and Warned	726
Planned and Warned	39,115

Planned re-classed as Unplanned (Actual Start before Planned Start)	0
<b>Total number of customers experiencing a planned interruption</b> (from above)	<b>40,578</b>
<b>Percentage</b>	<b><math>(737 / 40,578) \times 100</math> <b>= 1.816%</b></b>

**Performance Assessment**

Although NI Water has not introduced a Guaranteed Standards Scheme, the Company set provisional targets for 2008/09 and 2009/10 of 6.04% and 5.43% respectively and these targets continue to be monitored internally on a monthly basis via reporting on the Customer Charter Scorecard. The outturn percentage of 1.82% is within the yearend target of 6.04% which itself, was aimed at encouraging a 10% reduction in the outturn for 2007/08 (6.71%).

**Line 5: Unplanned Interruptions****Outturn**

The percentage of connected properties experiencing unplanned interruptions to their water supply of greater than 3 hours is 7.02%. The following table provides details of the outturns for the last three years together with the corresponding yearend targets:

Time Band	Outturn		Outturn		Outturn		08/09 KPI Target	09/10 KPI Target
	06/07 Props	06/07 %	07/08 Props	07/08 %	08/09 Props	08/09 %		
>3hrs	41,241	5.189%	60,662	7.583%	56,480	7.021%	6.80%	6.10%

**Note:**

- Percentage outturns are based on total connected properties as follows: 794,710 (AIR07); 800,018 (AIR08); 804,418 (AIR09)
- NI Water completed a Service Target Report for the first time in 2008 and as a result, a target was not set for 2007/08.

**Performance Assessment**

Although NI Water has not introduced a Guaranteed Standards Scheme, the Company set provisional targets for 2008/09 and 2009/10 of 6.80% and 6.10% respectively. The outturn percentage of 7.02% exceeds the yearend target of 6.80% which itself, was aimed at encouraging a 10% reduction in the outturn for 2007/08 (7.58%).

**Lines 6 to 8: Unplanned Interruptions****Outturn**

The percentages of connected properties experiencing unplanned interruptions to their water supply of greater than 6 hours, 12 hours and 24 hours are 1.01%, 0.25% and 0.08% respectively. The following table provides details of the outturns for the last three years together with the corresponding yearend targets:

Time Band	Outturn		Outturn		Outturn		09/10 KPI Target
	06/07 Props	06/07 %	07/08 Props	07/08 %	08/09 Props	08/09 %	
>6hrs	10,285	1.294%	9,483	1.185%	8,175	1.016%	0.897%
>12hrs	767	0.097%	1,839	0.230%	2,010	0.250%	0.225%
>24hrs	9	0.001%	72	0.009%	609	0.076%	0.01%

**Note:**

1. Percentage outturns are based on total connected properties as follows: 794,710 (AIR07); 800,018 (AIR08); 804,418 (AIR09).
2. Targets excluding third party interruptions and overruns were not set for 2007/08 and 2008/09; the reason being that NI Water had already set alternative KPI targets for its Strategic Business Plan. These alternative targets included third party interruptions and overruns.

2009/10 targets excluding third party interruptions and overruns were recently calculated as part of PC10 and these targets are listed in the table. At the time, it was not known whether NI Water would opt for targets that excluded third party interruptions and overruns or include them as before. NI Water has since agreed on targets including such interruptions.

**Performance Assessment**

As NI Water did not set targets for 2008/09 excluding third party interruptions and overruns, the performance assessment will instead be based on its KPIs. NI Water has three Key Performance Indicators relating to Supply Interruptions (DG3):

“Number of properties experiencing unplanned and unwarned interruptions (expressed as a percentage of households) in excess of:

- 1a) 6 hours
- 1b) 12 hours
- 1c) 24 hours”

**Note:**

1. The number of properties experiencing unplanned and unwarned interruptions includes interruptions caused by third parties and unplanned interruptions (overruns of planned interruptions).
2. KPIs 1a and 1c were introduced for the first time in April 2007.

The following table provides details of the outturns for the last three years together with the corresponding yearend targets. >6hr and >24hr targets were set for the first time in 2007/08:

Interruption Category		Outturns		06/07 KPI Target	Outturn		07/08 KPI Target	Outturn		08/09 KPI Target
		2006/07 Props	2006/07 %		2007/08 Props	2007/08 %		2008/09 Props	2008/09 %	
>6hrs	U/P	10,285	1.294%		9,483	1.185%		8,175	1.016%	
	UTP	854	0.107%		510	0.064%		36	0.004%	
	O/R	404	0.051%		835	0.104%		590	0.073%	
	<b>Total</b>	<b>11,543</b>	<b>1.452%</b>	<b>n/a</b>	<b>10,828</b>	<b>1.353%</b>	<b>2.0%</b>	<b>8,801</b>	<b>1.094%</b>	<b>1.2%</b>
>12hrs	U/P	767	0.097%		1,839	0.230%		2,010	0.250%	
	UTP	185	0.023%		22	0.003%		33	0.004%	
	O/R	40	0.005%		99	0.012%		43	0.005%	
	<b>Total</b>	<b>992</b>	<b>0.125%</b>	<b>0.3%</b>	<b>1,960</b>	<b>0.245%</b>	<b>0.25%</b>	<b>2,086</b>	<b>0.259%</b>	<b>0.15%</b>
>24hrs	U/P	9	0.001%		72	0.009%		609	0.076%	
	UTP	175	0.022%		6	0.001%		4	0.000%	
	O/R	0	0.000%		0	0.000%		8	0.001%	
	<b>Total</b>	<b>184</b>	<b>0.023%</b>	<b>n/a</b>	<b>78</b>	<b>0.010%</b>	<b>0.03%</b>	<b>621</b>	<b>0.077%</b>	<b>0.01%</b>



**>6hr KPI**

The 2008/09 final outturn of 8,801 properties (1.094% of connected properties) is within the yearend target of 1.2%. The 2007/08 final outturn was also within target although the target was set much higher at 2.0%. The outturn percentages have continued to fall over the last three years. As NI Water is keen to see this trend continue, further reductions in targets are proposed over the next five years.

**>12hr KPI**

The 2008/09 final outturn of 2,086 properties (0.259% of connected properties) exceeds the yearend target of 0.15%. The 2006/07 and 2007/08 final outturns were within target. Target failure in 2008/09 can be largely attributed to a small number of incidents involving higher than average numbers of properties and interruption durations.

In July 2008, an unplanned interruption due to mains rehabilitation work in Rasharkin left 135 properties without supplies for 56.5 hours. This represented almost double the monthly target for no more than 70 properties to be affected by unplanned interruptions lasting more than 12 hours.

The exceptional rainfall in August 2008, resultant ground movement and associated increase in numbers of bursts, also impacted heavily on KPI compliance.

In March 2009, a much publicised burst on a trunk main in Portaferry affected 220 properties for 58 hours, more than 1.5 times the monthly target allowance of 141 properties.

Also in March 2009, a difficult repair to a bridge crossing left 197 properties without supplies for 25.75 hours, almost 1.5 times the monthly target allowance.

**>24hr KPI**

The 2008/09 final outturn of 621 properties (0.077% of connected properties) exceeds the yearend target of 0.01%. The 2007/08 final outturn was within target. Target failure in 2008/09 can be largely attributed to a small number of incidents involving higher than average numbers of properties and interruption durations.

In July 2008, an unplanned interruption due to mains rehabilitation work in Rasharkin left 135 properties without supplies for 56.5 hours. Given that the yearend target was for no more than 80 properties to be affected by unplanned interruptions lasting more than 24 hours, this single incident involved almost twice the yearly allowance.

The exceptional rainfall in August, resultant ground movement and associated increase in numbers of bursts, also impacted heavily on KPI compliance.

In March 2009, a much publicised burst on a trunk main affected 220 properties in Portaferry for 58 hours. The number of properties affected by this

incident was almost three times the yearly allowance.

Also in March 2009, a difficult repair to a bridge crossing left 197 properties without supplies for 25.75 hours, almost 2.5 times the yearly allowance. And a blocked main disrupted supplies to 23 properties for 28 hours.

### Changes in Reported Data

For AIR08, NI Water chose to complete STR: Table 1: Lines 6, 7 and 8 according to its own KPI outturns and targets and not the regulatory service targets.

For AIR09, NI Water has completed Lines 6, 7 and 8 according to the regulatory service targets and has chosen to discuss its own KPIs in the Commentary.

The outturns and targets for the Last Known Performance have been revised accordingly, as have the 2008/09 Targets. Changes in the reported data are highlighted in the tables below:

### Last Known Performance (relates to 2007/08 in AIR09)

STR Table 1	Original Percentages - Including Third Party Interruptions & Overruns		Revised Percentages - Excluding Third Party Interruptions & Overruns	
Line 6	2.00%	1.35%	None Set	1.19%
Line 7	0.25%	0.24%	None Set	0.23%
Line 8	0.03%	0.01%	None Set	0.01%

### 2008-09 Target

STR Table 1	Original Percentages - Including Third Party Interruptions & Overruns	Revised Percentages - Excluding Third Party Interruptions & Overruns
Line 6	1.20%	None Set
Line 7	0.15%	None Set
Line 8	0.01%	None Set

### Line 9: Unplanned Interruptions

#### Outturn

The percentage of properties affected by an unplanned interruption due to a leak or burst on a strategic main, where the supply was not restored within 48 hours is 3.86%.

#### Note:

NI Water does not collate property counts for time bands, over and above the >24 hour time band. In the following table, the number of properties relates to the >24 hour time band as opposed to the >48 hour time band.

The following table provides a summary of the interruption records in 2008/09 relating to trunk mains where the cause of the interruption was a burst

main/main repair and the length of interruption exceeded 48 hours. There were 3 records in total:

Month	Interrupt Number	Type of Interruption	Length of ITS (hrs)	No. of Properties >48hrs	Comments
Aug 08	6717	Unplanned	50.5	9	Loughries Road/Ballyreagh Road, Newtownards
Aug 08	6672	Unplanned	73.5	6	Finnis PS area due to burst on WTM - Area is supplied from Dehommed HL SR & pressure had not recovered to allow pumps to be switched on until 18th but drive broke & had to be sourced from manufacturer.
Mar 09	6223	Unplanned	58	220	Interruption associated with failure of 450 mm DI, as identified with the Upward Report circulated. Tanker, bowzers and bottled water deployed during incident. Extension of problems relating to major air-locks.

Interruption Types	Properties Affected >4hrs
Number of properties experiencing an unplanned interruption >48hrs	235
Number of properties experiencing an unplanned interruption >3hrs	5,803
Number of properties experiencing a third party interruption >3hrs	283
Number of properties experiencing an unplanned interruption or third party interruption between 0 & 3hrs	6185
<b>Total number of properties experiencing an unplanned interruption or third party interruption &gt;0hrs (from above)</b>	<b>5,803 + 283 + 6185 = 12,271</b>
<b>Percentage</b>	<b>(235 / 12,271) x 100 = 1.915%</b>

### Performance Assessment

Although NI Water has not introduced a Guaranteed Standards Scheme, the

Company set provisional targets for 2008/09 and 2009/10 of 0.55% and 0.49% respectively and these targets continue to be monitored internally on a monthly basis via reporting on the Customer Charter Scorecard. The outturn percentage of 1.92% exceeds the yearend target of 0.55%. The 2007/08 outturn percentage was 0.00%.

### **Changes in Methodology following Further Clarification**

In AIR08, NI Water incorrectly assumed that properties affected by unplanned interruptions due to leaks or bursts on strategic mains would include properties affected by unplanned interruptions (overruns of planned interruptions). NIAUR has recently clarified the correct handling of overruns and as a result, NI Water has amended its methodology to exclude such interruptions.

In AIR08, NI Water reported the number of properties affected by trunk main bursts lasting more than 48 hours as a percentage of the number of properties affected by trunk main bursts lasting more than 3 hours. As the guidance did not specify the duration of the denominator, NI Water assumed the duration would be 3 hours on the basis that 3 hours is the minimum duration for reporting on AIR: Table 2.

NIAUR has recently clarified the duration of the denominator by means of an example and it is apparent that NI Water should have expressed the number of properties affected for more than 48 hours as a percentage of the number of properties affected for more than 0 hours. NI Water has amended its methodology accordingly.

### **Line 10: Alternative Water Supplies**

Within NI Water, the Networks Water and Leakage functions use an input screen to record their DG3 information. This input screen has a facility for specifying whether or not alternate supplies were provided by the Company during an interruption.

Although the alternate supplies field is not included amongst the data fields extracted from OMIS and used to compile the DG3 Register, it has been possible to revisit the input screens of the OMIS records in order to establish this information.

The following table provides a summary of the OMIS interruption records in 2008/09 where the length of interruption exceeded 24 hours. There were 12 records in total:

Month	Interrupt Number	Type of Interruption	No. of Properties >24hrs	Length of ITS (hrs)	Alternate Supplies
May 08	5753	Unplanned Third Party	4	29.00	Bottled Water
Jun 08	6104	Unplanned	3	32.25	Bottled Water
	6223	Unplanned	4	42.25	Bottled Water
Jul 08	6500	Unplanned	135	56.50	Bottled Water
Aug 08	6717	Unplanned	9	50.50	Bowser
	6672	Unplanned	6	73.50	Bowser
Jan 09	8051*	Unplanned	4	25.50	None Required
	8140	Unplanned	2	31.00	Bottled Water
	8141	Unplanned	3	32.25	None Required
Mar 09	8865	Unplanned	197	25.75	Bowser
	8860	Unplanned	23	28.00	Bottled Water
	8886	Unplanned	220	58.00	Bowser

\* Record 8051 was checked as complete before the alternate supplies field had been completed. The alternate supplies field was confirmed via e-mail instead.

### Correction

In the AIR08 STR Commentary, NI Water implied that the Engineering and Procurement and Customer Services directorates did not provide information on Alternate Supplies via monthly MS Excel spreadsheet templates and that there was a future action to collate such statistics. This was incorrect.

E&P and CSD did provide this information. However, the information was not copied across to the DG3 Register as the alternate supplies field does not align to the data fields extracted from OMIS.

The following table provides a summary of the E&P and CSD interruption records in 2008/09 where the length of interruption exceeded 24 hours. There were 9 records in total:

Month	Interrupt Number	Type of Interruption	No. of Properties >24hrs	Length of ITS (hrs)	Alternate Supplies
Apr 08	CSD002	Unplanned	1	27.50	None Required
	E&P056	Overrun	3	26.00	None Required
Jun 08	CSD8	Unplanned	1	54.00	None Required
	EP99	Unplanned	1	120.00	Bottled Water
	EP89	Overrun	1	50.00	Bottled Water
	EP93	Overrun	1	51.00	Bottled Water
	EP92	Overrun	1	77.00	Bottled Water
Jan 09	E&P035	Overrun	1	24.75	None Required
Mar 09	E&P016	Overrun	1	30.50	Bottled Water

### Outturn

The percentage of connected properties affected by an interruption (planned or unplanned) which lasted more than 24 hours who were offered alternative water supplies is 100%.

### Performance Assessment

Although NI Water has not introduced a Guaranteed Standards Scheme, the company set provisional targets for 2008/09 and 2009/10 of 90% and 95% respectively and these targets continue to be monitored on a monthly basis via reporting on the Customer Charter Scorecard. The outturn percentage of 100% is within the yearend target of 90%. The 2007/08 outturn percentage was 100%.

### Line 11: Mains bursts per 1000km

The specified unit for Line 11 is Mains Bursts per 1000km. NIW do not currently record Mains Bursts per 1000km but record the number of Mains Bursts jobs. This will be converted using the "Figure of Potable Mains Length" for NIW (26,625.6km).

Detailed data for reporting period was collated by Field Managers using system reports which when checked and confirmed were transferred onto a spreadsheet and sent to the Networks Water Business Unit who collate the data for the annual reporting period.

The totals for Networks Water were then converted from units to bursts/km.

**Leakage Data**

A figure for mains repair was also obtained from the Leakage function using source information from their Leakage Activities Database (LAD) with supplementary information from MWM.

**Number of Burst Mains**

Activity	Number
Networks Water	2288
Leakage	1476
<b>Total</b>	<b>3764</b>

**Calculation of Mains Bursts per 1000kms**

Total Burst Mains divided by Total length of mains multiplied by 1000

$$3764 / 26,625.6 = 0.1414 \times 1000 = 141.38$$

**Total Bursts per 1000kms = 141**

- 2007 information return was 5054
- 2008 information return was 3611
- 2009 information return was 3764

**Proportion of Bursts within Line 11 detected by Proactive Methods**

- The number of Mains Repairs carried out by Networks Water Function was **2288**.
- The number of Mains Repairs carried out by Leakage Function was **1476**.
- The total number of Mains Repairs carried out by NIW was **3764**.

Active Leakage Control accounted for 39% of the total number of Mains Repairs carried out by NIW.

**Confidence Grade B3**

The number of bursts for Networks Water has been captured for the complete year using base information from MWM plus information captured by the Leakage function.

**Future Reporting**

For AIR10 Networks Water will continue to use the established process for monthly reporting using MWM as a source for base information.

**Lines 12-19, & 31-35 – Water Service and Drinking Water Quality**

The quality of water supplied by NI Water to customers has improved between 2007 and 2008:

Mean Zonal Compliance has increased from 99.30% in 2007 to 99.49% in 2008 (NIW assessment waiting for confirmation from DWI). The increase in water quality is largely due to a decrease in exceedances of the Total Trihalomethane parameter as the new PPP sites came into service.

Operational Performance Index (based on turbidity, iron and manganese) has improved from 98.98% in 2007 to 99.22% in 2008 (NIW assessment on Turbidity, Iron and Manganese).

The overall percentage compliance at customer tap or authorised supply point (not including authorised departures) increased from 99.33% in 2007 to 99.47% in 2008.

The percentage compliance measured at Water Treatment Works (WTWs) increased from 99.92% in 2007 to 99.95% in 2008.

The percentage compliance measured at Service Reservoir increased from 99.86% in 2007 to 99.93% in 2008.

Of 110,961 measurements (directive standards, national standards and additional monitoring requirements) made at customer tap, WTWs, SRs and Authorised Supply Points, 99.69% met the standards.

#### **Line 12 – Percentage Mean Zonal Compliance with PCV for Iron at the tap**

The data used for the estimation of Mean Zonal Compliance was the audit data set as supplied to DWI for their year end assessment of NI Water. All samples were pre-scheduled with compliant parameters being set at the appropriate frequencies, and sampled from random addresses within the appropriate Water Supply Zone. For those parameters which allow this, sampling was carried out at Authorised Supply Points – this being the final water sampling point for the supplying Water Treatment Works. The calculations used for the overall Mean Zonal Compliance have been supplied to DWI for their year end assessment. All reported exceedances were agreed with DWI during the year and confirmed at year end.

#### **Line 13 – Water treatment works coliform non-compliance**

The output for this line was taken from the 2008 Water Quality results as submitted to DWI for their year end assessment of NI Water. Only pre-scheduled compliant samples were included. The assessment is only against Total coliform exceedances and includes the results from the 5 PPP works which came into service during 2008 replacing 5 NI Water sites.

#### **Line 31 – Percentage Mean Zonal Compliance with Drinking Water Regulations**

The output for line 31 was developed as per line 12 above.

#### **Lines 20 – 25: Security of supply**

An annual security of supply index (SOSI) calculation has not been undertaken historically within NI Water. Specific targets have not been set for SOSI. NI Water does not have a planned level in addition to the reference level and does not consider that critical period conditions are an important driver of their water resource planning.

The 2002-2030 Water Resource Strategy and the subsequent 2007 Review



have identified the water available for use (WAFU) and the work required to ensure adequate supplies for Northern Ireland up to 2030. The SOSI calculation carried out in 2003/04 indicated the index at that time was -171. The implementation of the work identified within the strategy has resulted in a noticeable improvement in this figure which was assessed as -26 for the period 2007/08 and 42 for 2008/09 with the availability of increase supplies being made available through the PPP coming online during 2008. The 42 figure is lower than the predicted 51 for 2008/09 due to a review of the methodology for the water balance calculation resulting in a higher than predicted distribution input figure.

Additional water from the Strule will become available in 2010/11 and the SOSI is predicted to achieve Band C during the year and Band B in 2015/16.

Work has commenced on producing a water resource management plan which will be a complete revision of the current water resource strategy. The new plan will adopt the latest methodology for producing water resource management plans in so far as possible with the data available for NI Water.

This review may result in revised figures for WAFU and demand but in advance of this information estimates have been used to provide target SOSI figures for 2009/10.

The confidence grades applied have been reduced to B4 to reflect the age of the data being used for the estimates.

#### **Lines 26-29: Restrictions on water use**

Percentage of population served by NIW that has experienced water usage restrictions involving:

- Line 26: Hosepipe Restrictions
- Line 27: Drought Orders
- Line 28: Sprinkler Restrictions
- Line 29: Average number of person weeks of hosepipe restrictions imposed by NIW over a rolling 5 year period

Drought orders are not applicable in Northern Ireland.

Under Article 36 of the Water and Sewerage Services (NI) Order 1973, when the Department for Regional Development is satisfied that a serious deficiency of supplies of water in any area exists or is threatened, it may make an order to prohibit or restrict the use of water for any purpose (or by means by which the water is used, i.e. hosepipe ban).

The Department may also by order abstract water from any source and suspend or modify any obligation governing the discharge of compensation water for a period not exceeding 6 months.

There were no restrictions placed on the use of water during the reporting year. The high reliability assessment (A1) is based on the established

procedures for the making of any order to prohibit or restrict the use of water. The high accuracy grade reflects the fact that no orders were made during the reporting year.

Northern Ireland Water does not operate a sprinkler license system.

**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.

**Line 30: Leakage**

The leakage target for 2008/09 was 146 MI/d. The rebased leakage figure is 180.9 MI/d at 31 March 2009. The confidence Grade for the overall water balance is B3.

The leakage target for 2009/10 is to reduce leakage by 4 MI/d to a level of 176.9 MI/d; this target reduction is subject to ongoing discussions with the Utility Regulator.

**SERVICE TARGET REPORT - TABLE 2: SEWERAGE SERVICE**

DESCRIPTION		UNITS	DP	LAST KNOWN PERFORMANCE			2008-09 TARGET	2008-09 OUT TURN		2009-10 TARGET
				Reporting Year	Outturn	CG			CG	
A Sewer flooding										
1	Percentage of connected properties experiencing internal flooding from NIW's sewers.	%	2	None Set	0.08	D6	None Set	0.004	B4	None Set
2	Percentage of connected properties internally flooded due to overloaded NIW sewers.	%	2	None Set	0.03	D6	None Set	0.0005	B4	None Set
3	Percentage of flooding incidents attributable to severe weather.	%	2	None Set	59.43	D6	None Set	0.00	B4	None Set
4	Percentage of properties internally flooded due to other causes.	%	2	None Set	0.05	D6	None Set	0.004	B4	None Set
	Percentage of NIW's connected properties <i>at risk</i> of internal flooding due to the incapacity of NIW's sewers:									
5	Once in every ten years.	%	2	None Set	0	DX	None Set	0.12	D6	None Set
6	Twice or more in every ten years.	%	2	None Set	0.01	DX	None Set	0.01	DX	None Set
7	Once in every twenty years.	%	2	None Set	0	DX	None Set	0.00	DX	None Set
B Sewerage service (infrastructure)										
8	Sewer collapses per 1000km of sewer.	Nr	2	None Set	48.54	B4	None Set	96.30	C5	None Set
C Sewerage service (Non-infrastructure)										
9	Percentage population equivalent (pe) served by NIW STWs that do not comply with the conditions of their discharge consents for sanitary determinands, phosphorus determinands and disinfection conditions.	%	2	None Set	15.49	B2	11	9.55	A2	6.5
10	Percentage of sewage sludge NIW disposed of in an unsatisfactory manner.	%	2	None Set	0	A1	0.00	0.00	A1	0.00
D Sewerage Service Serviceability Indicators										
	Sub-threshold indicators of forecast:									
11	(i) biochemical oxygen demand (BOD) (Max > 2)	%	2	None Set	93.3		None Set	92.64	A2	None Set
12	(ii) biochemical oxygen demand (BOD) (95%ile > 1)	%	2	None Set	88.2		None Set	88.80	A2	None Set
13	(iii) biochemical oxygen demand (BOD) (Mean > 0.5)	%	2	None Set	88.3		None Set	87.92	A2	None Set
14	(iv) suspended solids (SS) (Max > 2)	%	2	None Set	95		None Set	93.83	A2	None Set
15	(v) suspended solids (SS) (95%ile > 1)	%	2	None Set	91.3		None Set	90.84	A2	None Set
16	(vi) suspended solids (SS) (Mean > 0.5)	%	2	None Set	89		None Set	90.51	A2	None Set
17	(vii) ammonia (NH3) (Max > 2)	%	2	None Set	94.1		None Set	92.80	A2	None Set
18	(viii) ammonia (NH3) (95%ile > 1)	%	2	None Set	88.8		None Set	89.05	A2	None Set
19	(ix) ammonia (NH3) (Mean > 0.5)	%	2	None Set	95.6		None Set	94.47	A2	None Set
E Wastewater quality										
	Wastewater treatment works serving greater than 250 population equivalent not achieving compliance with Water Order Consents expressed as a:-									
20	(i) percentage of works.	%	2	16	15.64	B2	14	9.40	A2	13
21	(ii) percentage of population equivalent.	%	2	18.5	15.45	B2	11	9.40	A2	6.5
	Wastewater treatment works not achieving compliance with Urban Waster Water Treatment Directive (UWWTD) Consents expressed as a:-									
22	(i) percentage of works.	%	2	None Set	16.73	B2	8	7.80	A2	8
23	(ii) percentage of population equivalent.	%	2	None Set	19.57	B2	None Set	9.70	A2	None Set
24	Percentage compliance with Urban Waste Water Treatment Directive (UWWTD) consent standards for Biochemical Oxygen Demand (BOD).	%	2	None Set	87.64	B2	None Set	93.51	A1	None Set
25	Percentage compliance with NIEA phosphorous targets at phosphorous removal sites.	%	2	None Set	100.0	B2	None Set	100.00	A1	None Set

**STR Table 2 – Sewerage Service****Block A: Sewer Flooding****Lines 1 to 4**

As yet, no service targets have been set for Lines 1 to 4. This situation will be reviewed during the course of the reporting year when meaningful targets may be able to be established.

**Lines 5 to 7**

As yet, no service targets have been set for Lines 5 to 7 because these targets depend on the information reported through the three DG5 'At Risk' Registers and these registers are still being developed.

NIW had a target to investigate and make an initial determination of all internal flooding records as either DG5 Reportable or DG5 Excluded by October 2008. It is NIW's intention to wait until additional investigations are carried out on these determinations before setting targets based on information reported through the three DG5 "At Risk" Registers.

By delaying the setting of targets, NIW will have a more accurate understanding of the expected annual numbers of reportable incidents and hence, the numbers of properties that NIW could realistically expect to remove from the registers through the Capital Works Programme.

**Block B: Sewerage Service (Infrastructure)****Line 8**

In 2006/07, NIW reported 86.4 sewer collapses per 1,000km of sewer. In 2007/08 NIW reported 48.5, a significant reduction of 37.9.

Admittedly, the calculation process for the 2007 Information Return involved a considerable degree of extrapolation. Although an accuracy band of 4 was originally assigned, on reflection, the degree of accuracy may have been even lower.

Information for AIR08 had been sourced from Ellipse. Although there were problems with the miscoding of standard jobs and/or completion details not giving accurate details of the work actually carried out at each job, the reliability and accuracy of the source data was reckoned to be higher than that of the 2006/07 data sourced from OMIS. A confidence grade of B4 had been allocated.

For this return changes were required to be made to the Ellipse Work Management system throughout the year to include a standard job type for Rising Main repairs to enable the separate reporting of rising main and gravity sewer repairs. This new job type and the introduction of closure codes to identify if collapses or blockages occurred on laterals private or public etc. took longer than expected due to change control issues, therefore NIW decided that the data for each of the lines on table 16a, Line 1 – Number of

Rising Main Failures, Line 2 – Number of Gravity Sewer Collapses and Line 3 – Number of Sewer Blockages should be gathered by Field Managers using checked and paid invoices from the Sewer Maintenance Contractor and submitted through their line management (Area Managers) as per Line Specific Methodology.

Using this method of gathering the information the Sewer Collapses per 1000km of Sewer has now increased to 96.3 for the AIR09 return. For the PC 10 return a 2% year on year reduction has been proposed but this is dependant sewer collapses becoming a driver for funding.

**Line 9**

The 2008/09 and 2009/10 targets are in line with the Wastewater KPI targets.

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

**Line 24**

A total of 77 works are included in the UWWTD assessment, which includes the PPP works.

5 works failed to meet the compliance standards for BOD. The works which have failed to meet the UWWTD standard are listed as follows:

- Ballycastle
- Benone
- Maghera
- Newry
- Saintfield

Tullagharley failed for total phosphorus removal, but passed UWWTD for BOD, therefore it is not included in this line as a failing works.

The % compliance with BOD is therefore 93.51%.

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

The confidence grade is A1.

**SERVICE TARGET REPORT - TABLE 3: CUSTOMER SERVICE**

DESCRIPTION		UNITS	DP	LAST KNOWN PERFORMANCE			2008-09 TARGET	2008-09 OUT TURN		2009-10 TARGET
				Reporting Year	Outturn	CG			CG	
<b>A Making and keeping appointments</b>										
1	Percentage of customers with whom NIW missed appointments (meter related) or failed to give at least 24 hours notice of cancellation.	%	2	None Set	N/C		None Set	N/C		None Set
2	Percentage of customers for whom NIW failed to specify an AM or PM appointment OR on request, a 2-hour period during which they would visit them (meter related).	%	2	None Set	N/C		None Set	N/C		None Set
3	Percentage of customers with whom NIW missed appointments (other) or failed to give at least 24 hours notice of cancellation.	%	2	None Set	N/C		None Set	N/C		None Set
4	Percentage of customers for whom NIW failed to specify an AM or PM appointment OR on request, a 2-hour period during which they would visit them (other).	%	2	None Set	N/C		None Set	N/C		None Set
<b>B Responding to account queries</b>										
5	Percentage of account accuracy queries substantively responded to within 10 working days.	%	2	None Set	N/C		None Set	N/C		None Set
6	Percentage of "change of payment method" requests the company was unable to action, AND did not reply to the customer within 5 working days.	%	2	None Set	N/C		None Set	N/C		None Set
7	Percentage of billing contacts answered within 5 working days.	%	2	96	94.97		97	98.64	B3	98
<b>C Responding to customer complaints</b>										
8	Percentage of written complaints NIW answered within 10 working days.	%	2	96	95.48		97	97.6	B2	98
9	Percentage of customer complaints resolved successfully upon first contact.	%	2	None Set	N/C		None Set	N/C		None Set
10	Percentage of customer complaints resolved successfully on first visit.	%	2	None Set	N/C		None Set	N/C		None Set
11	Failure demand: Percentage of incoming contacts initiated by company failure.	%	2	None Set	N/C		None Set	N/C		None Set
<b>D Bills for metered customers</b>										
12	Percentage of domestic metered customers who received at least one bill during the year based on a meter reading undertaken by NIW, or a reading provided by the customer (either in response to an estimated bill or as a result of a request for a meter reading).	%	2	95	0		None Set	0.00	A1	None Set
13	Percentage of non-domestic metered customers who received at least one bill during the year based on a meter reading undertaken by NIW, or a reading provided by the customer (either in response to an estimated bill or as a result of a request for a meter reading).	%	2	95	95.14		95	93.25	B2	None Set
<b>E Ease of telephone Contact</b>										
14	Percentage of calls abandoned.	%	2	None Set	1.05		1	1.12	A2	1
15	Percentage of calls - All lines busy.	%	2	None Set	100		1	0.00	A2	1
16	Call handling satisfaction score. (Min 0, Max5)	Nr	2	None Set	4.23		4.4	4.40	A2	4.6
17	Percentage of customer calls answered within 30 seconds. (During relevant business hours on Waterline, Billing Enquiries & Leakline)	%	2	93	94.78		95	97.09	A2	97

**STR Table 3 – Customer service**

Table 3 covers targets and performance for Customer Service provision;

- Block A (lines 1-4) covers appointments,
- Block B (lines 5-7) covers response to account queries,
- Block C (lines 8-11) covers response to customer complaints,
- Blocks D and E (lines 12-13 and 14-17) cover performance with regards billing of metered customers and telephone contact respectively.

Northern Ireland Water is currently able to submit completed returns for Blocks D and E, with partial returns for Blocks B and C (lines 7 and 8).

Northern Ireland Water is currently unable to submit complete returns for Block A and the remaining lines of B and C, as the targets are either not set/not measured or the systems/processes have not been adequately developed to enable robust reporting.

**Section A: Making and Keeping Appointments**

NIW had planned to fulfil the requirements of this section of the service target report by developing targets (using industry benchmarks) and measuring metrics during 2008/09, through its Customer Hub/Service First project within the Business Improvement Programme.

Due to various contractual challenges the Company has not made the progress that it would have expected during the reporting year towards reporting on appointments made with customers.

The Customer Services Directorate is currently developing a Customer Relationship Management Tool that should facilitate the recording of all appointment related information. The Directorate is also piloting a manual Customer Contact and Record sheet for all customer service appointments made within the current reporting year.

With the introduction of Mobile Work Management, NIW Operational appointments could be monitored but further work is required regarding implementation and target setting.

**Section B: Responding to Account Queries**

NIW had 81,370 DG6 billing contacts throughout the reporting year, 80,262 of which were dealt with within five working days giving a performance of 98.6% against a target of 97%. The DG6 target for the current reporting year has been raised to 98%.

**Section C: Response to Customer Complaints**

Of the 3,707 written complaints closed throughout the reporting year, 3,636 were closed within ten working days giving a DG7 performance of 98.1% against a target of 97%. The DG7 performance target has been raised to 98% for the current reporting year.

As per the Table 5 Company Commentary: the DG7 performance can not be calculated as a percentage of written complaints received. If a complaint is not resolved by the time the year end report is run (1 May) but a holding response has been issued in the reporting year, then it will be reported in the complaints received figure (Table 5, line 1) for the reporting year but it can not be included in the calculation of the percentage dealt with within ten working days measure. Once the item has been closed during the subsequent year it will be closed to a date in the reporting year gone so will not be included in the subsequent year's figures.

The number of complaints which will appear in neither years report for time taken to closed is calculated by assessing the volume of written DG7's that were received in year 2008/09, remained open on 1 May 2009 but will be closed back to a holding letter date in 2008/09.

#### **Section D: Bills for Metered Customers**

At present no decision has been made on the billing of domestic customers in Northern Ireland.

The Company aims to read the meters of non-domestic customers twice a year and bill accordingly. Customers may also read their own meters and report their consumption through the company's Billing Line. If for any reason a customer's meter can not be read, an estimated bill will be generated. NIW issued 61,904 bills during the reporting year out of 66,383 total metered accounts (not excluded from the indicator) giving a DG8 performance of 93.25% against a target of 95%. The reasons for failing to meet this target have been set out in the Table 5 Company Commentary. The target for the current reporting year will remain at 95%.

#### **Section E: Ease of Telephone Contact**

During the reporting year 321,720 calls were received on advertised contact lines. Of these 3,591 were abandoned by the customer – 1.12% of calls abandoned just falls short of the 1% target set for the reporting year. This failure was mainly due to the severe flooding event in August 2008. The target for *abandoned calls* will remain at 1% for the current year.

No customers who phoned during the reporting year received a busy tone. The target for '*all lines busy*' will remain at 0.1% for the current year.

NIW's customer call handling satisfaction score (out of 5), as assessed by the McCallum Layton survey, was as follows:

Quarter 1	4.14
Quarter 2	4.26
Quarter 3	4.55
Quarter 4	4.64
<b>Average</b>	<b>4.40</b>

This gives an average call handling satisfaction for the reporting year of 4.4, meeting the set target. A target of 4.6 has been set for the current year.



Out of the 321,720 calls received on advertised contact lines, 312,354 were answered within 30 seconds giving a performance of 97.09 and exceeding the set target of 95%. A target of 97% has been set for the current year.

### **Ongoing Developments**

NIW continues to develop its policies and strategies for improving customer service through its Customer Hub projects within the Business Improvement Programme.

The Service Performance project, successor to the Service First project, continues to be cross directorate and customer centric. The programme of work is customer process driven will attract considerable cross directorate support and engagement if it is to meet its objectives and will support the medium and long term objectives within PC10, which build upon the short or immediate term issues currently being tackled.

NIW recognises that to continuously improve is a fundamental requirement of customer service and to meet ever more challenging targets it must invest not only in changing the way it handles customer issues (the processes) but the way the business thinks about customer issues (the culture). It is essential that every person along the customer issue resolution path recognises that they are resolving a customer issue and that the resolution recommended by NIW should try and resolve the customer issue once and for all.

The ongoing projects within the Customer Hub will deliver benefits in terms of efficient processes and service delivery, and having efficiently installed, effective and managed processes NIW will be able to produce accurate and timely information to assist completion of key customer performance reporting and use this information to model their medium and longer term customer objectives more accurately.

NIW is required to demonstrate greater efficiencies in order to reduce costs and deliver improvements of service to the customer experience by reducing the frequency, severity and cost of service failure. These improvements will reduce the risk of damage to reputation and incurring legislative costs due to service failure, and mitigate the risk of failing to meet regulatory requirements.

NIW's 2010 vision states that '*customer service will in future be directly linked via contact handling, through our future processes to operations, and the payment for services*'. It is therefore essential that NIW continue to improve processes in a demonstrable way in order to deliver against this vision.

**SERVICE TARGET REPORT - TABLE 4: ENVIRONMENTAL IMPACT/SUSTAINABILITY**

DESCRIPTION		UNITS	DP	LAST KNOWN PERFORMANCE			2008-09 TARGET	2008-09 OUT TURN		2009-10 TARGET
				Reporting Year	Outturn	CG			CG	
<b>A Sustainability indicators</b>										
1	Percentage of NIW's power usage derived from renewable sources.	%	2	8%	7.829		9%	11.03%	A2	10%
2	Percentage of water mains and sewers installed using trenchless technologies.	%	2	90	N/C		91%	97.00%	A2	92%
3	Percentage of NIW's excavated material that was re-used in reporting year.	%	2	70	N/C		75%	91.00%	B2	75%
4	Carbon emissions profile: Total tonnes of CO2 equivalent (tCO2e) produced in reporting period.	Nr	2	None Set	N/C		None set	176,033.00	B3	None set
5	Tonnes of CO2 equivalent (tCO2e) offset in reporting period.	Nr	2	None Set	N/C		None set	N/C		None set
<b>B Pollution incidents</b>										
6	Total number of pollution incidents attributed to NIW per million population equivalent (pe) served.	Nr	2	46	148.3	C3	None set	131.19	C5	None set
7	Number of H, M and L (High, Medium and Low) category pollution incidents occurring at NIW combined sewer outflows and foul sewers per million population equivalent (pe) served.	Nr	2	None Set	85.6	C3	None set	95.28	C5	None set
8	Number of High and Medium category pollution incidents resulting from NIW's sewage collection and treatment activities per million population equivalent (pe) served.	Nr	2	None Set	148.3	C3	None set	25.85	C5	None set
9	Number of Low category pollution incidents resulting from NIW's sewage collection and treatment activities per million population equivalent (pe) served.	Nr	2	None Set	0	C3	None set	103.42	C5	None set
10	Number of High and Medium category pollution incidents resulting from NIW's water treatment and distribution activities per million resident population served.	Nr	2	None Set	N/C		None set	0.96	C5	None set
11	Number of Low category pollution incidents resulting from NIW's water treatment and distribution activities per million resident population served.	Nr	2	None Set	N/C		None set	0.96	C5	None set

**STR Table 4 – Environmental Impact/Sustainability****Block A – Sustainability indicators****Current Position – Carbon emissions**

- This AIR09 return has been made using the UKWIR workbook for estimating operational GHG emissions.
- Calculations to convert to CO<sub>2</sub> emissions have been made using the UKWIR workbook for estimating operational GHG emissions as industry standard conversion factors have been applied within the workbook. The data input cells within the workbook are protected therefore there is no opportunity to inadvertently make conversion errors.
- This AIR09 return does not include any data for 3 of the basket of 6 GHG's i.e. HFCs, PFCs and SF6.
- This AIR09 return does not include for contractor and consultant emissions or for travel associated with journeys made by private cars by NI Water staff.
- Travel in company vehicles is accounted for using diesel consumption figures from Baltor and Arval.
- A nil return has been made for emissions from journeys made by taxi, train and bus transport.
- A nil return has been made for rail, shipping and freight transport however data has been submitted for emissions associated with air travel.
- Carbon emissions associated with chemicals and supply chain are not included in the return.

The majority of our GHG emissions are associated with electricity and we have very accurate figures for usage however some shortcomings in data quality for other areas have led to an overall confidence grade of B3.

**Line 1**

The totals in this section include self generated renewable electricity and electricity purchased through contracts with licensed electricity suppliers. NI Water's current targets are to achieve a target of 10% of green energy used by March 2010, aligned with Government Targets of 10% by 2010 and up to 15% by 2015 where cost effective.

**Line 4**

The carbon emissions quantities supplied for period 2008/09 are compiled using company data input to the UKWIR workbook for estimating Operational GHG emissions. The total estimated emissions relate to electricity, other fuels, sludge and company owned vehicle transport Carbon emissions associated with transport by taxi, train, bus, shipping, freight, or chemicals and supply chain are not included in this figure.

**Line 5**

No mechanisms were in place to measure carbon offset within NI Water in the reporting period. An ongoing review of carbon emissions is underway to determine measures for accounting, mitigation and adaptation in line with other Water UK companies approach. Targets set for carbon offsetting, mitigation and adaptation will most likely align with current aspirational Government targets but will be dependent upon relevant funding to enable compliance with any targets set in the future.

**Pollution incidents**

The Northern Ireland Environment Agency (NIEA) monitors pollution incidents, assesses their severity and attributes them to NI Water, Industry, agriculture etc.

The incidents are classified as high, medium or low severity. This classification is assumed to equate to the category 1, 2 and 3 pollution incidents, the latter being the classification used by the EA in England and Wales.

For NI Water incidents, NIEA attributes them to specific assets e.g. CSOs, SPSs and this can be verified by NI Water.

The audit reports produced by NIEA are supplied to NI Water on a regular basis. It was agreed that this should be on a monthly basis with each month's data provided by the end of the following month. This information is supplied to Operations Services though the time frames have not always been achieved by NIEA.

During the 2008/09 reporting year NIW has installed telemetry into 120 additional Wastewater Pumping Stations therefore increasing the visibility of potential overflows from these assets. Work will continue throughout 2009/10 with further installations planned.

In addition to this NIW let, in August 2008, a bundled contract to a single Sewer Maintenance Contractor, which as envisaged improved the speed of response to potential incidents across the province. As part of this contract the contractor had to devise pre-planned maintenance runs for sewers and SPSs with the ultimate aim of reducing sewer blockages over the term of this 5 year contract.

NI Water also held training and awareness sessions for operational staff involved in dealing with pollution incidents.

**Lines 6-11**

The 2008 data supplied by NIEA has been analysed by Operations Services as follows:

<b>Definition</b>	<b>No of Incidents</b>
Total number of incidents	274
Number of H, M, and L incidents at CSOs and foul sewers (SPS on the sewerage systems have been included).	199
Number of H&M incidents resulting from sewage collection and treatment activities.	54
Number of L incidents resulting from sewage collection and treatment activities.	216
Number of H&M incidents resulting from water treatment and distribution.	2
Number of L incidents resulting from water treatment and distribution.	2

The figure for 'million population equivalent served' has been taken from AIR09 Table 15 line 6 which is defined as 'Equivalent population served – resident'. The figure given is 2.08864m with a confidence grade for the line of C5 so the same grading has been applied to lines 6-11.



# **Annual Information Return 2009**

## **Section 4**

### **Level of Service Methodologies**

**Northern Ireland Water**

**Level of Service Methodology**

**DG2 Low Pressure**

**Introduction**

NIW produced its first DG2 Register for AIR08. The Methodology statement submitted outlined in detail the process for populating the Register. It was recognised that the approach taken was conservative and validation of the data would be required during 2008/09. The process also identified 105024 'under investigation' (UI) properties that required further investigation owing to anomalies in the data output. NIW indicated it would investigate all 'UI' properties during 2008/09 and identify properties for transfer into the DG2 Register.

**Method (a): Procedure for the Investigation of Properties on the 'Under Investigation' (UI) Register****Key Data Used**

The information used for the reviewed GIS analysis 2008/09 was provided to Crowder Consulting Ltd and included data from Zonal modelling, field and desktop studies; this included:

- Hydraulic modelling outputs
- Node and Demand data
- Property Ferrule point

**Nodes:** These are point locations of the end vertex of each pipe. The elevation, minimum pressure and minimum head have been assigned to each of these locations through Aquis hydraulic modelling software.

**Demands:** These represent the location of properties.

**Ferrules:** These represent the point at which the property connects to the nearest main running perpendicular to the property. This assumes that the service pipe is a straight line running at 90 degrees to the main. This point was calculated by NIW AIC.

**X On pipe and Y on pipe:** In order to make the association between the demand and the ferrule, the demand was given the X and Y coordinates of the point on the water main i.e. the ferrule location. These are known as the X on pipe and the Y on pipe.

**Minimum Total Head:** Minimum pressure from node point + Ground Elevation from the node point (both these values were produced as part of the hydraulic modelling outputs).

**Surrogate Total Head:** Total Head derived at the node points by hydraulic modelling, this is used to provide a total head for the ferrule points within a certain proximity.

**Further Investigation**

The investigation of the 105024 properties (UI Register) commenced with a reviewed GIS analysis 2009 with staff from CC/EMM, NIW AIC & DMU and the Zonal Studies consultant who supplied the original data.



The objective of the reviewed GIS analysis was to allocate a pressure to the ferrule point for each property on the UI Register using the data from the Nodes and Demands from the initial analysis

The minimum total head (TH) at each modelled node point was used as a surrogate TH and used to determine the pressure at a number of associated ferrule points. The pressure at the ferrule point was then attributed to the associated property with the use of the X on pipe and Y on pipe coordinates. All properties with a ferrule pressure below 16m were detailed for further investigation and an actual TH determined from a seven day pressure log using adjacent FHs or critical points within each DMA/PMA. All logging points were surveyed using RTK GPS to determine the elevation at the logging point and a value of 450mm subtracted from the cover level to compensate for the FH depth.

The ferrule elevation within the original routine was derived with use of the DTM which was compiled using 2002 height data. During programming of the revised GIS analysis it was discovered that a 2008 DTM was available and being used by NIW AIC. A random survey was carried out using RTK GPS to compare against the 2002 and 2008 DTM and it was found that the 2008 was more accurate. In keeping with the objective of producing the most accurate data from the revised GIS analysis the ferrule heights were recalculated using the 2008 DTM. The properties receiving a pressure >15m were recommended for removal from the UI Register. Properties receiving a pressure <15m were recommended for transfer onto the DG2 Register. This reviewed GIS analysis 2008/09 was carried out using Map Info Professional. The following procedure outlines a summary of the steps taken to identify the properties in receipt of either low or satisfactory pressure.

- A count was made to ensure that each demand was reading from a single node. If the demand does not read from a node minimum head for the demand will be calculated as zero. Errors will also occur where the demand is attempting to read from more than one node.
- The minimum total head (TH) at each modelled node point was attributed to its associated demand points as a surrogate TH where the node reference on each table matched.
- The X on pipe and Y on pipe on both the Ferrule and demand table were combined in order to establish a common column between the two tables.
- The two tables were exported to Excel where a check was run to ensure that there were no two demands or ferrules that had the same set of coordinates.
- The elevation at the ferrule point was attributed to its associated demand, (where the combined coordinates of the X on pipe and Y on pipe of the ferrule matched the combined coordinates of the X on pipe and Y on pipe of the demand.)
- The ferrule pressure was calculated by subtracting the ferrule elevation from the surrogate total head provided by the node.
- A query was run to select all the demands that had a ferrule pressure less than 15. This was saved as a new demands table 'Demands15'.

- A 1 metre buffer was placed on all the DG2 UI properties. The properties which contained a demand from the new Demands 15 table within the buffer were identified as the properties requiring further investigation.

### **Method (b): DG2 Properties – Procedure for the investigation and recommendation for removal of properties entered in the DG2 Register**

The procedure for the investigation of properties existing in the DG2 Register at April 2008 is based on the 'DG2 NIW Procedures April 2008' document produced by the NIW Leakage Data Management Unit. The objectives of the investigation were as follows:

1. The verification of data attributing to the DG2 entries.
2. Removal of DG2 entries on the register as a result of more robust data being available.
3. Removal of DG2 entries resulting from capital works and infrastructure improvements.

The investigation for each DMA containing DG properties was divided into three actions:

- A desktop study
- A site investigation
- A final report on each investigation

### **1. The Desktop Study**

The desktop study consisted of a review of all available data attributing to the DG2 entries. The objective was to determine the pressure at the connection point serving the property taking in to consideration the ground elevation at the connection point and the available total head (TH) i.e. TWL of service reservoir. To enable this figure to be calculated it was necessary to determine the nature of supply to the property, for example:

- Gravity
- Pumped
- Pressure Managed, (PSV or PRV)

The initial study looked at the TH at each property as recorded in the DG2 Register, compared to the calculated estimated TH at the same property. Figure 1 shows an example of the calculation from a gravity supply.

			<b>Data from NIW DG2 Register</b>			<b>Desktop Calculations Using Static TH</b>		
DMA Name	X Coords	Y Coords	Property Elevation (m)	Property Pressure (m)	Pressure Type	Connection Elevation DEM (m)	Reservoir TWL DEM (m)	Estimated TH at Property (m)
Burnside	284005	431868	40	11	Surrogate	40	55	15
Burnside	284007	431861	40	11	Surrogate	40	55	15

**Figure 1**

## 2. The Site Investigation

The example above indicates that the total head may provide a satisfactory pressure at the property under investigation but in accordance with the NIW approved methodology this does not carry enough substantive evidence to support removal from the DG2 Register.

The objective of the site investigation was to acquire the necessary data to allow a more detailed assessment to be carried out. The 2 key elements of this investigation were 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 the NIW guidelines the following procedures were followed:

- Logging points were identified within the network, which did not exceed 250m in distance from the DG2 stopcock.
- The logging points were within the same DMA/PMA as the DG2 property.
- A unique logger ID was clearly assigned to the logging point.
- An accurate elevation of each logging point was provided using RTK GPS. A value of 450mm was subtracted from this elevation to allow for the depth of the FH spindle.
- Logging point boundary polygons around the hydrants were digitised onto MapInfo to allow the associated properties to be assigned to the relevant logger.
- A pressure log and elevation were taken in any adjoining DMAs. This was to identify any potential for a BV change to improve the pressure at the DG2 property.

To assist with the site investigation, a detailed map was produced showing the following information:

- DG2 properties labelled with DG2 register water pressure
- Pointer Property data showing elevation at each property (Pointer Plus Version October 2008)
- Water pipes, fittings i.e. SVs, Fire Hydrants (FHs) terminating nodes etc
- DMAs and PMAs (where applicable)
- Background Vector maps
- Required pressure logging points

## 3. Final Report

Following each site investigation a Recommendation for Removal Report was produced which documented the findings and placed the properties into the following categories;

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 loggings verified the results from the desktop study, i.e. properties that were in receipt of a pressure  $>15$ , then the DG2 properties were recommended to NIW for removal. Properties removed were supported by a brief technical assessment based on pressure loggings, RTK GPS height data and other relevant factors including pressure logging trace/ print out.

Properties in receipt of a pressure  $<15$ m remained 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, was provided.

Prior to this information being provided a brief assessment was undertaken to determine if the properties could be transferred onto an adjoining DMA/ PMA. This information was included within the assessment where deemed viable.

### **Deviation from the conditions laid out by NIW for DG2 Register**

Owing to the rural nature of some DMAs it was not possible in some exceptional cases to undertake logging within 250m of the DG2 property as set out in the NIW methodology. In these instances a number of Fire Hydrants were logged which would enable an accurate pressure profile of the DMA to be established. The following alternative procedure was used:

- A desktop study of the DMA containing DG2 entries was undertaken.
- A series of FHs were identified for pressure logging. The locations were selected to ensure that an accurate pressure profile of the DMA was established.
- Data loggers were fitted to log the pressures over a seven day period.
- All logging points were surveyed using RTK GPS; this provided accurate height data for Total Head calculations. A value of 450mm was subtracted from the elevation to allow for the depth of the hydrant spindle.

On compilation of this data an analysis was undertaken to determine the nature of supply and a pressure profile within the DMA/PMA to determine potential DG2 entries. If the pressure profile showed that the Total Head within the DMA/PMA was sufficient to provide adequate pressure the results from the field testing and analysis were presented as evidence for removal of the DG2 entries and a Recommendation for Removal Report was issued.

Where analysis identified properties in receipt of a surrogate pressure  $<15$ m they would remain or be added to the Register in accordance with NIW procedure.

### **Properties receiving low pressure but excluded from DG2**

**Method:** Properties entered on the DG2 Register, line 3, using the methodology stated under method (b) but excluded from line 3 where the supporting documentation has confirmed the property elevation is within 15m elevation of the service reservoir serving the property.

**Calculation:** Properties taken from DG 2 Register but excluded from reported properties Line 3.

### **Sources of Information**

The primary data source for population of the DG2 Register for AIR08 was the Zonal Studies work. Further information was obtained from GIS, Field and desktop studies. For AIR09 data was obtained from completed rehabilitation schemes (capital works), NIW Asset Information Centre and field studies undertaken by Crowder Consulting Ltd.

### **Scope and Coverage**

Zonal Studies work covered approximately 64% of NIW at initial population of the Register. Data for the remaining areas was extracted from GIS and through field and desktop studies. For AIR09 the objective was to commence validation of the Register data, incorporate field data from completed rehabilitation schemes and identify properties for inclusion in the Register arising from data anomalies. The validation exercise concentrated initially on clusters of DG2 properties and not on properties with pressure recorded below 7.5m. All properties on the Register with a recorded pressure below 7.5m will be investigated during 2009/10.

### **Assumptions and Exclusions**

The only exclusions listed are those within 15m elevation of the service reservoir. NIW 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 AIR09 are identified in 'Method (a)' and 'Method (b)'. A surrogate pressure of 15m has been used to identify DG2 properties.

### **Other Issues**

It was recognised that the AIR08 methodology was likely to over estimate the potential number of DG2 properties and that network improvements resulting from watermain rehabilitation work had not been captured within the data used to populate the Register (NB the post evaluation data was not completed). NIW's priority for AIR09 was to commence validation of the data supporting the Register and incorporate data from completed rehabilitation schemes. This work will continue during 2009/10. Owing to the significant movement of properties the Register was enhanced to provide electronic links to supporting documentation for all additions and removals i.e. logged pressure data. NIW recognises that further work is required to capture DG2 properties arising from initial customer complaints.

**Northern Ireland Water**

**Level 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**

**Appendix A – Roles and Responsibilities**

**Appendix B – Process Flow Diagram – Unplanned Interruptions**

**Appendix C – Process Flow Diagram – Planned Interruptions**

**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 Register is compiled and held by Operations Services Section in Northland House.

**2.0 REPORTING REQUIREMENTS**

The information to be reported within Table 2 of the Annual Information Return (AIR09) is as follows:

**2.1 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 caused by third parties
14	More than 6 hours caused by third parties
15	More than 12 hours caused by third parties
16	More than 24 hours caused by third parties
17	More than 6 hours unplanned (overruns of planned interruptions)
18	More than 12 hours unplanned (overruns of planned interruptions)
19	More than 24 hours unplanned (overruns of planned interruptions)



**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 third party interruptions; or 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 OFWAT June Return Reporting Requirements & Definitions Manual 2008, Issue 1.0 – December 2007.

### **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**

For a planned interruption the start time is the time at which water is unavailable at the first cold tap in a property; for an unplanned interruption it is when customers first notice the loss of supply or if this information is not available the time a 'no water' complaint is logged by the Customer Relation Centre. End time is when the company is satisfied that water has been fully restored to an acceptable pressure to the affected properties. This is not necessarily the same as when the main supply valve is open.

#### **3.3 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.

#### **3.4 Event**

Event is the term used by Northern Ireland Water Limited to describe its involvement in an abnormal occurrence in its services to customers.

#### **3.5 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.

### **3.6 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 (> 3 Hrs) 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 48hr warning period or not, is also to be re-classified as 'unplanned'.

### **3.7 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 shut down that an overrun is going to occur, the interruption is described as an overrun and is reported separately.

### **3.8 Third party interruption**

A third party is defined as anyone who does not act for, or on behalf of NIW.

This category is intended to cover damage to NIW'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.

### **3.9 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 Ofwat Return commentary.

### **3.10 Properties affected by more than one interruption during the 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 interruption information for the interruption record, as occasions arise where it is not clear which function should carry out the repair work.

In general whichever function operates the valves to cut off supply at the site of interruption is also responsible for the collection and ownership of the interruption information. This means, for example, that although leakage services is responsible for carrying out the repair to the interruption, Networks water is responsible for the collection of the information if they have operated the valves.

#### **4.1 Planned Interruptions (lasting > 3 Hours)**

Planned interruptions to supply arise as a result of work being carried out by different functions within Operations Directorate or by functions within other NIW Directorates. These have been identified as follows:

- Planned interruptions carried out by Networks Water.
- Planned interruptions carried out by Leakage.
- Planned interruptions carried out by Engineering and Procurement (E&P), and
- Planned interruptions carried out by Customer Services Directorate (CSD).

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 collection and recording all appropriate information to be included in the DG3 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 hrs warning must be given for planned interruptions greater than 3 hrs. 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 then the card drop operation starts at 9.00am and finishes at say 2.00pm, the warning period starts at 2.00pm, on say, 2 July for 48hrs. Work should not start on site on the planned interruption until 2.00pm on 4 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:

- planning activity
- the interruption, or
- 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**

Field Staff on site is to record all information on a proforma sheet (see Appendix D). The proforma sheet contains the raw data associated with the interruption and is taken to an appropriate computer workstation for input into OMIS. These proforma sheets must be kept for audit purposes.

The Networks Water or Leakage Field Manager responsible for the planned works is required to ensure that all relevant information is input to the OMIS Interruption Reporting System and all documentation is retained for audit purposes.

Details of the OMIS input sheet and the OMIS user guide can currently be obtained from Operation Services in Northland House.

#### **4.3 Planned interruptions carried out by E&P or CSD.**

Information relating to interruptions carried out by E&P and CSD use a combination of an interruption Proforma and an excel spread sheet. An appropriate member of E&P or CSD staff should sign off the information to be recorded in the DG3 register each week/ month.

Details of the Interruptions Proforma (see appendix D) and spreadsheet can currently be obtained from Operation Services in Northland House.

#### **4.4 Unplanned Interruptions**

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 the OMIS Interruptions Input screen.

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 staff on site record all information on a proforma sheet (see appendix D). The proforma sheet contains the raw data associated with the interruption and is taken to an appropriate computer workstation for input into OMIS. These proforma sheets must be kept for audit purposes.

Local Network Water Area Managers may be made aware of interruptions other than as a result of customer calls. In such cases, the Field Manager should ensure that relevant details are passed to the Work Planning Unit for processing.

Details input to the OMIS Reporting System are to include the interruption start time, as noted by the first affected customer, the time at which the supply was restored and whether a third party or an electrical supply failure was the cause.

#### **4.5 Records of numbers of properties affected**

The number of properties affected by an interruption should be determined by the most accurate means available at the time of:

- the interruption and
- 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.

#### **5.0 RECORDS**

Overall responsibility for DG3 records lies with the Head of Networks – Water, however the DG3 Register is compiled and held by Operations Services in Northland House.

Networks Water and Leakage record interruption information on the OMIS system. E&P and CSD record interruption information on excel spread sheet.

#### **5.1 OMIS Interruption Recording System**

OMIS allows five types of interruptions to be recorded:

- Unplanned
- Planned
- Unplanned Third Party
- Overruns
- Planned – unwarned (Leakage only)

The OMIS information sheet (proformas) form Appendix D of this document

When all information is input into OMIS and is saved, the information is then included in the interruptions register within OMIS. This interruption record can be revisited with more accurate information until the interruption is checked as complete. The information contained on the OMIS input screen is then permanently transferred to the interruption register and cannot be altered.

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 operative or the supervisor. 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).

Local Network Water Area Managers and the Network Business Unit 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 retained for general audit purposes.

On-call staff are to gather all relevant information and report to the Local Network Water Area Manager as soon as possible the next working day.

Inputs to the OMIS Interruption System shall be closed out by the 10<sup>th</sup> of each following month. Checking of input data and local audit checks are to be carried out by the Networks Business Unit. Following these checks the networks Business Unit will release the data to Operations Services for inclusion into the DG3 register and calculations for KPIs.

## **5.2 Interruption Excel Spreadsheet**

Planned interruptions undertaken by E&P and CSD will most likely be carried out by a number of contractors. The contractors representative should gather all appropriate information on an Interruptions Proforma sheet and then transfer this information to the Interruptions excel spreadsheet. The excel spreadsheets should be collated at the end of each week/month and signed off by an appropriate member of E&P or CSD staff and sent to Operations Services for inclusion into the DG3 register. All proformas should be stored by E&P and CSD for Audit purposes.

Details of the Interruptions Proforma (see appendix D) and spreadsheet can currently be obtained from Operation Services in Northland House.

## **5.3 House numbers and Addresses**

It is a requirement that the numbers of houses and their addresses, that experience an interruption to supply that exceeds 3 hours, should be recorded. The number of properties affected by an interruption should be determined by the most accurate means available at the time. This is likely to be:

### **A. Property count**

Operatives on site tending to a relatively simple interruption may have sufficient knowledge to estimate accurately the number of properties affected. This can be done by carrying out a property count. This then should be recorded on OMIS as say 1- 10 High Street or 15 – 25 Main Road (property count). The house count can be done during the course of the repair to the interruption being carried out.

## **5.4 Records of Interruptions**

Information that is to be recorded for both planned and unplanned interruptions is contained in the OMIS user guide held in Operation Services.

In general all interruption to supply should be recorded. However there are large numbers of very short interruptions to supply carried out by Leakage function and CSD. These interruptions are routine, inconsequential and last no longer than 30mins. Information about these interruptions are held by managers in Leakage and CSD and are therefore not required for the interruption 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 that should be recorded is to be given by Leakage and CSD managers.

**In general: Routine interruptions lasting less than 1 hr need not be recorded as part of the interruptions register except at the discretion of the operative or networks manager.**

All Interruption records held on OMIS are to be approved by appropriate line management within each function *and closed off by the 10<sup>th</sup> of the following month e.g. all records for say April should be approved and closed by 10 May.* Operations Services will email the different functions reminding them of the deadline at the end of each month. Interruption records held by E&P and CSD should be sent to Operations Services by the same date.

### **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 including proformas corresponding to individual interruption records are stored locally for audit purposes.

### **5.7 Amendments to Information**

All amendments to the base data contained in OMIS or information changed during the course of the development of the DG3 Register in excel must be supported by a detailed explanation.

## **6.0 REPORTING**

### **6.1 NIW Reports**

The OMIS Interruption System can be updated on a continuous basis as and when interruptions occur. The Monthly Summary Reports can be generated following the quality assurance checks carried out by Deputy Network Managers and the Networks Business Unit and the release of data by the Functional Managers. These reports are used by Operations Service function to compile a DG3 register for each month and corresponding KPIs.

The following reports are generated by Operations Services for Management information:

- DG3 monthly report (which includes the monthly DG3 Register, see Appendix E)
- Interruption to Supply KPIs
- Annual DG3 Supply Interruption Report (developed to mirror the current OFWAT June Return – Table 2 report as set out in the reporting requirements and definitions manual 2008, Issue 1.0 – December 2007)

### **6.2 Development of the DG3 Register and KPIs**

Interruption data for each month is collected from 3 different sources (as described above) into a “Composite Interruption Data” spreadsheet held in

Operations Services in NIW Head Office. Interruption data from these sources is combined into an “Interruption Record – Month” worksheet and is held as the combined data record for that particular month.

The interruption data record is transferred to an “Interruption Record – Amended” worksheet where the raw data is examined for errors, anomalies duplications etc. These are re-classified if necessary and highlighted in red. The data is then categorised into the different interruption categories. These are: Unplanned Interruptions, Planned and Warned, Third Parties and Overruns.

The amended interruption data is transferred to the “DG3 Register – Month” worksheet. Here the records are sub categorised into their time bandings, e.g. >3hrs, >6hrs, >12hrs, >24hrs for each category. This then forms the DG3 Register for that particular month.

The interruption data held on the DG3 Register that pertains to the AIR08 Reports and KPIs is transferred to the “AIR08 Return & KPI” worksheet. This worksheet is in the form of two tables. The first is the extract from the AIR08 table 2 – “Properties affected by supply interruptions”. The table is expanded to allow for appropriate inputs for each month. These are recorded and summated at the end of the reporting year to provide the figure for the input into the AIR08 table for that particular line.

The second table contains the relevant DG3 Register information, recorded on a monthly basis, which is used to calculate the KPIs. There are 3 KPIs pertaining to the DG3 register. These are:

- Unplanned interruptions > 6hrs
- Unplanned interruptions > 12hrs
- Unplanned interruptions > 24hrs

(Unplanned Interruptions include third party interruptions and overruns)

These are expressed as percentages of total properties. These KPIs are calculated and monitored on monthly basis.

### **6.3 Regulatory Report**

The Finance & Regulation Directorate will report to Northern Ireland Authority for the Utility Regulation (NIAUR) on an annual basis.



## **Appendix A – DG3 Interruption to Supply - Roles & Responsibilities**

### **Customer Relations Centre (Normal Hours)**

- Log 'no water' / 'burst main' complaints into RapidExtra system.

### **Operations - Networks Water**

- The Networks Business Unit is responsible for the procurement of information for DG3 within the Networks function. The Business Unit is supported by three functional managers.

### **Operations - Leakage Services**

- The deputy leakage managers are responsible for the procurement of information for DG3 within the leakage function.

### **Engineering and Procurement E&P**

- The E&P Directorate are responsible for the installation of new watermains. Interruptions to supply arise as a result of connecting properties to the new watermains.

### **Customer Services Directorate**

- The CSD is responsible for meter maintenance and the installation of new meters. An interruption to supply to the property arises during the course of the installation.
- Customer Relations Centre Front Desk (Tel: 028 9016 8205 or 028 9016 8204).

### **Operations Services**

Operations Services is responsible for the following:

- Receipt of all interruption information from Networks Water, Leakage, E&P and CSD,
- Compiles each set of information into the DG3 register,
- Audits Data,
- Produces reports for Management and Regulator,
- KPIs.

### **Telemetry Control Centres (Out of Hours)**

Log 'no water'/'burst main' complaints into Work Planning (Ellipse) system and inform on call supervisor immediately.

### **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.

**Networks Ops Water - Local Area Managers / Deputy Network Managers**

- Inform CSD and Work Planners of planned interruption 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.
- Record interruption details as an entry into OMIS Interruption System.
- Provide supporting information on number of properties affected and reasons for interruption.
- Record details of interruptions received from on-call staff.
- Deputy Network Managers to carry out audit checks on OMIS entries and Interruption Register.
- Deputy Network Managers to advise Functional Managers following the quality assurance and compliance checks.

**Networks - On-call Staff**

- Assess extent of unplanned interruptions, update Duty Officer (if required) and organise remedial work.
- Inform Local Networks Area Manager of actions taken and interruption details.

**Network Functional Managers**

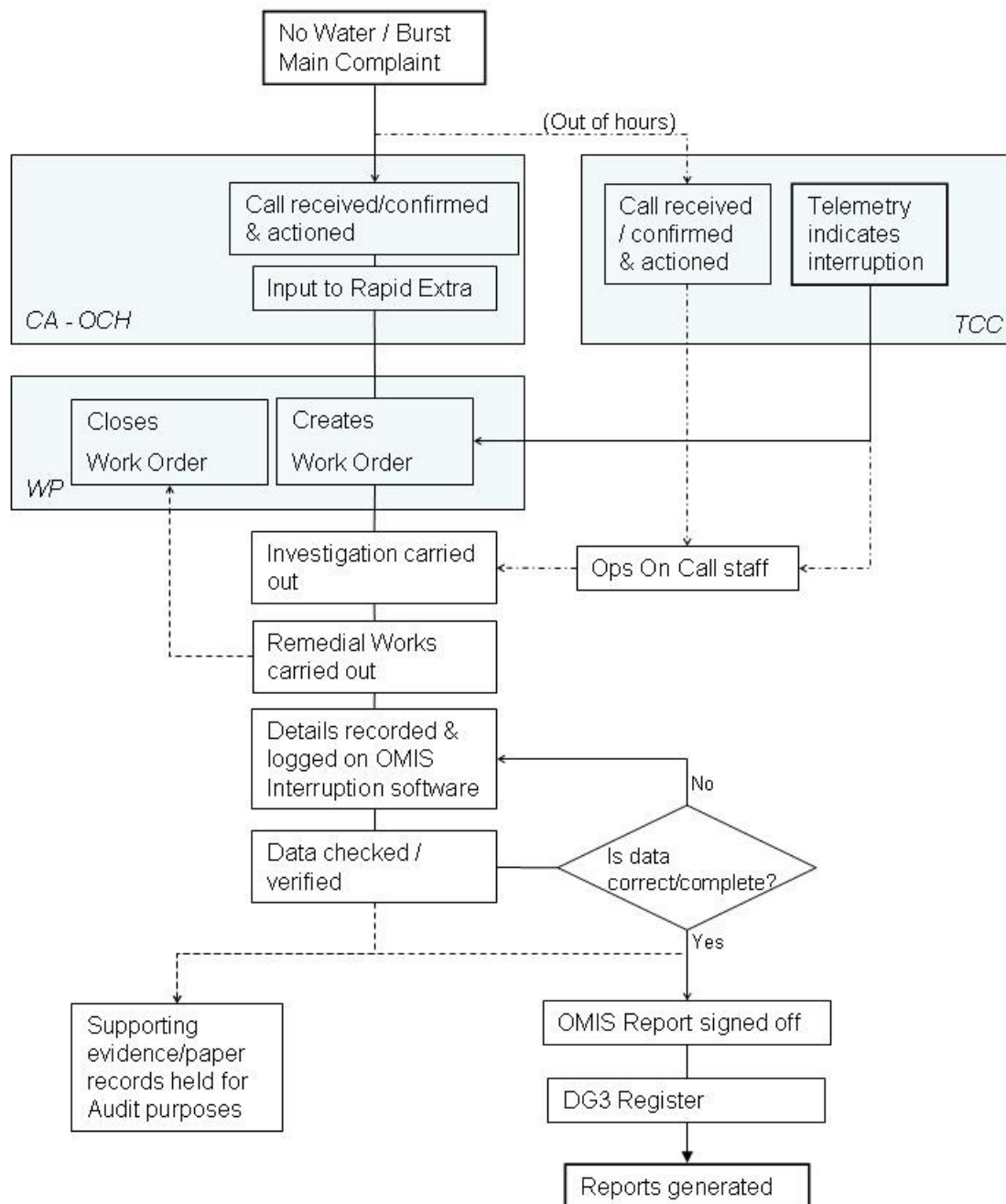
- Approve OMIS Interruption Register and release data for reporting purposes.

**Regulation & Business Performance Section**

- Submit Annual Report to NIAUR.

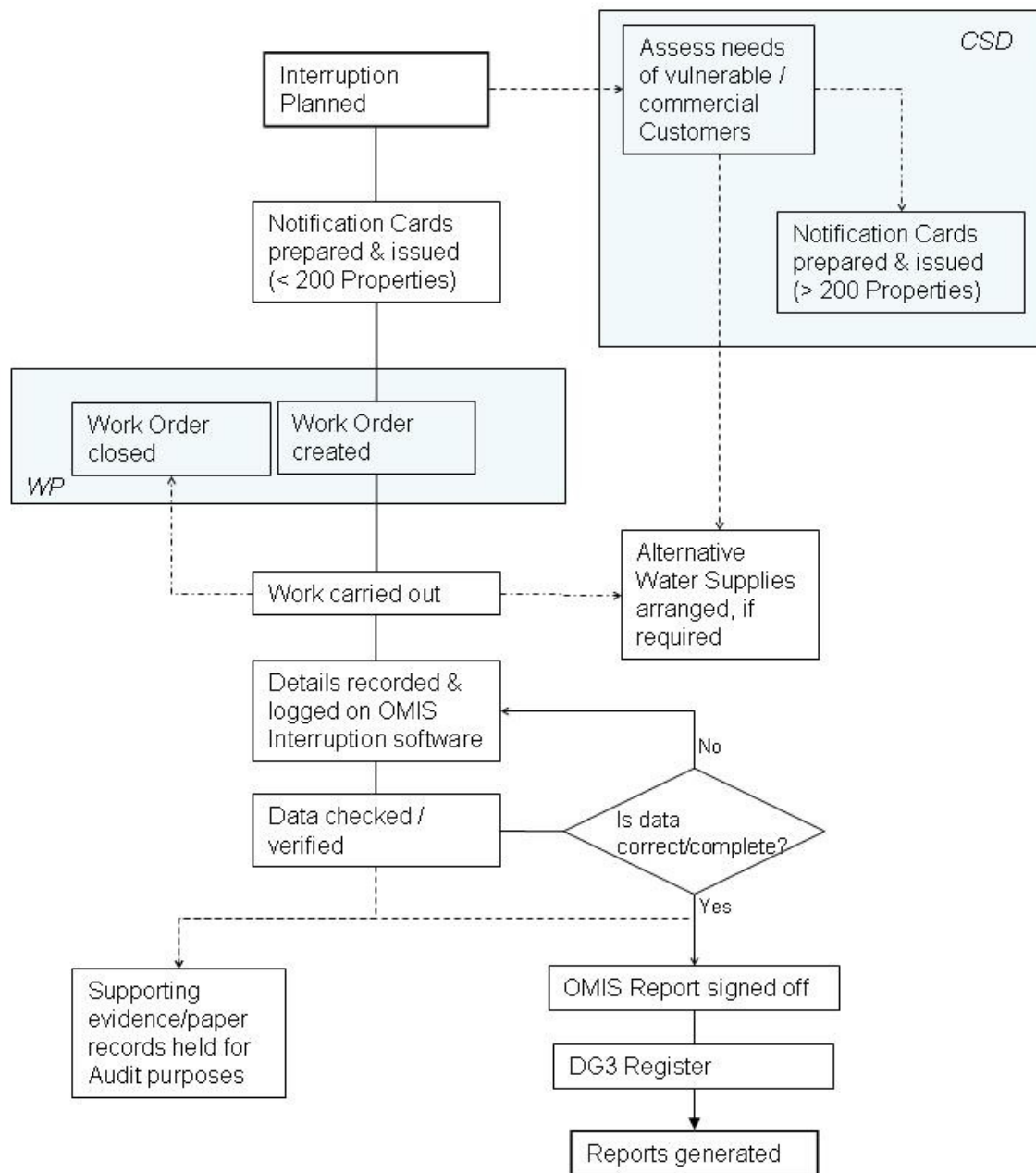
## DG3 Process Flow Diagram - Unplanned

## Appendix B



## DG3 Process Flow Diagram - Planned

## Appendix C



**Appendix D – Proforma - Interruption Information Sheet**

Add New Interruption Record				
Interrupt Number	Reported By	Works Request No	Works Order No	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
Details Of Location				
Functional Area	Networks Office	Total Properties		
<input type="text"/>	<input type="text"/>	<input type="text"/>		
Location (255 characters max)				
<input type="text"/>				
Type and Cause Of Interruption				
Type Of Interruption	Cause Of Interruption			
<input type="text"/>	<input type="text"/>			
Third Party	MainsType			
<input type="text"/>	<input type="radio"/> Trunk <input type="radio"/> Distribution			
Warning Details				
Type Of Warning	Warning Issued	<input type="text"/>	<input type="text"/>	
<input type="text"/>	Planned Start	<input type="text"/>	<input type="text"/>	
	Planned End	<input type="text"/>	<input type="text"/>	
Time Of Interruption		Alternate Supplies		
Interrupt Start	<input type="text"/>	<input type="text"/>		
Supply Restored	<input type="text"/>			
All Properties Restored	<input type="text"/>	Length Of ITS (Hrs)	Overrun (Hrs)	
		<input type="text"/>	<input type="text"/>	
No Of Properties Affected (Complete Duration Including Any Overrun)				
> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
No Of Properties Affected (During Overrun Only)				
> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Comments (255 characters max)				
<input type="text"/>				
<input type="button" value="Close"/> <input type="button" value="Save"/>				

## Appendix E – DG3 Register Extract

DG3 Register - March 09

Interruption Records - March 2009

### Unplanned Interruptions

[illegible]

### Unplanned Interruptions

[illegible]

### Unplanned Interruptions

[illegible]

### Unplanned Interruptions

[illegible]

**Northern Ireland Water**

**Level of Service Methodology**

**DG5 Flooding**

## **Contents**

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- 2. DG5 Flooding Incidents – Internal and External**
- 3. DG5 Properties at Risk of Flooding – Internal and External**
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## 1. Introduction

### Objective and Aim

NIW 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 NIW 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 'at risk' category for reporting under DG5.

If a property on the register is not reported as being at risk under DG5, the reason should be stated.

The NIW DG5 register is in the process of being developed and during the course of the development it has been necessary to run a 2 tire approach for the determination on internal flooding incidents namely Historical Data and Live Data i.e. data captured for the reporting year of 2008/09.

### Reporting Requirements

Four main outputs are required to be produced relating to the flooding for AIR09:

- DG5 Annual Flooding Summary – properties internally flooded as a result of overloaded sewers and other causes.
- DG5 Properties on the 'at risk' register – properties at risk of flooding due to overloaded sewers, more frequently than once in twenty years and once or twice in ten years, problem status of properties on the register, annual changes to the register.
- DG5 Annual External Flooding Summary – includes areas externally flooded as a result of overloaded sewers and other causes.

- **DG5 Areas on the External 'at risk' register** – areas at risk of flooding more frequently than once in twenty years and once or twice in ten years, problem status of the external areas on the register, annual changes to the register.

The information relating to the above are contained in Tables 3 and 3A of the AIR09 Return (see Appendix A).

## Definitions

**Flooding incidents:** For the purpose of the return, a flooding incident is defined as an event of internal flooding (as defined below) from a public sewer (whether foul, combined or surface water).

**Internal flooding:** For the purposes of DG5, internal flooding is defined as flooding which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those 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. This exclusion encompasses both:

- detached garages (whether situated inside the boundary of the property and separated from the main building or outside the boundary but with common access as in a garage block); and
- linked detached garages (i.e. garages which are attached to a property but separated from it by an external passageway).

However, garages forming an integral part of a property are classed as part of the building and are included, even if their prime purpose is storage, etc.

**Overloaded sewers:** A sewer is overloaded when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded. No account should be taken of the severity of the storm causing the incident.

**Properties at risk:** These are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant period (either once in twenty years or once or twice in ten years).

**Severe weather:** All flooding incidents should be reported irrespective of the severity of the storm. Companies may indicate in the commentaries when flooding incidents have been due to severe rainfall and this information will be taken into account when producing the 'Levels of service' report.

**Uninhabited cellars:** An uninhabited cellar is defined as an integral part of a building that is at least partially below ground level. It is not used for habitation. Where such a cellar is in regular use as part of the normal living

accommodation it is termed a basement and any flooding should be reported as a normal internal flooding incident.

## Reporting

**NIW Reports:** The following reports are generated by Operations Services for Management information:

- DG5 (Internal and External) Annual Flooding Summary - Annual
- DG5 (Internal and External) Properties on the Risk Registers - Annual
- Monthly Reports for NIW Executive Team
- Nr of overloaded sewers (Hydraulic Capacity Problems)
- Nr of Overloaded Sewers (Blockage, Collapsed Sewer, Equipment failure)
- Nr of Properties on the 1 in 10 year at risk Register

## Regulatory Report

The Finance & Regulation Directorate will report to Northern Ireland Authority for the Utility Regulation (NIAUR) on an annual basis.

## Situation at March 2009

The DG5 Registers are in the process of being developed using historic and current flooding records, of varying quality, dating back to 2000. These initially contained 1,600 records in the Internal Database and 40,000 records in the External Database. In order to develop a DG5 Database each of the records contained in each of the databases has to be investigated to see if the flooding information meets the DG5 criteria. Records are then determined as being DG5 Reportable and are assigned to an appropriate "At Risk" register. Those records that do not meet the DG5 criteria are recorded in the "excluded" section of the Database. It was proposed to have 100% of the initial Internal flooding records investigated and determined by October 2008, which was achieved. 100% of the initial external flooding is to be determined by October 2010.

## 2. DG5 Flooding incidents

### Internal

Data gathering and calculation is as described below.

### Sources/Process for all lines 2 to 11

A download of internal sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009 on a month by month basis.

The records were sorted firstly by Creation Date field, then by Street Name field, then by Property Number field, and finally by Town/City field.

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, Flooding Report Forms, Field Manager reports and contacting the Customers directly, are removed, the remaining properties were combined for a yearly total.

**Assumption**

For the purpose of AIR09, NIW 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.

**Lines 2, 3, 6, 8, 9 and 10**

A count was then made on these records that represented one internal flooding complaint per unique property, meaning that properties affected by more than one incident were reported only once, as per the definition.

These properties were then sub-divided into the appropriate categories for lines 2, 3, 6, 8, 9 and 10 using the information gathered from, the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly.

**Line 4**

A sort was carried out on all addresses to eliminate properties with ‘flooding other causes’ as found from the investigations using the information gathered from the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly.

The remaining properties are those either flooded due to overloaded sewers or flooding due to overloaded sewers attributed to severe weather.

A Met office report was obtained for each of these lines to ascertain if the cause of the internal flooding was due to weather conditions.

As per the definition this line’s enumeration includes flooding incidents caused by severe storms which affect properties that are **not** at risk of flooding more frequently than once in ten years therefore a check was made on historical records to determine this.

**Lines 5 and 11**

As stated in last year’s methodology. From JR08 for England and Wales, it is reasonable to report zero properties for cellar flooding. Given that NI is not likely to have as many properties with cellars as in parts of England and Wales and that such detailed information is unavailable for NIW’s property flooding records derived from Ellipse or the returned Flooding Incident Report Forms, the decision has been taken to assume zero properties for cellar flooding.

**Line 7**

A count was then made on these records that represented one internal

flooding complaint per unique property identified as caused by blockage, collapse or equipment failure.

These annual records were combined with the list of historical records stating cause of flooding to be blockage, collapse or equipment failure.

A sort on the date of incident field and address field gave the number of properties that have flooded more than once in the last 10 years due to other causes.

### **Changes in Methodology over the Previous Year**

The raw data is from the same source i.e. Ellipse Work Management System as the AIR08 return but for the AIR09 data each internal flooding complaint was investigated as described.

### **Changes in Figures from AIR08 to AIR09**

The reason for the significant changes in figures quoted on lines 2 to 11 is down to the fact that that last year's figures were assumptions and for AIR09 the figures were obtained from investigated incidents.

## **External**

### **Sources/Process for all lines all Lines 1 to 11**

Data gathering and calculation is as described below.

## **Lines 1 & 7**

### **Sources/Primary Process**

17. A download of external sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009.

18. The records were sorted firstly by Date field, then by Property Number field, then by Street Name field and finally by Town field.

The purpose of this initial sorting process was to ensure that records relating to the same external area were grouped together and records relating to the same incident were also grouped together. The order in which records were arranged was as follows:

- Records representing complaints regarding the same external area on the same day
- Records representing complaints regarding the same external area on different days
- Records representing complaints regarding neighbouring external areas in the same street on the same day
- Records representing complaints regarding neighbouring external areas in the same street on different days
- Records representing complaints regarding external areas in neighbouring streets on the same day
- Records representing complaints regarding external areas in neighbouring streets on different days

3. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order.
4. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
5. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
6. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same property on the same day. Records returning "1" and "True" responses represented complaints from the same property within one day, etc.

### **Assumption**

For the purpose of AIR09, NIW 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.

7. The remaining records were representative of one external flooding complaint per unique property per unique external flooding incident.

The remaining records may have included properties flooded both internally and externally during the same event.

8. The records were labelled as "External" and combined with the confirmed annual "Internal" records (also labelled) and representative of one internal flooding complaint per unique property per unique internal flooding incident.
9. The records were sorted firstly by Date field, then by Property Number field, then by Street Name field and finally by Town field.
10. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order.
11. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
12. The responses to the above query were copied to another column and dropped down one cell.
13. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
14. All internal records were eliminated.

15. External records were also eliminated but only if they returned a value of "0", "1", "2" or "3" and "True".
16. The remaining records were representative of one external flooding complaint per unique property per unique external flooding incident.

The remaining records did not include properties flooded both internally and externally during the same event.

### **Sources/Secondary Process**

2. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
6. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order.
7. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
8. Records with "True" responses were eliminated.
9. The remaining records were representative of one external flooding complaint per unique property, meaning that external areas affected by more than one incident were reported only once, as per the definition. The remaining records were apportioned using the following process:

### **Assumption – Apportionment**

The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

### **Lines 2, 3, 4 & 5**

### **Sources/Secondary Process**

8. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
9. The Street Name field was split into two separate fields (SN1 and SN2).
10. A string of text was created for each record consisting of the contents of the SN1 field and the contents of the Town field in that order.
11. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
12. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
13. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same external area, neighbouring external area or neighbouring street on the same day. Records returning "1" and "True" responses

represented complaints from the same external area, neighbouring external area or neighbouring street within one day, etc.

### **Assumption**

For the purpose of AIR09, NIW has assumed that a single incident includes recorded complaints from the same property, neighbouring properties and neighbouring streets 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.

14. The remaining records were representative of one external flooding complaint per unique external flooding incident. The remaining records were apportioned using the following process:

### **Assumption – Apportionment**

The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

## **Line 6**

### **Sources/Secondary Process**

8. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
9. The Street Name field was split into two separate fields (SN1 and SN2).
10. A string of text was created for each record consisting of the contents of the SN1 field and the contents of the Town field in that order.
11. A query was created returning a response of “True” in row 1 if the string of text in row 2 equalled the string of text in row 1.
12. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
13. Records with “0”, “1”, “2” or “3” subtraction results and “True” responses were eliminated.

**Note:** Records returning “0” and “True” responses represented complaints from the same external area, neighbouring external area or neighbouring street on the same day. Records returning “1” and “True” responses represented complaints from the same external area, neighbouring external area or neighbouring street within one day, etc.

### **Assumption**



For the purpose of AIR09, NIW has assumed that a single incident includes recorded complaints from the same property, neighbouring properties and neighbouring streets 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.

14. The remaining records were representative of one external flooding complaint per unique external flooding incident. The remaining records were apportioned using the following process:

#### **Assumption – Apportionment**

4. The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on Monthly weather assessment reports for Northern Ireland which were obtained from the Met Office site for the period April 2008 to March 2009.

#### **Example:**

<http://www.metoffice.gov.uk/climate/uk/2008/january.html>  
Northern Ireland diary of highlights

5. The reports were studied and references to heavy rain or flooding were extracted from the main body of text.
6. The extracts were further studied with a view to acquiring dates on which the province as a whole or parts of the province were subject to severe weather. Therefore the number of heavy rainfall days was extracted and the proportion of external flooding incidents was proportioned accordingly across heavy rainfall and non-heavy rainfall days.

#### **Line 8**

#### **Sources**

4. A download of external sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009.
5. The Ellipse records were combined with all historical flooding records from the External Flooding Database, less any Ellipse records already included.

Historical flooding records included all determined and undetermined records at 31 March 2009.

**NOTE: At this stage of the process, it was necessary to go through the same process of elimination as described for Table 3a: Lines 1 & 7. This was to ensure that properties flooded both internally and externally during the same flooding event were only recorded on the internal**

**incident flooding summary.**

6. The records were sorted firstly by Date field, then by Property Number field, then by Street Name field and finally by Town field.

The purpose of this initial sorting process was to ensure that records relating to the same external area were grouped together and records relating to the same incident were also grouped together. The order in which records were arranged was as follows:

- Records representing complaints regarding the same external area on the same day
  - Records representing complaints regarding the same external area on different days
  - Records representing complaints regarding neighbouring external areas in the same street on the same day
  - Records representing complaints regarding neighbouring external areas in the same street on different days
  - Records representing complaints regarding external areas in neighbouring streets on the same day
  - Records representing complaints regarding external areas in neighbouring streets on different days
9. A string of text was created for each record consisting of the contents of the Property Number field, the Street Name field and the Town field in that order. (This was used to determine the number of unique properties per incident.
  10. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
  11. The responses to the above query were copied to another column and dropped down one cell.
  12. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
  13. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same property on the same day. Records returning "1" and "True" responses represented complaints from the same property within one day, etc.

**Assumption**

For the purpose of AIR09, NIW 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.

10. Records with “False” “True” responses were eliminated.

These records represented the most recent complaints from properties having made multiple complaints. Records become redundant once they have been compared with the records directly above.

13. Records with “False” “False” responses were eliminated.

These records represented external areas flooded once in the last 10 years.

14. Records with subtraction results in excess of “3650” and “True” responses were eliminated.

These records represented external areas flooded more than once in excess of 10 years.

15. Records were retained if they returned a subtraction result between “4” and “3650” inclusive and “True” responses.

These records represented external areas flooded more than once in the last 10 years. However, the same area could have appeared more than once, once for every separate incident.

17. Records were again sorted by Property Number field, Street Name field and Town field to ensure the order was correct for the next stage in the process.

18. A query was created returning a response of “True” in row 1 if the string of text in row 2 equalled the string of text in row 1.

19. Records with “True” responses were eliminated.

20. The remaining records were representative of one external flooding complaint per unique property.

### **Assumption – Apportionment**

The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

### **Lines 9, 10 & 11**

### **Sources/Secondary Process**

8. Records representative of one external flooding complaint per unique property per unique external flooding incident were derived using the Primary Process previously described.
9. The Street Name field was split into two separate fields (SN1 and SN2).

10. A string of text was created for each record consisting of the contents of the SN1 field and the contents of the Town field in that order.
11. A query was created returning a response of "True" in row 1 if the string of text in row 2 equalled the string of text in row 1.
12. The dates of consecutive records were subtracted to give a value in row 1 (i.e. row 2 date minus row 1 date, etc).
13. Records with "0", "1", "2" or "3" subtraction results and "True" responses were eliminated.

**Note:** Records returning "0" and "True" responses represented complaints from the same external area, neighbouring external area or neighbouring street on the same day. Records returning "1" and "True" responses represented complaints from the same external area, neighbouring external area or neighbouring street within one day, etc.

### **Assumption**

For the purpose of AIR09, NIW has assumed that a single incident includes recorded complaints from the same property, neighbouring properties and neighbouring streets 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.

14. The remaining records were representative of one external flooding complaint per unique external flooding incident. The remaining records were apportioned using the following process:

### **Assumption – Apportionment**

The raw data for this return has been derived from the Ellipse system and is typical of that provided by the customer only. As such, the cause of flooding is undetermined in each case and the extent of flooding is also undetermined. The decision has been taken to base the apportionment of data on averages for England and Wales since it is thought that this would give the best approximation to apportionment based on actual causes and extents.

### **Changes in Methodology over the Previous Year**

There have been no changes in the methodology from that as reported for AIR 08. The raw data is from the same source i.e. Ellipse Work Management System and figures are derived using the Line-Specific Methodology Statements and calculation sheets. It should be noted that the figures for AIR09 are considerably increased on those presented for AIR08; the only explanation for this may be the very wet summer in 2008.

As the data used to populate these lines was obtained from the Ellipse system it is not possible to interrogate the figures shown in Table 3a to satisfy the comments requested in the Utility Regulator guidance notes for Table 3a.

**Future Reporting**

There are currently approximately 40,000 undetermined records of reported External Flooding NIW proposal is still to have these investigated and determined so that the DG5 External Registers can be suitably populated, target date is October 2010.

**3. DG5 Properties at risk of flooding****Internal**

Data gathering and calculation is as described below.

**Calculation Process Lines 12 to 15**

Data gathering and calculation is as described below.

**Sources/Process for incidents reported within reporting year of 2008/09**

A download of internal sewer flooding records was obtained from the Ellipse system for the period April 2008 to March 2009 on a month by month basis.

The records were sorted firstly by Creation Date field, then by Street Name field, then by Property Number field, and finally by Town/City field.

Investigations were carried out for each reported incident and those properties found not be flooded after investigation using information from the Sewer Maintenance Contractor, Flooding Report Forms, Field Manager reports and contacting the Customers directly, are removed, the remaining properties were combined for a yearly total.

The purpose of this initial sorting process was to ensure that records relating to the same property were grouped together and records relating to the same incident were also grouped together for the same date.

The cause of each confirmed internal flooding incident is confirmed by using the above steps with the records that have been excluded from inclusion to the 'At Risk' register for one or more of the following reasons:

- The cause of flooding was equipment failure
- The cause of flooding was sewer blockage
- The cause of flooding was sewer collapse
- The return period of the storm was more than 1 in 20

have been identified and a count kept for AIR return and records determined as DG5 Reportable have been assigned to one of three "At Risk" registers – 2 in 10, 1 in 10 or 1 in 20. These "At Risk" registers are held on an MS Excel worksheet along with a section for Excluded records.

**Sources/Process for incidents held within NIW Historical Records**

The internal flooding Historical Register is a collection of historical events that have taken place since January 2000. Flooding events are recorded as addresses of properties that have been flooded. There are a number of

different sources for the information contained in this register of flooding events and the quality of information differs from source to source.

Data sources used to compile the historical records are as follows:

- Central Claims Unit
- Drainage Area Studies
- Eastern Division Flooding Records
- Customer Enquiry management System (CEMS)
- Work Planning System (WPS)
- Captrax
- Anecdotal Evidence
- Ellipse

Because the data was contained in sources that indirectly related to flooding incidents the data is not considered to be good quality.

Determination of historical data was carried out using the available information obtained from the above sources, and was carried out as follows:

- A visual check was made against each incident reading all data held on all sources for each incident at each address.
- Where there was no information written on the cause of flooding this incident was placed by default to the 1:10 register. Pending further investigations.
- Where a mention was made of blockage or equipment failure etc. then this incident was excluded.
- Additional investigations using Operational and Asset management staff were carried out to check each defaulted property against their local knowledge to confirm flooding, a reason for flooding or work has been carried out to alleviate the cause of the flooding.

The addresses remaining therefore have no apparent cause of flooding and will remain defaulted onto the 1:10 register until further investigations into weather conditions or frequency of flooding at each location will move the property from one category to another or remove altogether. The removals of properties will be reported upon on lines T3 lines 20-22 for AIR10.

### **Process**

Those properties found to be 'At Risk' from records reported this reporting year are combined those the properties found to be at risk from the Historical Records and assigned as follows:

- The number of records assigned to the Internal 2 in 10 "At Risk" Register was counted to give the figure for Line 12.
- The number of records assigned to the Internal 1 in 10 "At Risk" Register was counted to give the figure for Line 13.
- The numbers of records assigned to the Internal 2 in 10 and 1 in 10 "At Risk" Registers were summated to give the figure for Line 14.

- The number of records assigned to the Internal 1 in 20 “At Risk” Register was counted to give the figure for Line 15.

### **Changes in Methodology over the Previous Year**

The DG5 register is in the process of being developed and during the course of the development it has been necessary to run a 2 tire approach for the determination on internal flooding incidents namely Historical Data and Live Data i.e. data captured for the reporting year of 2008/09.

### **External**

Data gathering and calculation is as described below.

### **Calculation Process lines 12 to 15**

Data gathering and calculation is as described below.

### **Lines 12, 13, 14 & 15**

#### **Reporting Restriction**

NIW is currently in the process of determining all records held within the External Flooding Register as either DG5 Reportable or Excluded. Undetermined records are deemed to be under investigation. Therefore, it has only been possible to report on the total number of determined records at 31 March 2009 in this part of the table.

Records determined as DG5 Reportable have been assigned to one of three “At Risk” registers – 2 in 10, 1 in 10 or 1 in 20. These “At Risk” registers are held on an MS Excel worksheet along with a section for Excluded records. Records have been excluded for one or more of the following reasons:

- The cause of flooding was equipment failure
- The cause of flooding was sewer blockage
- The cause of flooding was sewer collapse
- The return period of the storm was less frequent than 1 in 20
- The mitigation work is complete and the external area is no longer at risk of flooding

### **Process**

- The number of records assigned to the External 2 in 10 “At Risk” Register was counted to give the figure for Line 12.
- The number of records assigned to the External 1 in 10 “At Risk” Register was counted to give the figure for Line 13.
- The number of records assigned to the Internal 1 in 20 “At Risk” Register was counted to give the figure for Line 14.
- The numbers of records assigned to the External 2 in 10, 1 in 10 and 1 in 20 “At Risk” Registers were summated to give the figure for Line 15.

### **Changes in Methodology over the Previous Year**

There have been no changes in the methodology from that as reported for AIR08. NIW has not commenced work on the determination of External records as it was decided for this reporting year to concentrate on Internals.

Therefore there has been no increase in the number as quoted for AIR08.

**4. DG5 Cost Benefit Analysis**

The data to populate lines 16 to 33 for table 3 and lines 16 to 25 is not gathered by NIW at present as the Internal and External Flooding registers are still under development.



**Appendix A – AIR 09 Table 3 Internal Flooding**

<b>A</b>	<b>DG5 ANNUAL FLOODING SUMMARY</b>
1	Number of domestic properties connected to sewerage system
	<b>(i) OVERLOADED SEWERS</b>
2	Properties flooded in the year (overloaded sewers)
3	Flooding incidents in the year (overloaded sewers)
4	Flooding incidents (overloaded sewers attributed to severe weather)
5	Props. where flooding limited to uninhabited cellars only (o/loaded sewers)
	<b>(ii) OTHER CAUSES</b>
6	Properties flooded in the year (other causes)
7	Properties which have flooded more than once in the last ten years (other causes)
8	Flooding incidents (other causes - equipment failures)
9	Flooding incidents (other causes - blockages)
10	Flooding incidents (other causes - collapses)
11	Props. where flooding limited to uninhabited cellars only (other causes)
<b>B</b>	<b>DG5 PROPERTIES ON THE AT RISK REGISTER</b>
	<b>(i) AT RISK SUMMARY</b>
12	2 in 10 risk at end of year
13	1 in 10 risk at end of year
14	Total 1 in 10 and 2 in 10 properties at risk at end of year
15	1 in 20 risk at end of year
16	Props. at risk but not flooded in the past 10 yrs (excluding severe weather)
17	Properties not at risk of flooding internally but suffering restricted toilet use (RTU)
	<b>(ii) PROBLEM STATUS OF PROPERTIES ON THE 1 IN 10 &amp; 2 IN 10 REGISTERS</b>
18	Cost beneficial problems where risk is reduced temporary measures (mitigation)
19	Non cost beneficial problems where risk is reduced by temporary measures (mitigation)
20	Cost beneficial problems without mitigation awaiting solution and those which have not been appraised
21	Non cost beneficial problems without mitigation
	<b>(iii) ANNUAL CHANGES TO 2 IN 10 &amp; 1 IN 10 REGISTERS</b>
22	Removed by company action
23	Removed because of better information
24	Added because of better information
25	Added because of increased demand
	<b>(iv) PROBLEM STATUS OF PROPERTIES ON THE 1 IN 20 REGISTER</b>
26	Cost beneficial problems where risk is reduced temporary measures (mitigation) (1 in 20)
27	Non cost beneficial problems where risk is reduced by temporary measures (mitigation) (1 in 20)
28	Cost beneficial problems without mitigation awaiting solution and those which have not been appraised (1 in 20)
29	Non cost beneficial problems without mitigation (1 in 20)
	<b>(v) ANNUAL CHANGES TO THE 1 IN 20 REGISTER</b>
30	Removed by company action (1 in 20)
31	Removed because of better information (1 in 20)
32	Added because of better information (1 in 20)
33	Added because of increased demand (1 in 20)

**Appendix B – AIR 09 Table 3a External Flooding**

<b>A ANNUAL FLOODING SUMMARY</b>	
<b>(i) OVERLOADED SEWERS</b>	
1	Areas flooded externally in the year (overloaded sewers)
2	Curtilage flooding incidents in the year (overloaded sewers)
3	Highway flooding incidents (overloaded sewers)
4	Other flooding incidents (overloaded sewers)
5	Total flooding incidents (overloaded sewers)
6	External flooding incidents (overloaded sewers attributed to severe weather)
<b>(ii) OTHER CAUSES</b>	
7	Areas flooded externally in the year (other causes)
8	Areas which have flooded more than once in the last 10 years (other causes)
9	Flooding incidents (other causes - equipment failure)
10	Flooding incidents (other causes - blockages)
11	Flooding incidents (other causes - collapses)
<b>B AREAS ON THE 1:10, 2:10, 1:20 AT RISK REGISTER</b>	
<b>(i) AT RISK SUMMARY</b>	
12	2 in 10 risk at end of year
13	1 in 10 risk at end of year
14	1 in 20 risk at end of year
15	Total at risk on the 1:10, 2:10, 1:20 register at end of year
<b>(ii) PROBLEM STATUS OF EXTERNAL AREAS ON THE 1:10, 2:10, 1:20 REGISTER</b>	
16	Cost beneficial problems where risk is reduced temporary measures (mitigation)
17	Non cost beneficial problems where risk is reduced by temporary measures (mitigation)
18	Cost beneficial problems awaiting solution and problems which have not been appraised
19	Non cost beneficial problems which have not been solved by mitigation
<b>(iii) ANNUAL CHANGES TO 1:10, 2:10, 1:20 REGISTER</b>	
20	Removed by company action (external only)
21	Removed by company action (external linked)
22	Removed because of better information
23	Added because of better information
24	Added because of increased demand
25	Removed from external to internal register

**Appendix C – Flooding Incident Report****Northern Ireland Water Blockage & Flooding Incident Report****A. Details of Sewer Blockage**Work Order Ref No .....  
Received – Time .....(24 Hr Clock) Date .....

Name .....

Address .....  
.....

Telephone No. ....

Nature of Complaint .....

Name of NIW Officer notifying Contractor .....

Contractor Notified Time .....(24 Hr Clock) Date .....

**B. Report Section**

Contractor's Arrival On Site/Assessment Time.....(24 Hr) Date .....

Completion Time .....(24 Hr)Date .....

Method Used – Rodding Yes / No Jetting Yes / No

Cause of Blockage  
.....  
.....

Confirmation Private/Public Sewer If Private, was work carried out? Yes / No

Is there a fault in the system? Yes / No If Yes, give  
details.....  
.....  
.....  
.....**C. Flooding Incident Information (continued overleaf)**

1) Internal Flooding (NIW representative must be informed immediately)

Number of buildings where flooding not limited to uninhabited basements .....

Address(es) .....  
.....  
.....

Number of buildings where flooding limited to uninhabited basements .....

Address(es) .....  
.....Blockage ☐Int. Flooding ☐Ext. Flooding ☐

Please

Buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes, and garages forming an integral part of a property. Detached and linked detached garages are excluded, as are buildings whose prime purpose is storage or installation of domestic appliances.

## 2) External Flooding :-

**Definition: A two metre radius around the point of flooding, usually a manhole.**

Number of external areas flooded within the curtilage of residential buildings  
(includes detached & linked detached garages) .....

Address(es) .....

.....  
.....

Number of highways flooded (includes roads,  
footpaths).....

Address(es) .....

.....  
.....

Number of non-residential external areas flooded (includes schools, commercial  
premises, offices, public buildings, open spaces, agricultural land and car parks) .....

Address(es) .....

.....  
.....

## 3) Comments on cause of flooding :-

Blockage ☐ Overloaded Sewer ☐ Collapsed Sewer ☐ M&E Equipment Failure ☐

Defective Private Drain ☐ Septic Tank ☐ Road Gulley ☐

Rivers Agency ☐ Unknown Cause ☐ No Flooding ☐

Comment.....

.....  
.....

## 4) Additional Details :-

Exceptional rainfall ☐ Restricted Toilet Use ☐ Previous History ☐

Previous History Comment.....

.....

Contractor's  
Signature.....

This form to be completed and signed by Contractor upon completion of work and copy returned to the Work  
Planning the next working day.

**Northern Ireland Water**

**Level of Service Methodology**

**DG6 Response to Billing Contacts**

## Contents

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## **DG6 Response to Billing Contacts**

### **1 Methodology and Procedures**

1.1 Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to a consortium organisation known as Crystal Alliance (CA). Crystal Alliance is the provider of CBC services to NIW.

1.2 DG6 response to billing contacts (Process Summary):

1. Telephone Contact (go to step 4) or Documentation received (in Capital House)
2. Documentation Opened by CA customer support team
3. Scan & Index (documentation only which is archived after scanning)
4. Raise and allocation of CMS contact type
5. Assess & Investigate
6. Update & compose response

1.3 All customer response letters are printed by CA 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:

#### **1.3.1 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 the date of dispatch.
- Following a daily file transfer (which is an overnight process), the BSA team 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 Royal Mail. Currently only bills, recovery notices and letters are handled this way. In this instance CA are not clear if they record date of dispatch to DSTI rather than the date of actual dispatch to the customer. This is being pursued contractually.

### **1.4 Definitions**

1.5 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 water services 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 Formers Union, CCNI.

- 1.6 Billing contacts can be received by telephone, in writing, by e mail and 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.
- 1.7 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.
- 1.8 Billing contacts include calls that are made to pay a bill as this will result in an action being taken on the customers account.
- 1.9 Email/Faxes: When an emailed, faxed or hand delivered contact is received before 2.00pm it will be logged according to the day it is received if it is a working day, or the next working day if it is received on a non working day, e.g. a Bank Holiday, or Saturday/Sunday.
  - 1.9.1 If an item is received by e mail, fax or hand delivered after 2.00pm it will be logged the next working day.

## **2 Exclusions**

- 2.1 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.
- 2.2 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*
  - *Copy correspondence from and to NIW personnel*

## **3 End of year (contacts not dealt with at end of year)**

- 3.1 If a billing contact is not resolved by the time the year end report is run, but a holding response is issued in the subsequent year, then it will be reported in the contacts received for the reporting year but it will not be included in the calculation



of the % time taken to resolve in the reporting year. Once the contact is resolved and closed the system is set up so that any item closed which has a holding response, is recorded as being closed on the date of the holding response, which is the case in the subsequent year. It will therefore be included in this subsequent years figure for time taken to close.

#### **4 Auditing**

- 4.1 Internal Audits – This process falls within our Quality Management system is audited several times a year under ISO9001/2000.
- 4.2 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 Crystal Alliance from RapidXtra and presented in the *Business Review Pack* 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. However, CA do not report a cumulative total of contacts.
- 4.3 NIW validates DG6 performance information on a monthly basis, producing an independent report from Rapid and comparing to the performance information provided by CA in the contractual *Monthly Business Review Pack*. Any discrepancies on monthly DG6 performance are raised with CA and escalated. Validation of figures provided by CA are carried out by NIW in accordance with *Contract Schedule 2.2* and recorded in the relevant CBC Performance Criteria Review Summary which is published for comment and review. At year end reports are validated and analysed at operational level.
- 4.4 CA performs a regular quality review on contacts received to ensure contacts are dealt with correctly. Although no documentation exists regular reviews are carried out by Team Managers within CA, including:
- Weekly call listening
  - Monthly scoring based on call listening and feedback to individual agents
  - Coaching and feedback
  - Daily monitoring of all billing contacts with team feedback when necessary
- 4.5 NIW conduct monthly bill accuracy checks and report finding to CA 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
  - Correct bill type is used

Any discrepancies are logged and sent to CA for review.

- 4.6 NIW conduct call listening monitoring on a monthly basis and report findings to CA. A random selection of calls are made and assessed for accuracy, memo contents are clear and precise, conversation is accurately recorded on Rapid and correct use of CMS code.
- 4.7 An end to end process review is carried out by internal audit.

## **5 Sources of information**

### **5.1 System used**

- 5.1.1 The telephony system comprises of a suite of Avaya products and a CallMedia ACD. The Avaya switch is tightly integrated with the CallMedia 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.
- 5.1.2 The software comprises of CallMedia Enterprise Console with an integral reporting suite which distributes calls based on skills sets and SLA's.
- 5.1.3 Written correspondence is date stamped at point of receipt by CA (unless received after 2.00pm), 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. Images with then be available to agents and are distributed by a senior agent.
- 5.1.4 All contacts received should be recorded on Rapid. Reports from Rapid are generated by CA and are used to report on DG6 performance.

## **6 Changes in system during the report year**

There have been no reported system changes agreed with NIW since the previous reporting period.

### **6.1 Actual data**

Actual data is extracted from the billing system RapidXtra and used to report DG6 performance (table 4, lines 1-5). Rapid DG6 analysis is produced monthly and for the reporting year provides the necessary information essential for the Director Generals reporting requirements.

### **6.2 Sampling**

Actual data is used to report DG6 performance (table 4, lines 1-5). No sampling is

used.

### **6.3 Reliability**

All data is taken from the main billing system to ensure it is reliable and accurate.

## **7 Responses**

**7.1** 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:

**7.2** 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

7.2.1 Inform 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.

7.2.2 Whichever type of response is dispatched it must substantively answer all points raised by the customer and be recorded and date stamped.

### **7.3 Use of telephone**

7.3.1 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 CallMedia. A CMS is created on Rapid and contains information including:

- CMS type
- Customer name
- Customer address
- Telephone contact
- Query details
- Action required

### **7.4 Use of letters**

7.4.1 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 CA account services team. A CMS is created on Rapid and contains information including:

- CMS type
- Customer name
- Customer address
- Telephone contact
- Query details
- Action required

7.4.2 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.

## **7.5 Use of personal visit**

7.5.1 If a DG6 contact generates a personal visit, (e.g. a meter reader site visit), the agent will code the contact accordingly as a CMS memo. This will transfer to the Account Services Department who take ownership for resolution and closure of the contact. CA will send a letter to the customer. It is this date/time of this letter that is used for closure.

## **7.6 Response time**

7.6.1 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 except if the item is received after 2.00pm.

## **7.7 CCNI**

7.7.1 Written billing contacts received via the Consumer Council for Northern Ireland (CCNI) office on a customer's behalf are being included.

## **7.8 Holding reply**

7.8.1 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.

7.8.2 A substantive holding reply will close a contact for DG6 reporting purposes but not for NIW until all actions have been taken. CA provides a reply no later than 15 days from contact (or 17 days if a personal visit is required).

If there is no resolution, a further holding letter is sent. Enquiries and follow up questions will not be counted as a DG6 contact.

- 7.8.3 Where NIW is unable to provide the date by which investigations or further actions will be complete, the company will include the number of days in which the company will contact the customer again and the number of days after the contact that the substantive response will be sent to the customer.

## **7.9 Other Issues**

Please refer to DG6 Company Commentary.

**Northern Ireland Water**

**Level of Service Methodology**

**DG7 Response to Written Complaints**

**DG7 METHODOLOGY 2008/09****1. Methodology and Procedures**

- 1.1. Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to a consortium organisation known as Crystal Alliance (CA). Crystal Alliance is the provider of CBC services to NIW.
- 1.2. Mail is delivered by Royal Mail or by Courier. In both cases delivery is guaranteed before 9.00am. All mail is first put through the bomb scanner. The no. of items is then counted. The mail is then sorted by addressee. The following items are excluded:
  - 1.2.1 Items marked Private and confidential
  - 1.2.2 Addressee is Silent Valley
  - 1.2.3 Addressee is Human Resources
  - 1.2.4 Addressee is a names NIW individual
  - 1.2.5 Address is finance manager
  - 1.2.6 Addressee is Echo.
  - 1.2.7 This mail is forwarded to the appropriate area unopened.
- 1.3. All remaining items are then put through the envelope slicing machine. Contents are removed and batched as follows:
  - 1.3.1 No 2 account payments
  - 1.3.2 No 3 account payments
  - 1.3.3 Remittance advice
  - 1.3.4 Customer Correspondence (DG6, DG7, Operational correspondence, other customer correspondence)
  - 1.3.5 Queried items (usually cheques with no account details etc)
- 1.4. The batch of correspondence is hand delivered to the scanning and indexing team within account services.
- 1.5. Payments are processed by Payment processing.
- 1.6. Allocation to DG7
  - 1.6.1 Written complaints are recognised from all other correspondence by following the definition of a written complaint as set out in the reporting requirements. All incoming written correspondence is received by the scanning and indexing team and date stamped. It is then sorted and allocated to operational correspondence, payment notification, DG6 or DG7 according to the definitions stated in schedule 2.2, Annex 1 of the contract.

- 1.7. The reported response times for all written complaints are derived from the Rapid database. All complaints with the exceptions of exclusions detailed in section 5.3.1 are included in this total. Sampling is not used in compiling the total.

## **2. Definitions**

- 2.1. 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.

- 2.2. Written complaints include:

- 2.2.1 Letters, faxes and electronic mail.
- 2.2.2 Second or subsequent complaints are included.
- 2.2.3 General complaints are included
- 2.2.4 Complaints that may seem unfair or frivolous are also recorded.
- 2.2.5 Complaints received by Consumer Council for Northern Ireland are also included in these figures.
- 2.2.6 Complaints written on returned Company letters or stationery (e.g. bills) are included.
- 2.2.7 Should the Company receive a petition, it is classed as a DG7 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.

- 2.3. When an e-mail, fax or hand delivered complaint is received before 2pm it will be logged according to the day that it is received if it is a working day or the next working day if this is a non working day i.e. Bank holiday, Saturday or Sunday.

- 2.4. If an item is received after 2pm it will be logged the following working day with a received date of the following working day (i.e. the logged date is recorded as the received date. This issue is being addressed through contractual negotiations). The number of complaints affected by this issue is approximately 500.

## **3. Exclusions**

- 3.1. All post is received and opened on delivery.

- 3.2. The following are excluded for DG7:

- 3.2.1 Cheques and stubs
- 3.2.2 DG6 Billing contacts



- 3.2.3 All other Company mail
- 3.2.4 Complaints that are sent anonymously
- 3.2.5 Complaints that are offensive or abusive
- 3.2.6 Complaints referring to non-appointed activities
- 3.2.7 Complaints returned alongside customer satisfaction surveys.
- 3.2.8 Complaints not about the services and functions of the Company (e.g. complaints about executive salaries, advertising campaigns)
- 3.2.9 Complaints about the activities of other utilities (for example signage around trenches)
- 3.2.10 Complaints about recreational and amenity activities not defined as duties imposed by the Water and Sewerage Order 2006.
- 3.2.11 Public liability claims (although any related complaint should be included as normal)

### 3.3. End of Year

- 3.3.1 If a complaint is not resolved by the time the year end report is run (1 May 09) but a holding response is issued in the subsequent year then it will be reported in the complaints received figure line 1 for the reporting year, but it will not be included the calculation of the % of time taken to resolve figure line 2-5 in the reporting year. Once the item is resolved and closed the system is set up so that any item closed which has a holding response, is recorded as being closed on the date of the holding response, which in this case is the subsequent year. It will therefore be included in the subsequent year's figures for time taken to close.
- 3.3.2 If a complaint is not resolved by the time the year end report is run (1 May) but a holding response has been issued in the reporting year, then it will be reported in the complaints received figure (line 1) for the reporting year but it will not be included in the calculation of the % of complaints resolved time figure line 2-5. Once the item has been closed during the subsequent year it will be closed to a date in the reporting year gone so will not be included in the subsequent year's figures.
- 3.3.3 The no of complaints which will appear in neither years report for time taken to closed is calculated by assessing the volume of written DG7's that were received in year 2008/09, remained open on 1 May 2009 but will be closed back to a holding letter date in 2008/09.
- 3.3.4 We print the DG7 reports generated on 1 May 2009.
- 3.3.5 On the main hitlist profile report in Rapid, the data shows the number of DG7 contacts open by age. We always issue a holding letter on day 8 of the contact lifecycle if it is still under investigation.
- 3.3.6 We take the total open complaints on 1 May and subtract from this overall total the number of complaints that are open but have not had a holding letter issued in 2008/09 as these will fall into 2009/10 reporting year. This leaves 31 open complaints, created in 2008/09 that will be closed back to a first holding letter date in 2008/09.

## 4. Auditing

### 4.1. Internal audits

- 4.1.1 This process falls within the Crystal Alliance Quality Management System which is audited several times a year under ISO9001/2000.
- 4.1.2 In Addition every customer response undergoes as 2 stage QA check by Crystal Alliance before issue.
  - 4.1.2.1 Stage 1 is carried out by the agent who has the item allocated to them. They check that the item has been correctly:
    - 4.1.2.1.1 Categorised to DG7
    - 4.1.2.1.2 Coded
    - 4.1.2.1.3 Scanned to the correct account
  - 4.1.2.2 Once the response has been drafted it then goes to the Crystal Alliance Quality Assurance team who check:
    - 4.1.2.2.1 Action taken
    - 4.1.2.2.2 Guidance notes for covering allocation to DG7 are used.
    - 4.1.2.2.3 Responses are substantive
    - 4.1.2.2.4 Response times are correct and accurate
- 4.1.3 For each calendar month a quality check of 30 complaints is taken at random by the escalation team and checked according to the following criteria:
  - 4.1.3.1 Grammar
    - 4.1.3.1.1 Spelling/Grammar
    - 4.1.3.1.2 Punctuation
    - 4.1.3.1.3 Sentence/paragraph structured appropriately
  - 4.1.3.2 Billing Address
    - 4.1.3.2.1 Correct billing address used for correspondent
  - 4.1.3.3 Customer Name
    - 4.1.3.3.1 Correct customer name/title used
  - 4.1.3.4 Salutation
    - 4.1.3.4.1 Correct opening paragraph – “Thank you for your letter dated..... on behalf of / regarding.....”
  - 4.1.3.5 Letter layout
    - 4.1.3.5.1 CRC and customers’ addresses correctly positioned
    - 4.1.3.5.2 ‘Your Ref’ and ‘Our Ref’ if appropriate
    - 4.1.3.5.3 Correct contact number used – 0845 744 0088
    - 4.1.3.5.4 Correct spacing and format
    - 4.1.3.5.5 Correct date
    - 4.1.3.5.6 Clear and short paragraphs
    - 4.1.3.5.7 Table to be used/included for complex billing issues, if necessary
  - 4.1.3.6 All issues addressed
    - 4.1.3.6.1 Does the response clearly answer the questions/issued raised by the customer?

- 4.1.3.6.2 Has accurate and relevant information been provided to the customer?
- 4.1.3.6.3 Is there a clear understanding of the issues raised by the customer?
- 4.1.3.7 Resolution clearly stated
  - 4.1.3.7.1 Where possible, is a resolution offered?
  - 4.1.3.7.2 Where possible redirect the customer to the appropriate area or department.
- 4.1.3.8 Correct policy advice given
  - 4.1.3.8.1 Where policy failure occurs, NIW will provide policy to CA.
- 4.1.3.9 Personalisation
  - 4.1.3.9.1 Positive language
  - 4.1.3.9.2 No technical jargon (where possible)
  - 4.1.3.9.3 Customer friendly
  - 4.1.3.9.4 Customer specific
- 4.1.3.10 Closing statement
  - 4.1.3.10.1 Correct closing statement used with correct contact details provided for possible follow up correspondence/contact
  - 4.1.3.10.2 Correct sign off – “Yours Sincerely”
- 4.1.3.11 Appropriate apologies used
  - 4.1.3.11.1 Use of apologies and empathy where deemed relevant and appropriate – not needed when not NIW failure
- 4.1.3.12 Timeframe explained if appropriate
  - 4.1.3.12.1 For example, if a site visit is being arranged or if a septic tank is being desludged
- 4.1.3.13 Information provided accurately explained in letter
  - 4.1.3.13.1 Does the content of the letter reflect the information provided by the NIW/CA staff member?
  - 4.1.3.13.2 Background notes need to be provided to clarify the accuracy of the letter content.
- 4.1.3.14 Correct address for NIW used
  - 4.1.3.14.1 PO Box 1026, Belfast, BT1 9DJ to appear on all out going mail
- 4.1.3.15 Correct DPA rules
  - 4.1.3.15.1 Billing information only provided to the named account holder, unless, customer has provided appropriate authorisation e.g. the completion and provision of Subject Request Access form.
  - 4.1.3.15.2 Non-disclosure of personal details of a third party involved.
  - 4.1.3.15.3 Correct DPA documentation provided where necessary e.g. change of address and customer details.

- 4.1.3.16 Correct customer/property reference used
  - 4.1.3.16.1 Ensure that correct reference number is used.
- 4.1.4 Every Stage 2 complaint, Chief Executive or Director complaint is checked by the Escalation Team using the same criteria as above.
- 4.1.5 NIW validates DG7 performance on a monthly basis, producing an independent report from Rapid and comparing to performance information provided by Crystal Alliance in the contractual Monthly Business review pack. Any discrepancies on monthly DG7 performance are raised with CA and escalated.

## **5. Sources of Information**

- 5.1. Complaints are date stamped at point of receipt by account services, sorted into the relevant categories, scanned then indexed, thus ensuring security and minimising administration.

- 5.1.1 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:
  - 5.1.1.1 Property and/or customer reference
  - 5.1.1.2 Date
  - 5.1.1.3 Description – i.e. written complaint.
  - 5.1.1.4 Document type
  - 5.1.1.5 Name of operator indexing correspondence.
- 5.1.2 It is at the indexing stage that the scanned items are categorised, thus allowing the description to be input above.

## **5.2. System Changes**

- 5.2.1 There have been no system changes from the previous reporting period agreed by NIW.

## **5.3. Actual Data**

- 5.3.1 Management reports are produced from the Rapid system, including a daily hit-list which identifies by section any item of correspondence outstanding.
- 5.3.2 Rapid DG7 analysis is produced monthly, and for the reporting year and provides the necessary information essential for the Director General's reporting requirements.
- 5.3.3 Written complaints for the year 2008/09 have been monitored, controlled and responded to by our Customer relations centre operated by Crystal-Alliance.

## **5.4. Sampling**

- 5.4.1 Sampling is not used in compiling data for DG7.

## **5.5. Reliability**

- 5.5.1 All data is taken from the main billing system to ensure that it is reliable and accurate.

## **6. Responses**

- 6.1. Upon receipt of a complaint, the Customer Relations Centre ensure that relevant action is undertaken, provide a substantive response and ensure the correspondence is closed on the system.

- 6.2. The Company endeavours to answer all correspondence, regardless of the sensitivity of the issue or subject raised by the customer. Our responses do one or more of the following:

- 6.2.1 Provide an explanation of our policy or procedure and indicate why no further action is required.
- 6.2.2 Informs the customer that action to resolve the complaint has been taken and identifies when this action occurred.
- 6.2.3 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 month and year and will be completed month and year.
- 6.2.4 Every response answers all issues or questions raised by the customer.

### **6.3. Use of Telephone**

- 6.3.1 Telephone calls are not currently used to respond to written complaints.

### **6.4. Use of Standard Letters**

- 6.4.1 Standard letters are not used to respond to complaints, all responses are personalised and customised.

### **6.5. Use of Personal Visit**

- 6.5.1 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 the letter is issued is classified as the date of response rather than the date of the visit.

## **7. Assumptions**

### **7.1. End of Year**

- 7.1.1 Where written complaints are not dealt with by the end of the reporting period, the query is included in the total number of written complaints received in the year of receipt but it is included in the % of complaints closed within 10 days in the year that it is responded to (unless a holding response was issued in year of receipt – see 5.1.4). The start date for the response time is calculated in the normal way even though it may have commenced in the previous reporting year.

### **7.2. NI Direct**

- 7.2.1 Complaints received through NI direct are not reported.

### **7.3. Telephone Complaints**

- 7.3.1 Complaints received via telephone are recorded under DG9 telephone complaints not DG7.

### **7.4. Date of Receipt**

- 7.4.1 Complaints are date stamped at point of receipt and this is used as date of receipt even if this is not customer services.
- 7.4.2 Complaints received at other points should be date stamped and sent to CRC on date of receipt preferably by being scanned and emailed.

### **7.5. Date of Dispatch**

- 7.5.1 The date of despatch refers to the date a response is sent to the customer, which is not necessarily the date that it is printed or the date it leaves customer services.
- 7.5.2 The date of despatch is recorded as the date closed.
- 7.5.3 Most customer responses are printed and despatched by account services, although executive mail can be despatched from CX or director's office, or the escalation team. In these cases the letter is reprinted on day of despatch with the date amended.
- 7.5.4 Responses are not closed on a visit or a telephone call.

### **7.6. E Mails/Fax/Hand Delivery**

- 7.6.1 When an e-mail, fax or hand delivered complaint is received before 2pm it will be logged according to the day that it is received if it is a working day or the next working day if this is a non working day i.e. Bank holiday, Saturday or Sunday.

- 7.6.2 If an item is received after 2pm it will be logged the following working day with a received date of the following working day (i.e. the logged date is recorded as the received date. This issue is being addressed through contractual negotiations).

### **7.7. Response Time**

- 7.7.1 This is the number of working days between receipt of a written complaint by NIW up to and including the date of despatch of the response. The date received provided it is a working date is considered day zero and the next working day is day one.

### **7.8. Holding Reply**

- 7.8.1 This is a response to a written complaint which advises the customer that NIW need 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.
- 7.8.2 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.
- 7.8.3 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.

### **7.9. Repeat Contact**

- 7.9.1 Where a complaint has been responded to and results in a period of correspondence each letter is treated as and reported as a separate complaint.
- 7.9.2 This is done even if the NIW consider the complaint has been dealt with as far as we are able.

### **7.10.CCNI**

- 7.10.1 Complaints received in writing via CCNI will be logged as complaints and recorded in DG7 figures.
- 7.10.1.1 Enquiries and follow up questions will not be recorded as complaints

### **7.11.Complaints to or about Contractors**

- 7.11.1 Complaints made directly to contractors about work carried out on our behalf will only be recorded if NIW are notified. If NIW are notified it will be recorded even if it is handled directly by the contractor.
- 7.11.2 Complaints about contractors received by NIW are reported even if they are referred to the contractor to deal with.

## 8. Other Issues

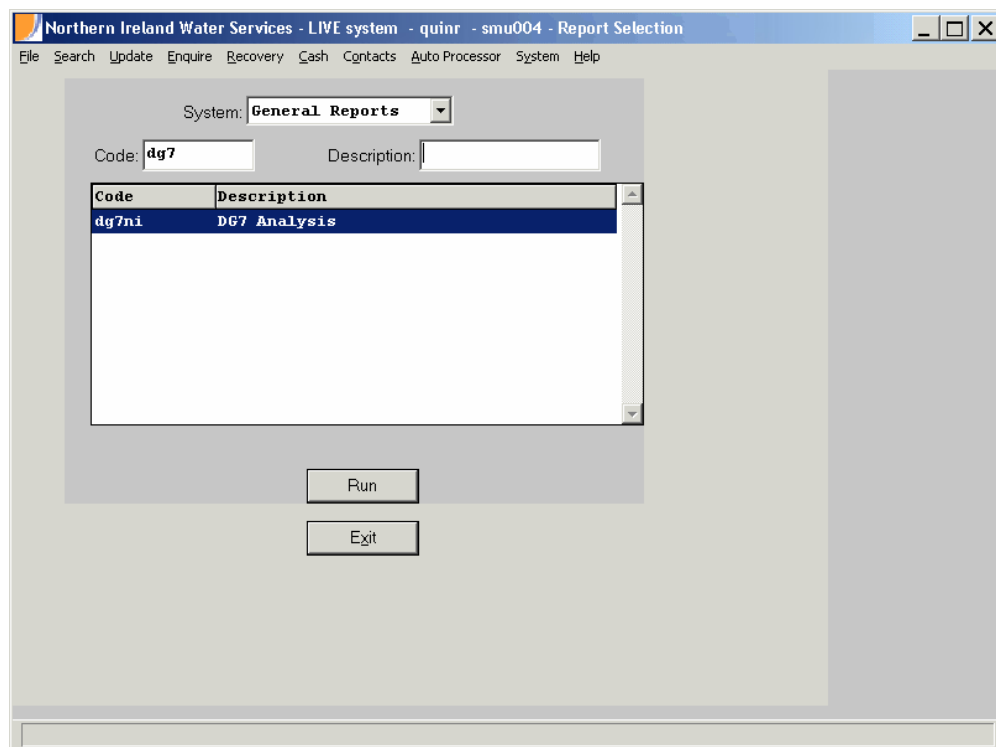
- 8.1. Crystal-Alliance, on behalf of Northern Ireland Water, are responsible for the logging of all customer contact onto the billing system - RAPID. Crystal-Alliance are contracted to own, manage and resolve all written complaints until such time as they require escalation or referral to the Authority under the procedure set by the authority.

### 8.2. Compiling Output Report

- 8.2.1 The reported figure for complaints received is obtained according to the procedure shown in Appendix 5.
- 8.2.2 The reported figure for time taken to respond is obtained according to the following procedure:

Select the System menu followed by Reports and Report Selection

There is only one DG7 report therefore select dg7ni (Code) DG7 analysis (Description) and click on run.

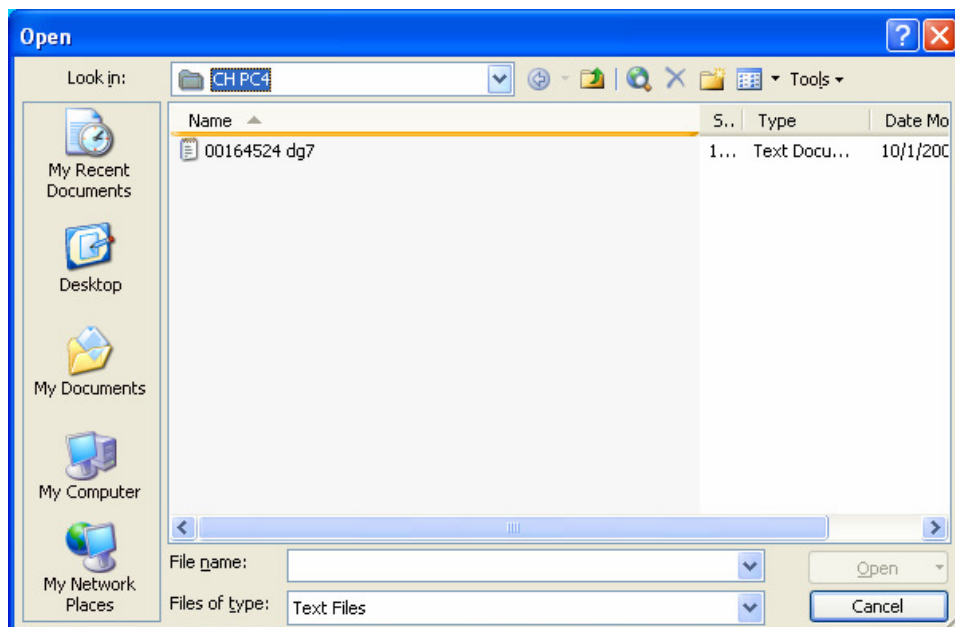




- **Enter Dates needed**
- **Select View output**
- **Note text file number**
- **Open Windows Explorer via Citrix**
- **Select the W: drive**
- **Then select old**

**Step by step guide to performing this process:**

1. The text file, created when the Rapid report was run, should be opened in Excel. To do this go to the File menu & select open. A box will appear where you select where you have saved the file and change file type to text files. The saved file should appear - double click to open.



2. The text import wizard will appear on screen.
3. Select Fixed Width and arrow down to the first row which shows the title Film No then click on Next.

**Text Import Wizard - Step 1 of 3**

The Text Wizard has determined that your data is Fixed Width.  
If this is correct, choose Next, or choose the data type that best describes your data.

Original data type

Choose the file type that best describes your data:

☐ Delimited - Characters such as commas or tabs separate each field.

☒ Fixed width - Fields are aligned in columns with spaces between each field.

Start import at row:  File origin:

Preview of file G:\General\Contract Office\Service Management\Q...\00164524 dg7.txt.

	Film-no	Frame-no	Date Rec.	Prop-no	Cust-no	Closed
334						
335						
336	R100908	54723	10/09/08	00396700	05689867	Closure
337	R150908	55888	15/09/08	02277262	01640406	Closure
338	R030908	58300	03/09/08	05621565	05817891	Closure

Cancel < Back Next > Finish

- Fix column breaks as close as possible to column headers. When all column breaks have been set click on Finish.

**Text Import Wizard - Step 2 of 3**

This screen lets you set field widths (column breaks).

Lines with arrows signify a column break.

To CREATE a break line, click at the desired position.

To DELETE a break line, double click on the line.

To MOVE a break line, click and drag it.

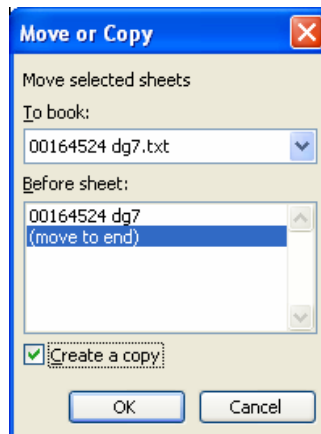
Data preview

	Film-no	Frame-no	Date Rec.	Prop-no	Cust-no	Closed CMS
	R100908	54723	10/09/08	00396700	05689867	Closure Cod
	R150908	55888	15/09/08	02277262	01640406	Closure Cod
	R030908	58300	03/09/08	05621565	05817891	Closure Cod

Cancel < Back Next > Finish

- The text file starts with a summary, then detailed telephone complaints, this is followed by another summary and the details of the written complaints follow next.

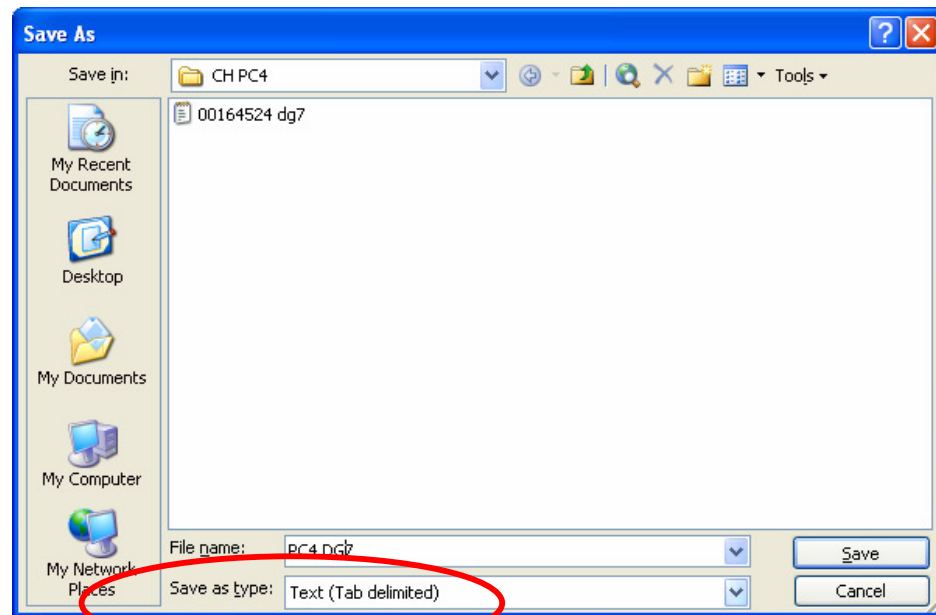
Make 2 copies of the worksheet by right clicking on the worksheet name, select move or copy, highlight where the copy should be placed and check the tick box create a copy. Repeat for 2nd copy. Rename the worksheets Telephone & Written – double click on worksheet name to rename.



6. Select the Telephone worksheet and remove the summary information at the top of the sheet until you reach the first row with column header starting Film no.
7. Below the Film no header there will follow a range of film numbers beginning with R. Depending on the number of contacts there could be further column header rows followed by further film numbers. Page down until you have reached the last R film no and delete all information below that row.
8. Following the deletion select the entire worksheet. (Click on the cell to the left of column A header and directly above the row number to select the entire spreadsheet.)

To group extraneous headers for deletion, sort (Data menu, select sort) on the film number ensuring that under 'my data has' that the header row is highlighted.

9. Scroll through file and remove heading details. NB these extra rows are generally just below the first row and at the end of the document.
10. Now select the written worksheet and remove everything including the telephone complaints until the first row starting Film No directly after the row that mentions Written Complaints.
11. Repeat steps 8 & 9.
12. At this stage all extraneous data should have been deleted. To save the file click on File, Save As and change the save as type from 'Text (Tab delimited)' to Microsoft Excel Workbook



13. In the Written worksheet, select all data (click on cell A1, with this cell selected scroll down to the last cell on the last row of data, hold down the shift key and click on this last cell) and then click on the Data menu and select Pivot Table & Pivot Chart Report. Click Next at Step 1 and since the data has already been highlighted then the range will be completed for step 2. Click Next.
14. At step 3 click on Layout, drag 'Days Open' field button on the right into the row box in the diagram on the left and drag the film-no into the data box. Ensure the data box is set to 'count of film-no', if not double click on the field button within the data box and select count. Then click on OK & then finish. The Pivot Table will appear in a new worksheet, rename this worksheet Written Summary.
15. As the calculations cannot be carried out on the Pivot Table copy the data to another section of the worksheet and total under days open.
16. Totals are required for no. closed within 5 working days, no. closed in more than 5 but within 10 working days, no. closed in more than 10 but within 20 working days & the no. closed in more than 20 working days. Percentages also have to be calculated for these breakdowns; this is calculated by, for example, taking the total closed within 5 working days and dividing by the total closed in the month and formatting the cell as a percentage. To calculate performance for the month the total no. closed within 5 working days should be added to the total closed in more than 5 but within 10 working days and divided by the total closed in the month. This should also be formatted as a percentage (2 decimal places).
17. To count the number of contacts & to calculate percentages within the ranges listed in step 16 go to the Days Open column and as required insert 2 rows after the rows containing counts of contacts in the 0-5 days open range, insert 3 rows after rows containing contacts in the 6-10 days open range, insert 2 rows after

rows containing contacts in the 11-20 days open range and insert a final 2 rows after contacts open for more than 20 days (see inserted example). Please note that there may not be contacts each month that cover each of the ranges.

20		
21	<b>Days Open</b>	<b>Total</b>
22	0	23
23	1	10
24	2	16
25	3	21
26	4	19
27	5	23
28	<b>Number dealt with within 5 working days</b>	<b>=SUM(B22:B27)</b>
29	<b>Percentage dealt with within 5 working days</b>	<b>=B28/B42</b>
30	6	23
31	7	23
32	8	15
33	9	30
34	10	52
35	<b>Number dealt with in more than 5 but within 10 working days</b>	<b>=SUM(B30:B34)</b>
36	<b>Percentage dealt with in more than 5 but within 10 working days</b>	<b>=B35/B42</b>
37	<b>Percentage dealt with within 10 working days</b>	<b>=(B28+B35)/B42</b>
38	11	3
39	14	1
40	<b>Number dealt with in more than 10 but within 20 working days</b>	<b>=SUM(B38:B39)</b>
41	<b>Percentage dealt with in more than 10 but within 20 working days</b>	<b>=B40/B42</b>
42	<b>Grand Total</b>	<b>259</b>

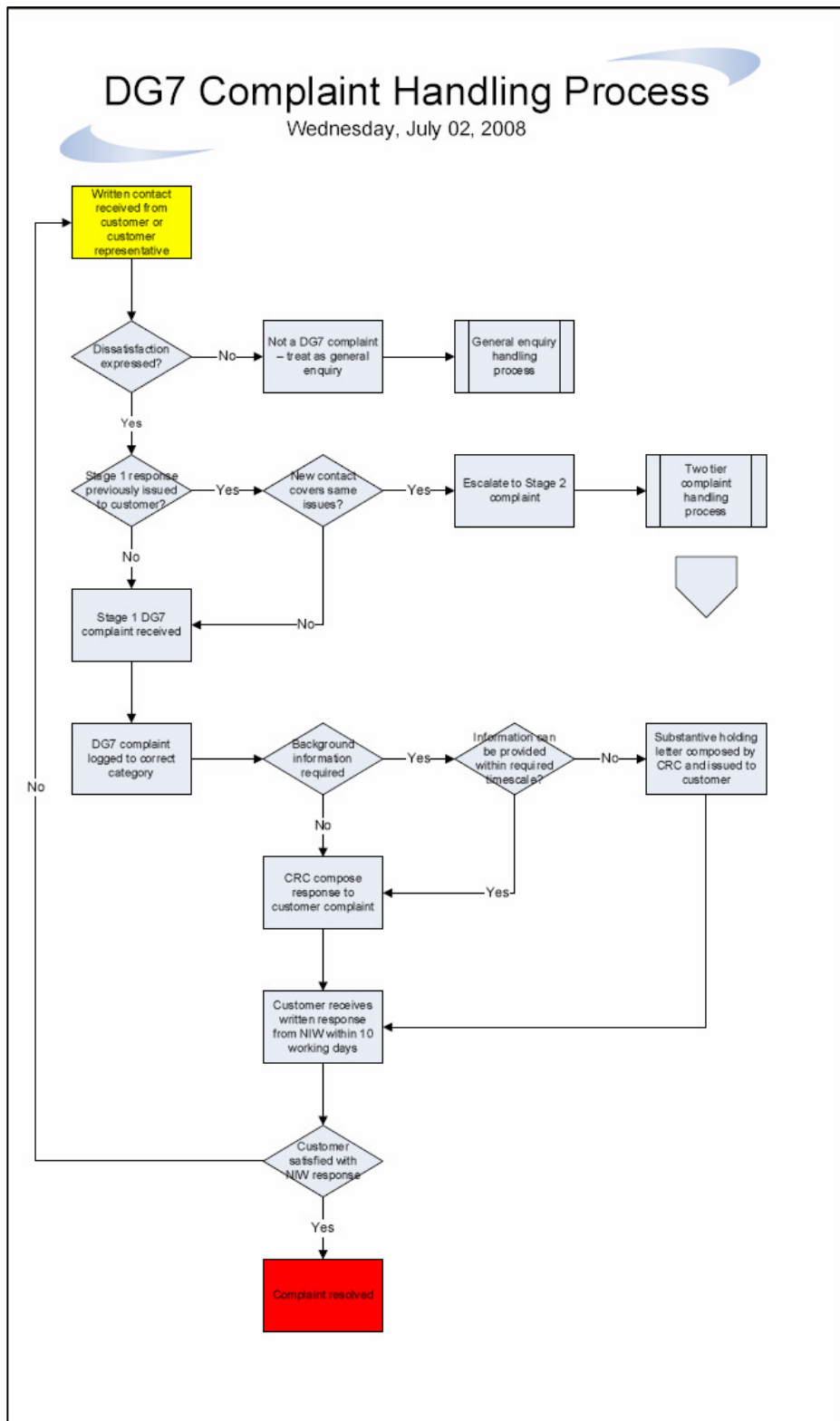
18. The first row in the group of 2 will be used to total the number in the group and the second will be used to calculate the percentage. The third row entered after the 6-10 days open group will be used to calculate the sla for DG7 Written Complaints i.e. percentage dealt with within 10 working days.
19. Go to the first set of rows inserted, in column A (Days Open) of the first row type 'Number dealt with within 5 working days' and in column A of the second row type 'Percentage dealt with within 5 working days'.
20. Move to column B (Total) in the first row and click on  $\Sigma$  (Autosum) on the toolbar. A formula will automatically appear with the cells to be totalled highlighted. These cells should be the written complaints with days open in the range 0-5; if all these cells are included press Return and the total will appear in the cell (if not when the cells are highlighted select a cell and drag the mouse to cover all cells to be totalled and then press RETURN).
21. In the cell below the cell holding the total calculate the percentage (no closed within range/total closed in month). Type =, then select cell that holds total complaints open between 0-5 days (cell ref will appear after =), then type / and finally select the grand total cell (=B28/B42 in the enclosed example). Press Return and the result will appear in the cell.
22. Click back into the cell and go to the format menu, select cells, in the number tab click on percentage and change the decimal places to 2. Then click on OK.
23. Repeat steps 18-22 for Number & Percentage dealt with in more than 5 but within 10 working days, Number & Percentage dealt with in more than 10 but within 20

working days and the Number & Percentage dealt with in more than 20 working days as required.

NB In the third row inserted after the 6-10 days open group of complaints, go to the cell in Column B (Total) and type = followed by (, then select the cell that holds the total complaints dealt with within 5 working days, type +, then select the cell that holds the total complaints dealt with in more than 5 but within 10 working days, type) followed by/and finally select the cell that holds the grand total of complaints dealt with in the month. Format the cell as percentage. [For reference in enclosed example the formula is = (B28+B35)/B42]

24. Select the File menu followed by Page Setup and then Header/Footer tab, click in the Centre section and enter a Header for the summary page e.g. September 2008 PC4 DG7 Written Complaints Summary. Highlight the rows that hold the pivot table, right click on the mouse and select hide [or got to Format menu, Row and then Hide].
25. Repeat steps 13-23 for the telephone worksheet (these contacts are not included in PC4 but figures can be verified in Contract Schedule 8.4 included as part of the monthly reporting suite provided by CA).

## Appendix 1



**Appendix 2**

**Customer Billing & Contacts Project**

Northern Ireland Water

Process Support Document

**Two Tier Complaint Handling Process**



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## 1. Introduction

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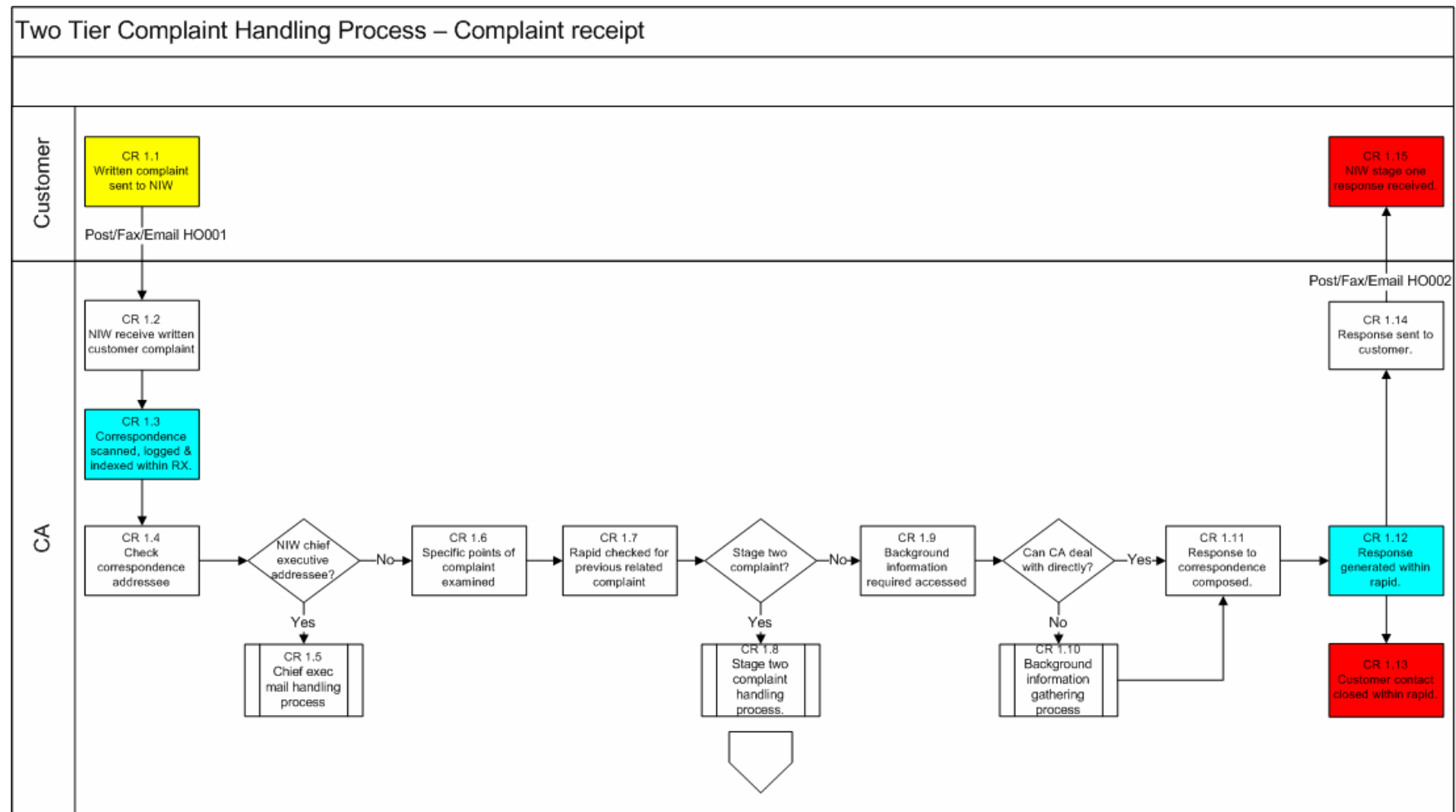
### 1.1 Description

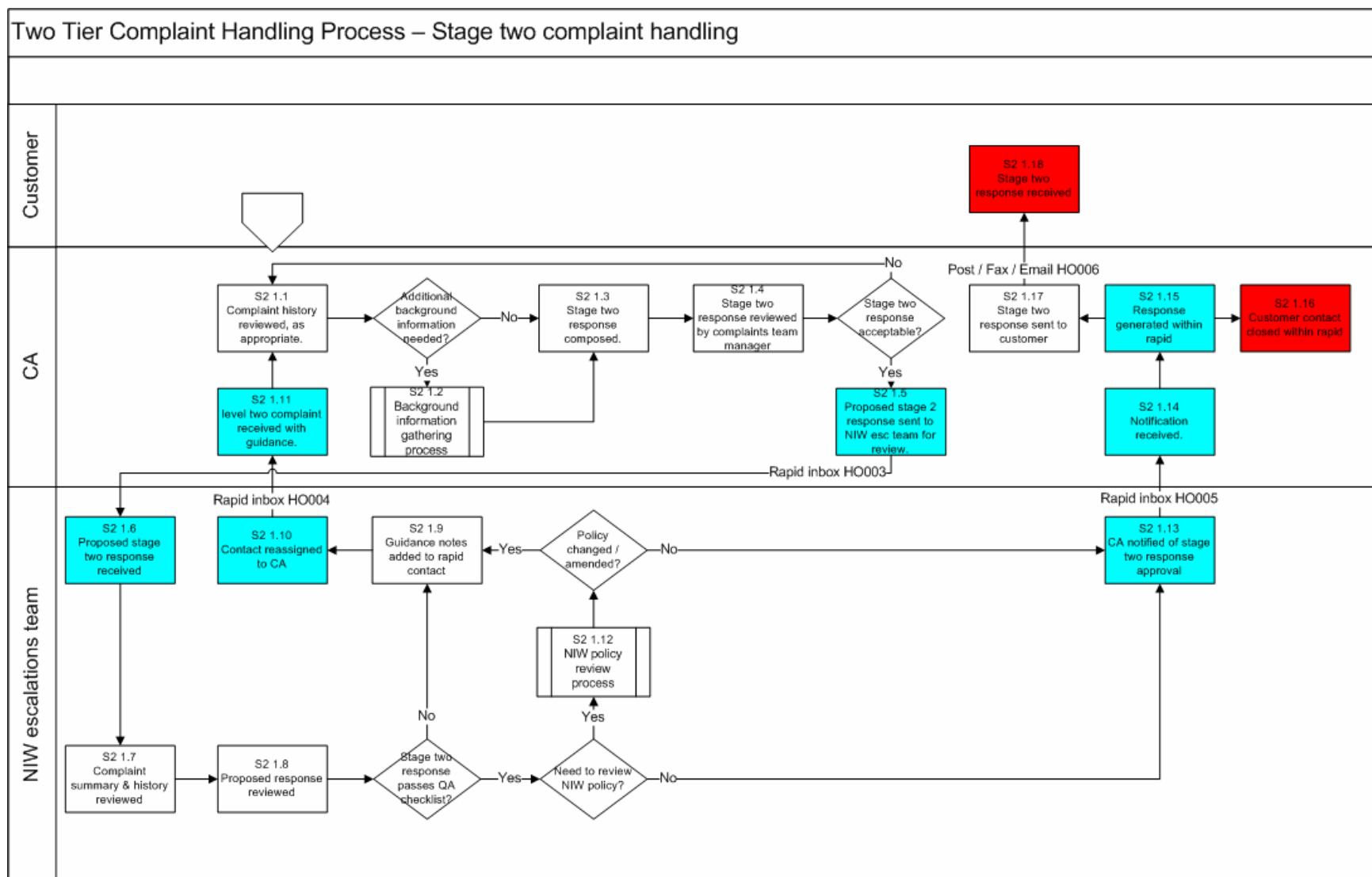
This document describes the process to be followed by NIW and CA when responding to stage two customer complaints. A stage two customer complaint is defined as a complaint received by NIW, which was not resolved to the customers satisfaction by NIW's original response.

### 1.2 Purpose

The purpose of this document is to describe the process to be followed and the interactions required, between CA and NIW when responding to stage two customer complaints.

## 2. Process Diagram





### 3. Process Details

#### 3.1 Business Triggers

Who	What	Description	Activity
Customer (or the customers representative).	CA, (acting of behalf of NIW) receive a written stage two complaint.	Customer writes to NIW expressing dissatisfaction with the resolution offered by NIW to their previous related complaint.	The customer will contact NIW with a written complaint using one of the following medium. <ul style="list-style-type: none"> <li>• Post</li> <li>• Fax</li> <li>• Email</li> </ul>

#### 3.2 Process Handoffs

Reference	From	To	Medium	Trigger	Response / Output Required	Operational SLA
HO001	Customer	CA	Post / Fax / Email	CR 1.1 The customer writes to NIW expressing dissatisfaction with the service provided by NIW.	Customer complaint to be processed on rapid and case managed by CA.	PC1, all written correspondence is to be scanned, logged and indexed on day of receipt. <i>(ref. schedule 2.2 appendix A PC1).</i>
HO002	CA	Customer	Post / Fax / Email	CR1.14 NIW response to stage one complaint sent to customer.	Customer receives NIW stage one complaint response.	10 working days from day of complaint receipt. <i>(ref. schedule 2.2 appendix A PC4).</i>

Reference	From	To	Medium	Trigger	Response / Output Required	Operational SLA
HO003	CA	NIW Escalations team	Rapid inbox	S2 1.5 Proposed stage 2 response is sent to the NIW escalations team for review.	NIW escalations team to review response against the NIW QA checklist. If the response fails the NIW QA checklist it should be returned to CA with guidance. If NIW policy is deemed to be inappropriate in this case the NIW policy is to be reviewed with details of any new/amended policy returned to CA.	
HO004	NIW escalations team	CA	Rapid inbox	S2 1.10 The proposed stage two response is returned to CA with guidance as it has failed the NIW QA check list  The proposed stage two response passes the NIW QA checklist. However NIW policy is changed / amended in light of the particular circumstances of this case. The amended / new NIW policy is sent to CA by way of guidance	Proposed stage two response redrafted based on NIW escalations team guidance notes  Proposed stage two response redrafted based on new / amended NIW policy	—
HO005	NIW escalations team	CA	Rapid inbox	S2 1.13 Notification sent to CA of approved stage two response.	CA to generate response within rapid and sent the response to the customer. The customer contact is to be closed within rapid according to the date the response was	—

Reference	From	To	Medium	Trigger	Response / Output Required	Operational SLA
					sent to the customer.	
HO006	NIW escalations team	CA	Post / Fax / Email	S2 1.17 Approved stage two response sent to customer	Customer receives NIW stage two response	10 working days from day of complaint receipt. <i>(ref. schedule 2.2 appendix A PC4).</i>

## 3.3 Policies / Business Rules

Activity	Policy / Business Rules
CR 1.1	If the customer contacts NIW by telephone with a complaint which cannot be resolved via telephone then the customer complaint should follow the same process as a written complaint.
CR 1.8	All stage two customer complaints received should be categorised and reported as such within rapid.
S2 1.4	All stage two complaints received should be reviewed by the CA complaints team manager.
S2 1.5	CA to send the proposed stage two response to the NIW escalations team no later than day four, except in circumstances where CA need to go to the business for additional background information.
S2 1.5	All proposed stage two complaint responses sent to the NIW escalations team must be accompanied by an explanation as to why the customer remains dissatisfied, i.e. Process / quality / policy issue.
S2 1.6 / S2 1.11 / S2 1.14	All rapid inboxes must be checked a minimum of once every 3 hours in a working day.
S2 1.11	CRC will assess if a substantive holding response needs to be issued in order to avoid missing the 10 day SLA.
S2 1.10/ S2 1.13 /CR 1.14	CA will receive feedback on all proposed stage 2 responses within two working days.
S2 1.9	Reponses which do not meet NIW standards are to be raised by the escalations team lead at NIW / CA quality review meetings.
S2 1.12	In instances where NIW decide to review policy this must be communicated to CA within one working day so a holding response can be issued.
S2 1.17	All approved stage two responses will be sent to the customer on day of receipt.
CR 1.14 / S2 1.17	A response should not be sent to the customer if it is not clear and does not address all issues raised



### 3.4 Controls

Activity	Control
CR 1.14 / S2 1.17	NIW Contract office to monitor correspondence via monthly update report
CR 1.14 / S2 1.17	NIW escalations team to review responses for quality on a sample basis.
S2 1.5	CA to check weekly and daily outstanding rapid inbox contacts.
S2 1.6	NIW escalations team to check weekly & daily outstanding rapid inbox contacts.

## 4. Performance Measures

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### 4.1 Contractual Service Stages

All DG7 written complaints to be processed as follows:

- All written complaints to be opened, scanned, indexed and logged on AUTHORITY work queue on day of receipt. (ref. schedule 2.2 appendix A PC1)
- Those which require further action by the AUTHORITY will be logged onto the AUTHORITY work queue on day of receipt. (ref. schedule 2.2 appendix A PC1)
- Written Complaints – the Standard Performance stage is response within 10 days (ref. schedule 2.2 appendix A PC4)

The contractor will be responsible for:

- Case closure (upon resolution by either the Contractor or the Authority) and closure notification to the Customer (unless the Contractor and the Authority agree in writing after the Effective Date that the Authority will assume responsibility for case closure and closure notification for cases escalated to it).

## 5. Enablers

---

### 5.1 Computer Systems

RapidXtra  
CorVu

### 5.2 Office Systems

Microsoft office  
Microsoft outlook

### 5.3 Reference Material

Schedule 2.2  
The NIW executive mail handling PSD  
The NIW policy review PSD  
The NIW background information gathering PSD  
The NIW business policy document

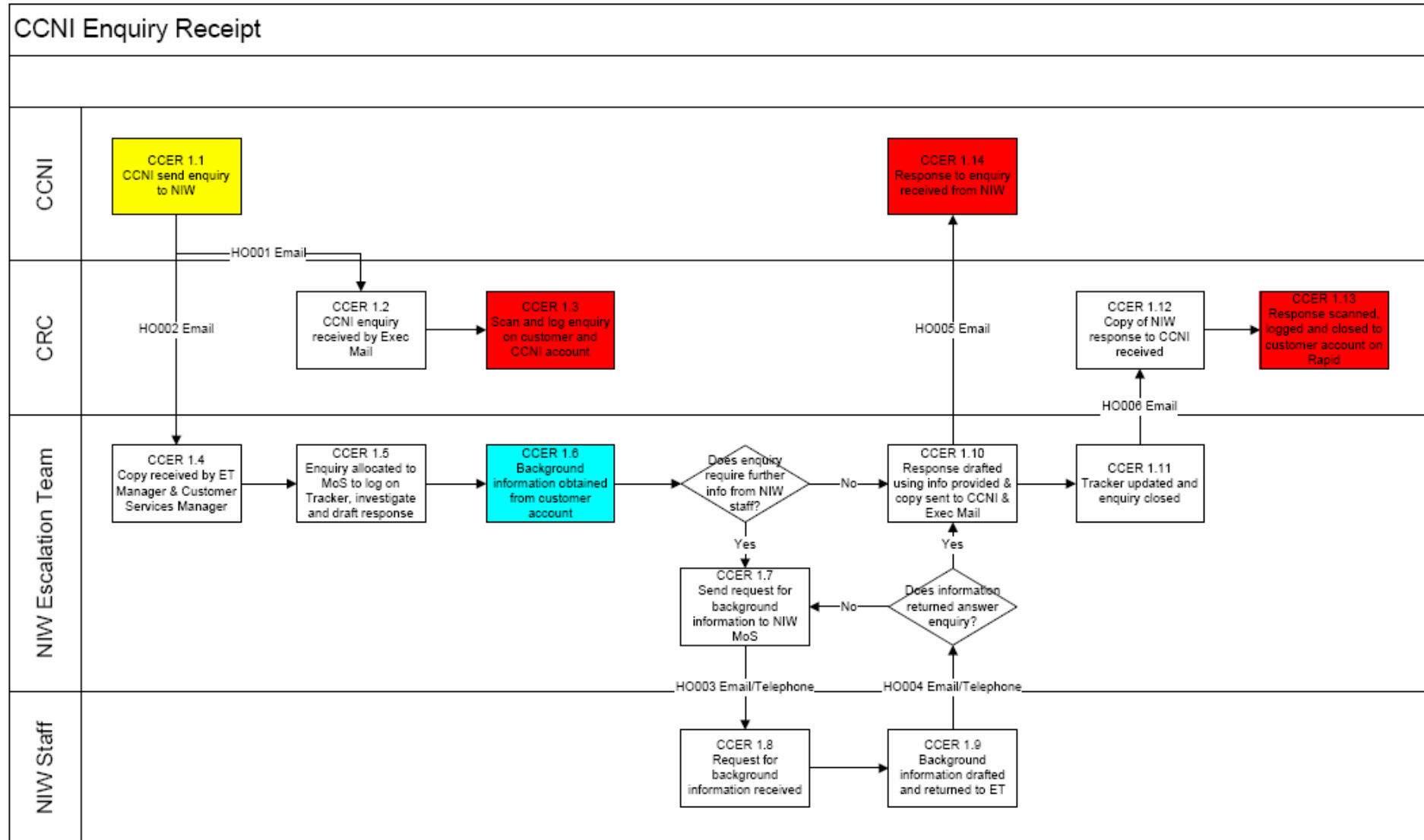
6. Appendix

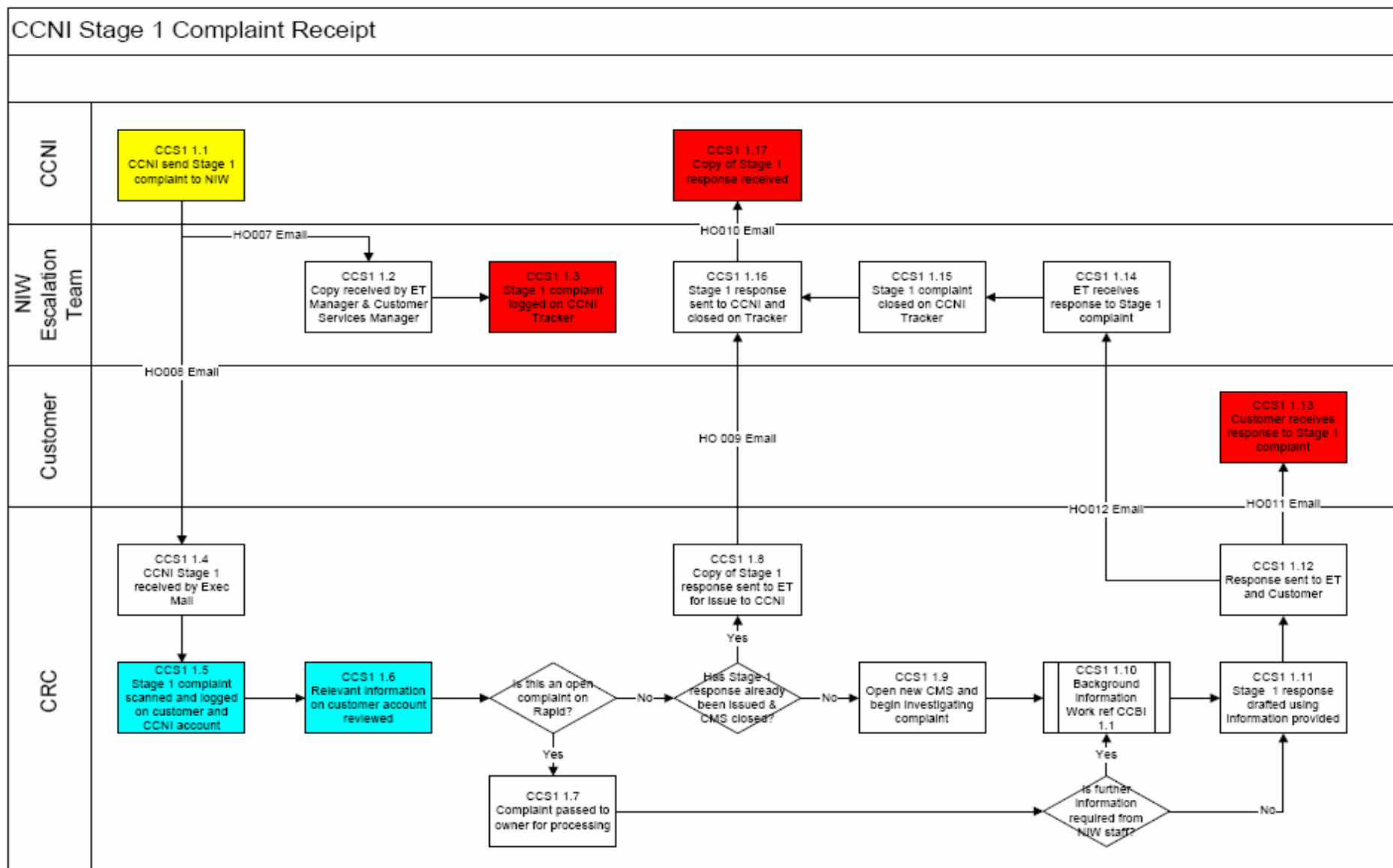
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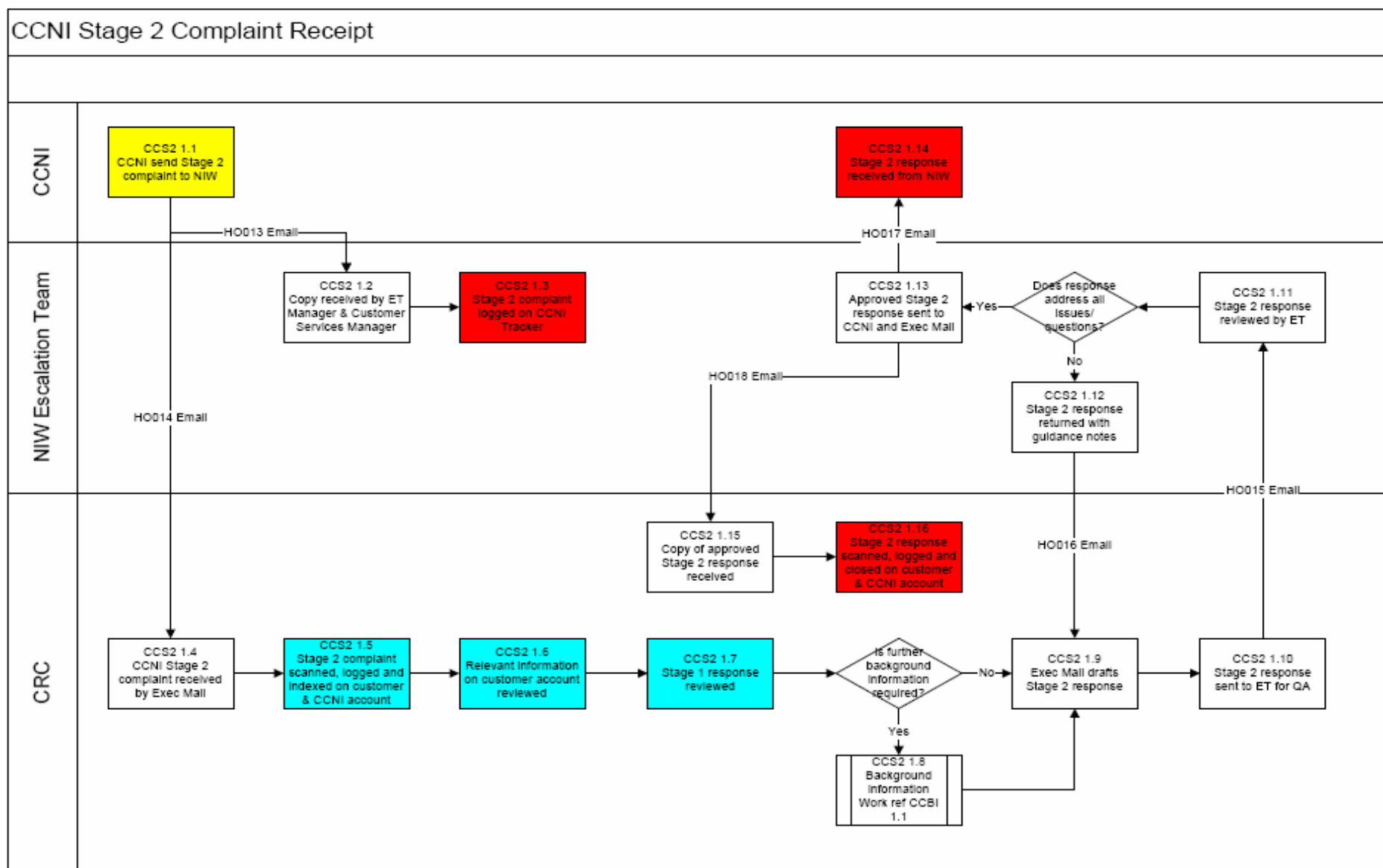
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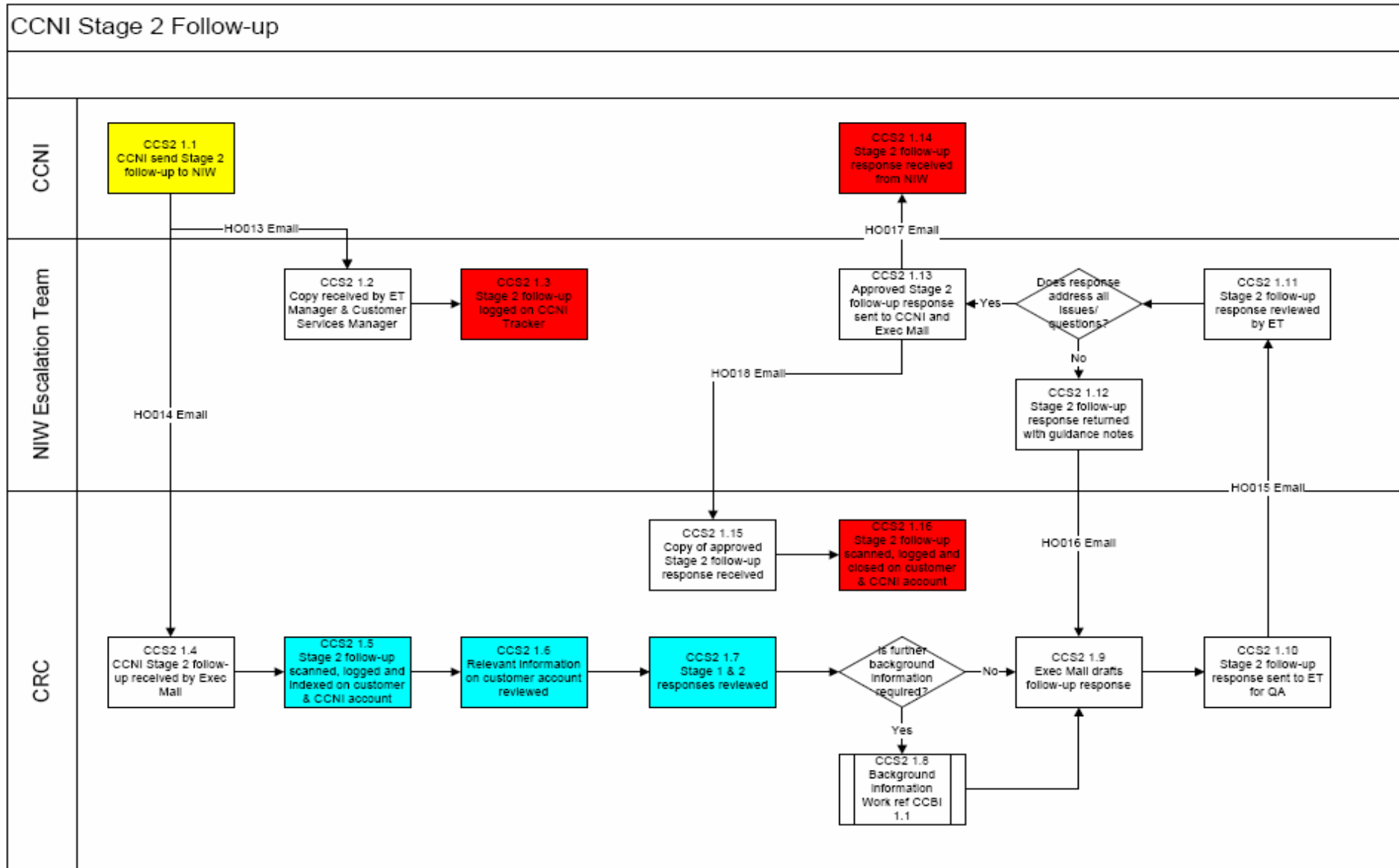
	Start of process		Link to sub process defined within this document
	End of process		
	Rapid / Ellipse based process		
	Reference to next process		

## Appendix 3



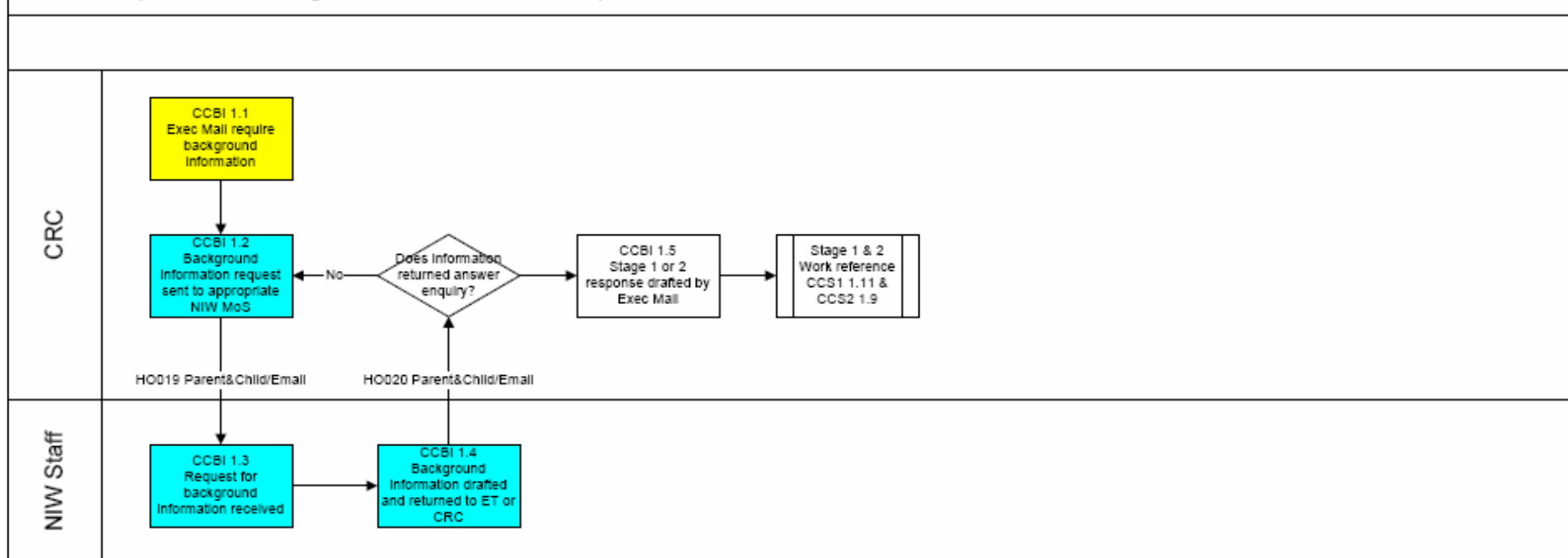




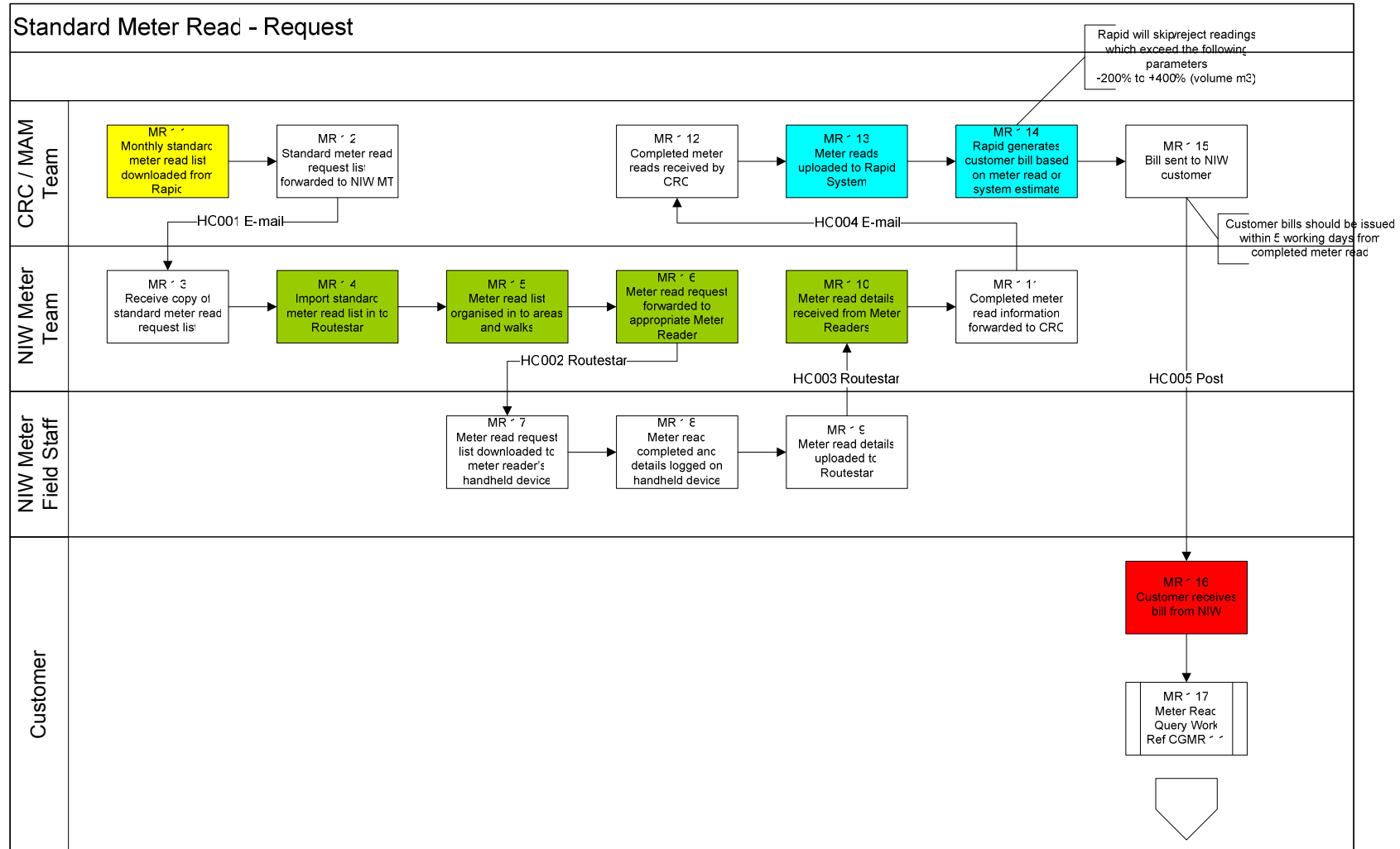




## CCNI Response – Background Information Request



## Appendix 4



**Appendix 5****BSA-P077 Complaints Received Reporting**

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**1.Introduction**

This procedure should be used for reporting of complaints received including telephone complaints for operational issues and DG7 Complaints. Please note that these have the complaint flag selected.

This procedure should be used for the contractual reporting for 8.4-1.4. DG7 complaints received and 8.4-1.6.8 DG9 Telephone complaints for the month end report pack, in addition to the daily/weekly scorecards.

When using this procedure please be clear that you have followed the rules/completed the required validation accurately where these are appropriate.

**1.1 Frequency**

Daily/Weekly/Monthly/Quarterly/NIAUR Return (Quarterly and Annually).

**1.2 Deadline**

Daily by 10:00am.

Weekly by Monday 12:30pm (Bank/Public Holidays excepted).

Monthly within the first 2 working days of the month where possible, contractually within the first 5 working days of the month (Bank/Public Holidays excepted).

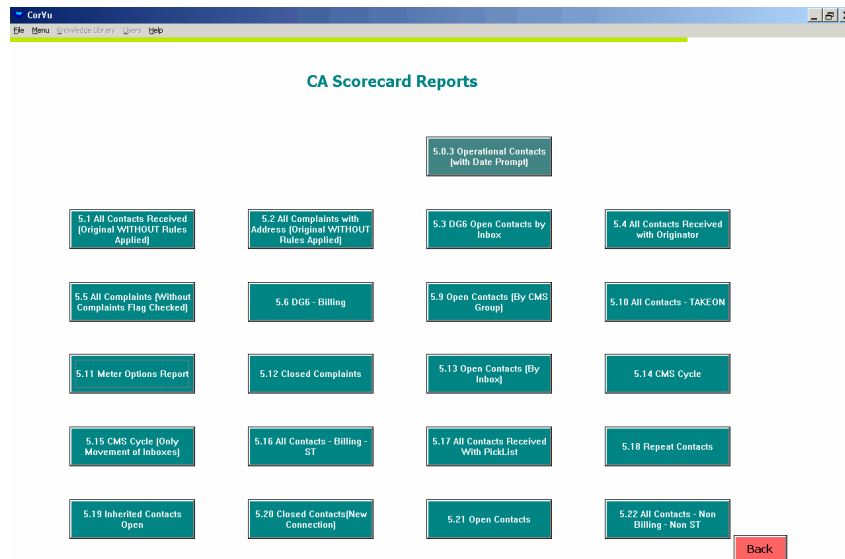
**1.3 Dependencies**

BSA-P047 Corvu Scheduler Monitoring which is used to check that the Corvu Scheduler has run successfully.

BSA-P056 MI Reporting – this procedure is for month end contractual reporting.

**2.Manual Running of Complaints Received Reports including rule application****2.1 Running the reports for Complaints Received**

1. Login to Corvu. Then go to the **Live DataBase Reports**
2. Then on the CorVu menu then choose **5) CA SCORECARD REPORTS**
3. Then Click button named **5.2 All Complaints with Address (Original WITHOUT Rules Applied)** (see Screenshot Below)



4. This will generate a prompt box. Please select **Telephone (billing)**, **Written (billing)** or **Operational** - Please select each option separately if required or all 3 can be selected together for the required date and export them into Excel.
5. Open up the exported **Complaints Received Reports** in Excel and follow these steps.

## 2.2 Operational (Ellipse with Category = Operational)

1. Sort the contacts by column by Original CMS Type and remove any contacts which have the Original CMS Type Internal Contact or Outbound Contact.
2. Then sort the contacts by Original CMS Group and check whether any contacts exist with the following types NID Roads; NID Rivers; NID NIW. If these contacts are included in the report, please remove them.
3. Alternatively sort the contacts by Original CMS Type Code and set the High level type to non reportable:
  - If Original CMS Type Code =NI002 – Gully then the High Level Type = Non Reportable
  - If Original CMS Type Code =NI003 Culvert then the High Level Type = Non Reportable
  - If Original CMS Type Code =NI004 Roads then the High Level Type = Non Reportable
  - If Original CMS Type Code =NI005 Water flowing over road then the High Level Type = Non Reportable

- If Original CMS Type Code =NV002 Overflowing watercourse, High Level Type = Non Reportable
  - If Original CMS Type Code =NV003 Water flowing over land, High Level Type = Non Reportable
  - If Original CMS Type Code =NW002 Internal Flooding containing sewerage, High Level Type = Non Reportable
  - If Original CMS Type Code = NW003 External Flooding containing sewerage, High Level Type = Non Reportable
  - If Original CMS Type Code = NW004 Out of Sewer Flooding then the High Level Type = Non Reportable
  - If Original CMS Type Code = NW005 Extensive flooding due to burst w. main, High Level Type = Non Reportable
4. Then remove these to a separate worksheet.
  5. Then count the number of contacts remaining, this provides the volume of complaints.

### 2.3 DG7 Complaints (Category = Written and/or Telephone Billing)

1. The rules below are for complaints with a category of “Written Billing or Telephone Billing).

Use the formula below to lookup the value of the original CMS type (i.e. the CMS Type Code):

*The original CMS Type is used to identify the contact type using a lookup to the attached spreadsheet to determine the high level contact type (such as billing/operational/non reportable). Please see attached: (NB: the contents of this file can be viewed by double clicking the icon below in the electronic version of this document).*



Microsoft Office  
Excel Worksheet

**=VLOOKUP(F2,'S:\CA Month End Reporting\General Information\[Rapid Codesv15.xls]CMS Types'!\$B\$2:\$D\$2500,3, 0)**

This should be included in the last column on the spreadsheet and named “**High level type**”.

The user should then enter the required date range for the report. When the report has completed running the user should save this report as a text file for manipulation in excel.

The user should then exclude any contacts where:

- the Orig CMS Group = "Domestic Meter Request"
- the Orig CMS Group = "Non Reportable"
- the Orig CMS Type = "Archive Only"
- the Closed CMS Type = "Logged in Error"
- the Closed CMS Type = "Log Only Contact" and the Film Number begins with "9"
- the CMS Doc Type = "NIW Reply to Customer"
- the CMS Doc Type = "Internal"
- the CMS Doc Type = "Non reportable"
- the Inbox = NIW Clean water
- the Inbox = NIW Dirty Water

From 2 March contacts with the following inboxes are to be excluded:

- the Inbox = NIW PL Clean Water - Westland
- the Inbox = NIW PL Clean Water - Enniskillen
- the Inbox = NIW PL Clean Water - Coleraine
- the Inbox = NIW PL Sewerage
- the Inbox = NIW E & P
- the Inbox = NIW NPL Clean Water – Westland
- the Inbox = NIW NPL Clean Water - Enniskillen
- the Inbox = NIW NPL Clean Water - Coleraine
- the Inbox = NIW NPL Sewerage
- the Inbox = NIW NPL E & P

From 10 March contacts with the following inboxes are to be excluded:

- the Closed CMS Type = "Non Reportable"

The high level type for these contacts should be set to Non reportable/Internal.

Please then remove these to a separate worksheet.

The contacts remaining after the look-up and rules have been processed and the Non reportable/Internal contacts have been excluded, are the DG7 contacts received.

### **3.AIR Return Guidelines (DG7 Received Complaints)**

The AIR return for the regulator should include the volume of DG7 complaint contacts received by NIW during the given period. This has been provided as an annual and quarterly return.

Details in relation to any submission to NIW are required to be checked by the Operations Manager/BSA Team manager prior to issue.

The report with regard to received contacts should be generated as in section 1.5 for the

period of the return either per month or as one report.

Then the spreadsheet below should be used to look-up the NIAUR Codes. If these are already on the spreadsheet due to ongoing improvements to the Corvu reports, then 10 codes should be checked against the Corvu report to confirm that the correct NIAUR value is allocated *(NB: the contents of this file can be viewed by double clicking the icon below in the electronic version of this document)*.



Microsoft Office  
Excel Worksheet

Each closure code should provide the appropriate NIAUR code, if a manual look-up is created as above 10 should be checked to confirm the look-up is correct.

The following template should then be completed with the volume of complaints of open and closed items in the various categories *(NB: the contents of this file can be viewed by double clicking the icon below in the electronic version of this document)*.



Microsoft Office  
Excel Worksheet

The CCNI complaints should be summarised separately by type but included in the CCNI column. The overall volume of open and closed should be included in the available columns.

Any complaints which are deemed as Non-reportable/Internal/Duplicates should be included on a separate sheet. This should then be checked again prior to sending to NIW.

**Northern Ireland Water**

**Level of Service Methodology**

**DG8 Bills for Metered Customers**



## **DG8 - BILLS FOR METERED CUSTOMERS**

### **1. Methods and Procedures**

- 1.1 Process map in Appendix 1.

### **2. Definitions**

- 2.1 Every time a metered account is billed a reading type is updated onto the billing system (Rapid) to identify the type of reading.
- 2.2 The reading types and estimated indicator are used to distinguish the meter reading status of each metered account analysed in the DG8 report.
- 2.3 The Rapid DG8 analysis report ensures we correctly identify each of the reporting requirements in the sequence shown.

### **3. Total Metered Accounts**

- 3.1 The report confirms the number of accounts which either water or water and sewerage consumption is calculated.

### **4. Company Reading and Billed**

- 4.1 If a Company reading has been taken during the current financial year and a bill raised 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.

### **5. No Bills Received During Reporting Year**

- 5.1 Bill status is scanned for no bills issued during the reporting year and is reported under the 'Not Billed this year' indicator.
- 5.2 Meters included in this category are identified as having a reading entered but the 'bill sent' flag set to 'No'

### **6. Customer Readings**

- 6.1 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.
- 6.2 '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'

## **7. Estimated Only**

- 7.1 Any meters that have not satisfied any of the preceding indicators will be recorded under the 'Meters Estimated Only' indicator.
- 7.2 '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.

## **8. Unread for Two Years**

- 8.1 If no Company reading exists during a two year period, it will be reported under the 'No Company Reading for 2 Years' indicator.
- 8.2 Specifically two years back from the end date of the DG report.

## **9. Exclusions**

- 9.1 The following are excluded from the indicators:
  - 9.1.1. Charged on another basis
  - 9.1.2. Test meters
  - 9.1.3. Trade-effluent meters
  - 9.1.4. DRD or NIW meters
  - 9.1.5. Fire supplies
  - 9.1.6. Properties occupied less than six months
  - 9.1.7. Complex accounts – Including combination meters
  - 9.1.8. Void properties

## **10. Billing Policy**

- 10.1 Frequency of Bill Issue :
  - 10.1.1. Household properties – the Company aim to read at twice a year and bill twice yearly.
  - 10.1.2. Non-household – the Company aim to read at twice a year and bill twice yearly.
  - 10.1.3. Large non-household users – the Company aim to read and bill monthly.

## **11. Customer Reads**

- 11.1 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.

## **12. Data Collection**

**12.1 Frequency of reading:**

- 12.1.1. Household and non-household properties are scheduled to be read twice a year. The reading schedule is completed over a six month period.
- 12.1.2. Non-household – large volume users are read and billed monthly.

**13. Method of Meter Reading**

- 13.1 Details of metered accounts scheduled for reading are transferred to an electronic data storage unit (PDA), this is subsequently updated upon the meter being read. The information obtained is then transferred back to the Rapid billing database.

**14. Policies****14.1 Access Denied**

- 14.1.1. 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. As a result a letter is issued to the customer advising them of same and inviting them to supply their own reading. If the customer does not provide a reading before the billing run a system estimate is used.

**14.2 Faulty Meters**

- 14.2.1. Where a faulty meter is identified, the Meter Reader will replace it dependent on the type of meter installed. Details of both the old and new meter will be recorded on a meter replacement docket and passed to the meter account management section to amend the account.
- 14.2.2. When the Reader cannot replace the meter our maintenance contractor will change it. The request is passed to the meter maintenance section by the meter reader once the meter is replaced the contractor advises the meter reader of the replacement details. The old and new meter details will then be returned by the meter reader on a meter replacement docket for updating on the billing system.

**14.3 Abnormal Readings**

- 14.3.1. An abnormal reading can be identified by one of two factors:
  - 14.3.1.1. A meter reading that gives a usage that does not fall in line with previous usage patterns, identified by the Meter Reader, billing system or customer.
  - 14.3.1.2. A meter reading that does not correlate with previous readings taken.
- 14.3.2. The PDA unit automatically calculates the usage between a new reading and the previous reading. The Reader checks the usage against the previous readings that are displayed on the PDA. If the usage appears to be abnormal, the Reader will enter a report onto the PDA and or use a pre set indicator to explain why (trouble codes).

14.3.3. 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 not, the Reader will be required to revisit the meter to obtain another reading and any other details that would justify the abnormal usage. Customer readings that also fall into the abnormal usage trend are similarly visited to confirm the usage.

#### **14.4 Previous Misreads**

14.4.1. Accounts that are identified as having previously been misread are subject to re-calculation based on the most recent meter reading.

#### **14.5 Data Transfer**

##### **14.5.1. Company Reads**

14.5.1.1. Before the start of each reading period, whether monthly or six monthly, all accounts, relating to the specific period, are transferred from the Rapid system onto Routestar. The accounts are then downloaded onto the PDAs for the actual reading of the accounts. Each day the Reader will upload the PDA and those accounts that have had a reading and or an abnormal reading indicator inserted are transferred to Rapid.

14.5.1.2. The data transfer from the Routestar to Rapid is not solely automatic and currently requires manual assistance.

#### **14.6 Customer Reads**

14.6.1. 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

### **15. Updating, Post Bill Issue**

15.1 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.

### **16. Data Measurement**

16.1 The Rapid billing system is used to provide the reported information.

16.2 A new connection job closure ellipse report is generated every week to confirm property details. This information is passed to our meter installation contractor by secure FTP. The contractor installs the meter and provides a data file every few days with the meter details including the first read. Once this information is provided it is inserted manually onto Rapid. The accounts are then included as part

of the scheduled reading pattern. Data provided by the contractor is used to cross check this data.

## **17. Procedures**

17.1 The data for DG8 reporting requirements is compiled by the Rapid billing system as the 'DG8 analysis' report. This report is based on meter numbers.

17.2 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.

17.3 A bill is only counted as issued if it is sent to the customer within the reporting year, any that are sent after this date will be included in the following reporting years figures.

## **18. Sources of Information**

18.1 The reading indicators are extracted from Rapid RPU005 meter consumption update screen. The DG8 analysis report extracts this information and compiles this in line with the requirements.

## **19. Assumptions**

19.1 Those accounts excluded from the analysis are categorised using the definitions provided by the reporting requirements.

## **20. Other Issues**

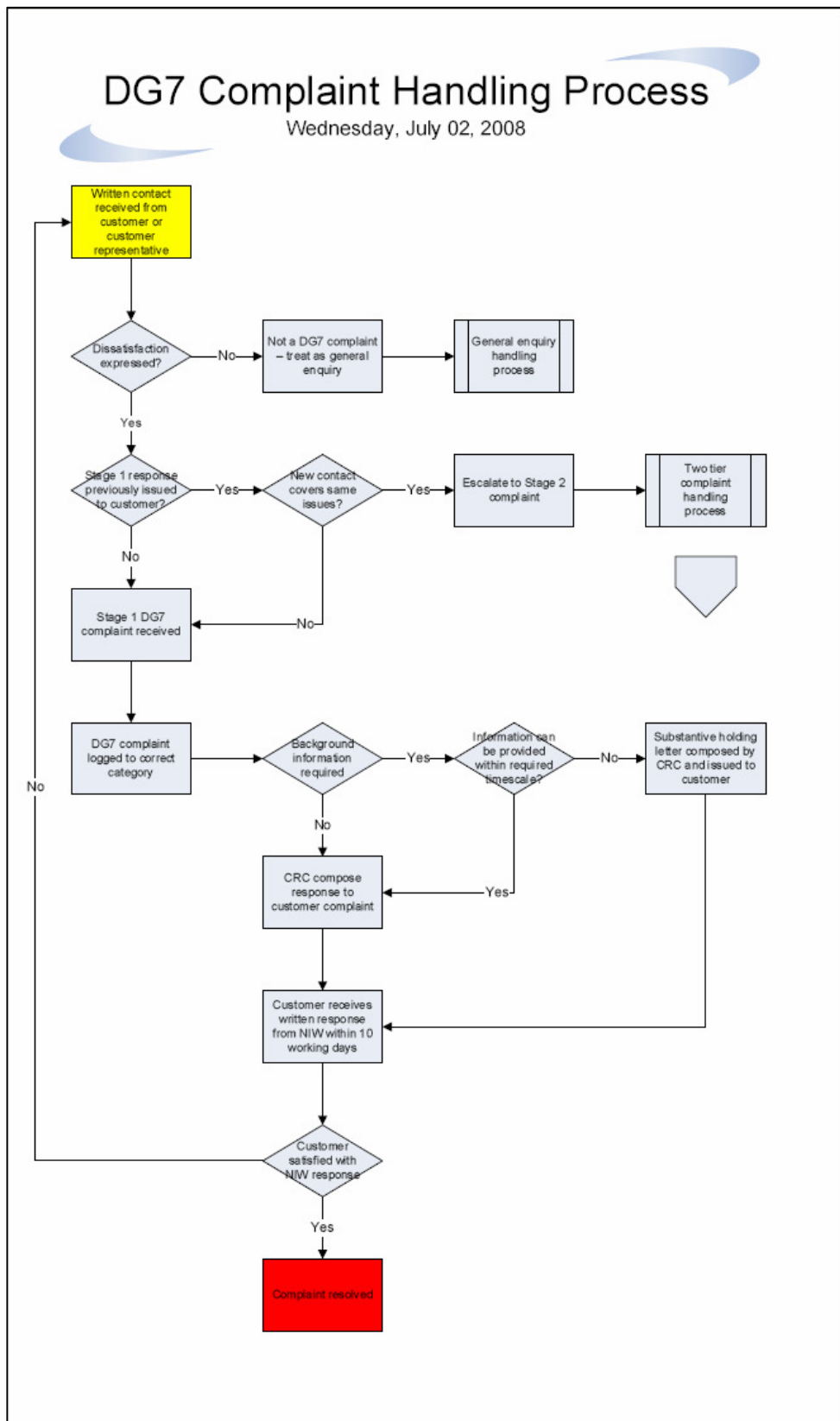
20.1 Crystal-Alliance on behalf of Northern Ireland Water, are responsible for the billing activity.

20.2 A number of meters are billed outside of Rapid. These are Trade Effluent bills. Trade Effluent bills are excluded from DG8.

20.3 Consideration is being given to how TE billing performance should be reported in future.

20.4 Sewerage only customers if not TE customers are charged on an unmeasured basis.

## Appendix 1



**Northern Ireland Water**

**Level of Service Methodology**

**DG9 Telephone Contact**

## Contents

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5	Company Systems .....	3
6	Other Issues .....	3



## 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/directed to phone to, while advertised refers to those customer contact points which appear in telephone directories, newspaper advertisements, on the Northern Ireland Water (NIW) website, NIW literature or are specifically printed (rather than typed) onto NIW letterheads. It excludes however, those which are of a temporary nature established to handle a specific topic.

NIW principle advertised customer contact points include:

- **Billing Enquiries:** 0845 877 0030
- **Waterline:** 0845 744 0088 (Customers telephoning Waterline are asked to press one for new water connections or hold for all other enquiries).
- **Leakline:** 0800 028 2011
- **Text Phone** (for customers with hearing difficulties): 0800 0515 446
- **Debtline (Collections & Recovery Department):** 0845 8770 050

In addition, an MLA hotline (0845 300 6461) 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.

#### *Company Agent*

Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to a consortium organisation known as Crystal Alliance (CA). Crystal Alliance is the provider of CBC services and is based in Capital House, Belfast.

A company agent is defined as an employee of Crystal Alliance (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 Crystal Alliance consortium members.

#### *Office Hours*

The indicator covers office hours only. Office hours are defined as the hours which NIW's principal advertised customer telephone contact 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

- **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
- **Text Phone:** 24 hours a day, 7 days a week, 365 days a year
- **Debtline:** Monday to Friday - 08.00 to 17.00
- **MLA:** 24 hours a day, 7 days a week, 365 days a year

A reduced service is available on the following main public holidays: Christmas Day, Boxing Day, New Years Day, Easter Sunday, 12th and 13th July.

*Table 5, Lines 13-17*

### **Total Calls Received on Customer Contact Lines**

This is defined as the number of calls that are received (including those which are later abandoned) on principle advertised customer contact points and make contact with a company agent or hear a recorded message that is not an all lines busy message.

Calls which receive an engaged tone or hear an all lines busy message are not counted as calls received, such calls are collected within the 'all lines busy' aspect of the indicator.

### **All Lines Busy**

The 'all lines busy' category measures the degree of difficulty customers experience in being able to connect with a company agent or automated system. All calls receiving an engaged tone or hearing an all lines busy message are reported. This also includes calls where a customer hears the engaged tone as a result of a problem with the line where the call has been received via Call Media.

### **Total Calls Abandoned**

The 'calls abandoned' category aims to capture the total number of callers who abandon their call before it is substantively answered by NIW. All calls abandoned, including those abandoned within 30 seconds are reported.

### **Call Handling Satisfaction**

Call handling satisfaction aims to measure customers' satisfaction with the way NIW handles their telephone call. This is an annual score produced by four waves of customer satisfaction surveys conducted by McCallum Layton on behalf of OFWAT and Water UK. The results from asking "overall, how satisfied were you with the manner in which your call was handled" are used for the call handling satisfaction score.

### **Total Telephone Complaints**

Please see below a list of issues categorised via CMS type. These include billing, water service and wastewater issues. As a general policy, NIW records all telephone calls about these issues as complaints:

- Orig CMS Type
- Appearance-Animalcules
- Appearance-Discoloured (Blue/green)
- Appearance-Discoloured (Brown/black/orange)
- Appearance-General Conditions
- Appearance-Hardness
- Appearance-Particles
- Appearance-Stained Washing
- Appearance-White-Air
- Appearance-White-Chalk
- Bad Smell Treatment Wks/pumping Stn
- BI- Debit Error Overcharge
- BI- Disconnection Without Just Cause
- BI- Disputed Liability For Measured Bill
- BI-A V R No Response To Message Left
- BI-Account Closed In Error
- BI-Bill Arising From Disputed Meter Read
- BI-Bill/final Notice Not Received
- BI-Debit Error
- BI-Delay In Changing Acc To Measured
- BI-Delay In Issuing Bill
- BI-Delay In Issuing Refund
- BI-Disconnection Without Just Cause-Comm
- BI-Disputed Liability For Unmeas Bill
- BI-Error In Previous Response
- BI-Fixed Charge Incorrect
- BI-Incorrect Account Details
- BI-Increase In Charges
- BI-Lack Of Information To Customers
- BI-Late Response
- BI-Leak Allowance
- BI-Liability For Charges
- BI-Measured Billing Error - Overcharge
- BI-Meter Reading Frequency
- BI-Method Of Payment
- BI-Methods Of Billing For Measured Cust
- BI-Methods Of Billing For Unmeas Cust
- BI-No Reply To Original Contact
- Blocked Sewer Inc Cleanup & Disinfect
- BI-Original Contact Not Received
- BI-Other Charging Methods

- BI-Payment Not Allocated To Correct Acc
- BI-Poor Information On Bill
- BI-Promised Action Not Completed
- BI-Reply Crossed In Post
- BI-Sending Of Estimated Accounts
- BI-Standing Charges
- BI-Timing Of Reminders
- Boil Notice
- Cs-Error In Previous Response Any
- Cs-Late Response All
- Cs-No Reply To Original Contact C S
- Cs-Original Contact Not Received C S
- Cs-Promised Action Not Completed All
- Dangerous Opening (W)
- Dangerous Openings (S)
- Defective Surface Covers (S)
- Defective Surface Covers (W)
- Driving/vehicles
- Faulty Stopcock
- Flooding External (S)
- Flooding Internal (S)
- General Complaint
- High Consumption
- High Water Pressure
- Illness-Medical Opinion
- Illness-Oral
- Illness-Sick/diarrhoea/gastro/crypto
- Illness-Skin
- Key Account Issue
- Leakage
- Le-Error In Previous Response
- Le-Late Response
- Le-Promised Action Not Completed
- Low Water Pressure
- Me Access/maintenance/replacement
- Me Accuracy And Testing
- Me Meter Reader Behaviour
- Me Metering Of Existing Properties
- Me Optional Metering - Other
- Me Other Meter Problem
- Me Quality Of Meter Installation By NIW
- Me Time Taken To Install Meter By Company
- Me-Customer Meter Fault Report
- Missing Payment

- Nc NIW No Show
- No Approval Letter Received
- No Sewer Available
- No Water Complaint
- Noise In Pipes
- Ot - Attitude/behaviour Of Staff
- Ot - Contractor Activity
- Ot - Contractor Attitude
- Ot - Customer Service Behaviour
- Ot - Driving Vehicles
- Ot Error In Previous Response
- Ot Inadequate Notice Given By Company
- Ot Late Response
- Ot Operations Behaviour
- Ot Poor Advice From Company
- Ot Promised Action Not Completed
- Other For Water Service
- Ot-Reminder Notice
- Pollution (Sewerage)
- Rehabilitation Contract
- Reinstatement
- Report A Fault
- Rr-Debt Recovery Procedure
- Rr-Late Response
- Rr-Legal
- Rr-No Reply To Original Contact
- Rrpromised Action Not Completed
- Rr-Timing Of Reminders
- Rr-Wording Of Final Notice
- Run Of Water (W)
- Site Complaint
- Site Complaint - Sewerage
- St Septic Tank Damage Caused By Contract
- Sw Bad Smell Treatment Works/pump Station
- Sw Damage & Disruption During Construct
- Sw Delay In Repair To Sewers/drains
- Sw Flooding Internal & External
- Sw New Sewers Conns
- Sw Other Sewerage Service Problem
- Sw Pollution - River
- Sw-Bad Smell Stw/sps
- Sw-Blocked Sewer
- Sw-Dangerous Openings
- Sw-Flooding External (S)

- Sw-Fractured/collapsed Sewer Pipe
- Sw-Late Response All
- Sw-Reinstatement (S)
- Sw-Run Of Water (Sewerage)
- Sw-Site Complaint
- Sw-Sps Fault
- Taste & Odour-Chlorine
- Taste & Odour-Earthy/musty
- Taste & Odour-Other Taste/odour
- Taste & Odour-Petrol/diesel
- Taste & Odour-Tcp
- Trade Effluent
- Water Flowing Over Land
- Water Flowing Over Road
- Water Quality(Cust Concern)-Incid Rel-Gener
- Water Quality(Cust Concern)-Campaigns
- Water Quality(Cust Concern)-Incident Rel
- Water Quality(Cust Concern)-Life Style
- Water Quality(Cust Concern)-Pets/animals
- Water Quality(Cust Concern)-Sample
- Water Quality(No Concern)-Fluoride
- Water Quality(No Concern)-Other Info
- Water Quality(No Concern)-Water Hardness
- Water Quality(No Concern)-Water Qual Rep
- Ww Contractor Attitude
- Ww Damage & Disruption During Construct
- Ww High Pressure/pressure Surge
- Ww Interruption - Incident Related
- Ww Leakage - Fail/delay In Repair Main
- Ww Low Pressure - Daily Problem
- Ww Low Pressure - Intermittent Occurrence
- Ww No Water
- Ww No Water>24hrs
- Ww Other Pressure Problem
- Ww Other-Relating To Main/pipes
- Ww Site Complaint -Water
- Ww-Appearance-Discol(Brown/black/orange)
- Ww-Appearance-White Chalk
- Ww-Contractor
- Ww-Flooding (W)
- Ww-Late Response All
- Ww-No Water
- Ww-Promised Action Not Completed
- Ww-Site Complaint

- Ww-Taste & Odour (Other Taste & Odour)
- Ww-Water Pressure
- Ww-Water Qual (Cust Concern) Campaign

**CCNI:** As a general policy, all correspondence from CCNI is received via email. These are recorded as Enquiry, Stage 1, Stage 2 and Follow up.

**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.

### *Exclusions*

**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).

**Telephone Complaints:** 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).

### **Call Receipt / Telephony Structure**

#### *Telephone Providers Network*

The supplier during the reporting year was Cable & Wireless.

#### *Within Company Systems: Call Media*

All calls delivered to the Call Media system are delivered 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/Validation***

All calls are recorded within Call Media (the telephony system) including their status i.e. answered or abandoned. This is used in conjunction with the providers' network to determine calls answered, calls answered within 30 seconds, % calls abandoned and % lines not busy to understand full DG9 position.

DG9 performance is reported internally on a daily, weekly and monthly basis. Daily/weekly scorecards showing DG9 performance, including year to date performance are reported by Crystal Alliance. A detailed monthly Business Review Pack is also presented to NIW within 5 working days of the end of each month.

NIW Contract Office run independent Call Media reports (covering monthly and reporting year) and Rapid reports (for telephone complaints) and reconcile against those provided by CA.

NIW carry out monthly quality assurance checks (minimum of 2 hours a month) on random calls. Call results are discussed with Crystal Alliance and an overall score is reported back to both Crystal Alliance and NIW Contract Office. Calls are scored based on three categories:

- 1) Opening and Salutation
- 2) Skills and Knowledge
- 3) Soft Skills.

Please see below for a full list of the checks carried out under each category:

<b>Opening/Salutation</b>
Correct opening/salutation
You are speaking to/my name is
Customer account number requested
1st line of address confirmed
If 3rd party - check permission / DP adhered to
Full name requested / updated
Postcode Updated
Contact tel number requested / confirmed
Reason for call identified
<b>Skills and Knowledge</b>



Correct advice given to the Customer
Correct procedure / policy quoted
Check customer in charge on RAPID & paying
RAPID updated correctly
Correct timescales stated
Call transferred correctly
Correct CMS code selected
Call Logged
Correct job raised
Call back actioned
Agent's notes satisfactory
<b>Soft Skills</b>
Appropriate language / Questioning used
Listening noises
Avoided interrupting the Customer
Courteous telephone manner
Advisor sounded interested
Initiative used to resolve enquiry / complaint
Willingness to help shown
Confidence and Competence shown
Advisor controlled the call
Summary of actions given to the Customer
Correct closing statement

## Call Handling

### *Practices and Procedures*

All calls received are managed by Call Media and routed directly to an appropriately skilled company agent based on the first available call handler.

Wherever possible, an agent will deal and action a customers 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. The majority of agents are multi-skilled, so this is the exception rather than the rule.

When a call is handled, this is recorded on Call Media including wait time, call duration etc.

All enquires are logged on RapidXtra, the Customer Billing and Contact Management System by the company 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 via the RapidXtra Workflow Module. This includes instances where further 'back office' or NIW investigation is required in order to provide a response to the customer.

Inbox hit lists in RapidXtra are used to give real time visibility of cases outstanding including the date that the contact was received, the number of days the contact has been open, the contact type and references relating to the customer and the contact itself.

***Transfers between Principle Advertised Customer Contact Points (PACC)***

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 'Principle Advertised Customer Contact lines' which are delivered directly to the Call Media telephony system. Sampling, interpolation or extrapolation is not used in compiling totals.

An integral component of the Call Media system is the reporting module containing various standard reports detailing queue activity, including:

- Calls offered to a queue
- Calls answered on a queue
- Calls abandoned on a queue

**Messaging**

***Use and activation of IVRs (Interactive Voice Response)***

Interactive Voice Response (IVR) was not used by NIW during the reporting year. A recorded introductory message however was set up and assigned to each queue, i.e. Billing Enquires Line. The message greets the customer and thanks them for calling the relevant queue. It explains that an agent will be with them shortly and to note that calls are recorded to help provide quality assurance and training.

For Waterline, customers hear an additional message, "press one for new water connections, or for all other enquires please continue to hold".

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 can not be answered at the moment, please call back later.

Where an incident has been declared, NIW may authorize the use of a recorded message to intercept and answer customer calls from the area(s) affected by the incident.

***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.

***Use and activation of touchtone systems***

Other than recorded messages and the option customers hear when they contact Waterline "press one for new water connections, or for all other enquires please continue to hold", no touchtone systems were used during the reporting year.

**Company Systems**

***Telephony***

Systems comprise of a suite of Avaya products and a Callmedia ACD. The Avaya switch is tightly integrated with the Callmedia platform which provides Computer Telephony Integration (CTI), Automatic Call Distribution (ACD) and outbound dialler functionality through three main components:

- Avaya S8710 providing core telephony switching
- Callmedia Contact Centre software providing ACD, CTI and dialler functionality
- NICE Call Recording

Calls that arrive at the Avaya switch are routed by the Callmedia ACD to appropriately skilled agents via desktop phones.

***Location***

All systems are located at Capital House, Belfast. There is currently a 210 line capacity dedicated to NIW customers. This line capacity has proved more than sufficient to date with no incidences of this requirement being reached or exceeded. The scale of the current capacity was implemented in preparation for domestic billing which was deferred in April 2007.

***Software***

Software comprises of Callmedia Enterprise Console, the integral reporting suite supplied with Callmedia ACD and NICE call recoding.

Appendix 1 illustrates the telephony infrastructure and shows how the telephony components integrate with the overall operation. Please note however that not all components have been enabled during the reporting year (i.e.

customer self service voice – speech enabled).

## **Other Issues**

### ***Abandoned Calls***

During the reporting year, NIW was unable to differentiate between calls abandoned within 10 seconds and over 10 seconds. During the reporting year NIW reported total calls abandoned within 30 seconds and over 30 seconds.

### ***NIW Switchboard***

During the reporting year the telephone number for NIW switchboard was displayed in small type at the very bottom of the company website (see below). This is a business line and should not be advertised to NIW customer base. Calls to this business line have not been included in total calls received. This telephone number has since been removed from NIW website. Any calls received from customers on this business line would have been referred to the appropriate customer contact line and captured via Call Media.

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Frederick Street, Belfast, BT1 2NR.  
Registered Number :NI054463  
Tel: +44 (0) 2890 244 711| Fax: +44 (0) 2890 354 798

### ***Type Talk and Text Phone***

NIW has provided for a standalone Textphone service for use only by customers who have their own textphone. This service is provided for customers with hearing difficulties.

Type Talk is a third-party service whereby the customer rings a Type Talk 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.

During the reporting year NIW advertised a Type Talk service on the company website (0800 0515 446), this is a misprint and actually refers to the Textphone service offered to customers with hearing difficulties.

Following a quality check conducted by NIW, a call using a textphone to this number was not answered. After investigation it was identified that the Textphone service has not been operational during the reporting year, having only been operational from May 2009. Calls received on this line during the reporting year can not be reported and this service failure is currently under investigation.

***Rejected Calls***

NIW is currently investigating the number of rejected calls reported in Call Media reports across principle advertised customer contact points. Calls are currently rejected for any of the following reasons:

- The time being out of working hours
- There being no users currently logged on with the skill to handle the task
- The queue is too full and cannot accept any more tasks
- The task queued for the 'Max Queue Time' and was returned to the connector.

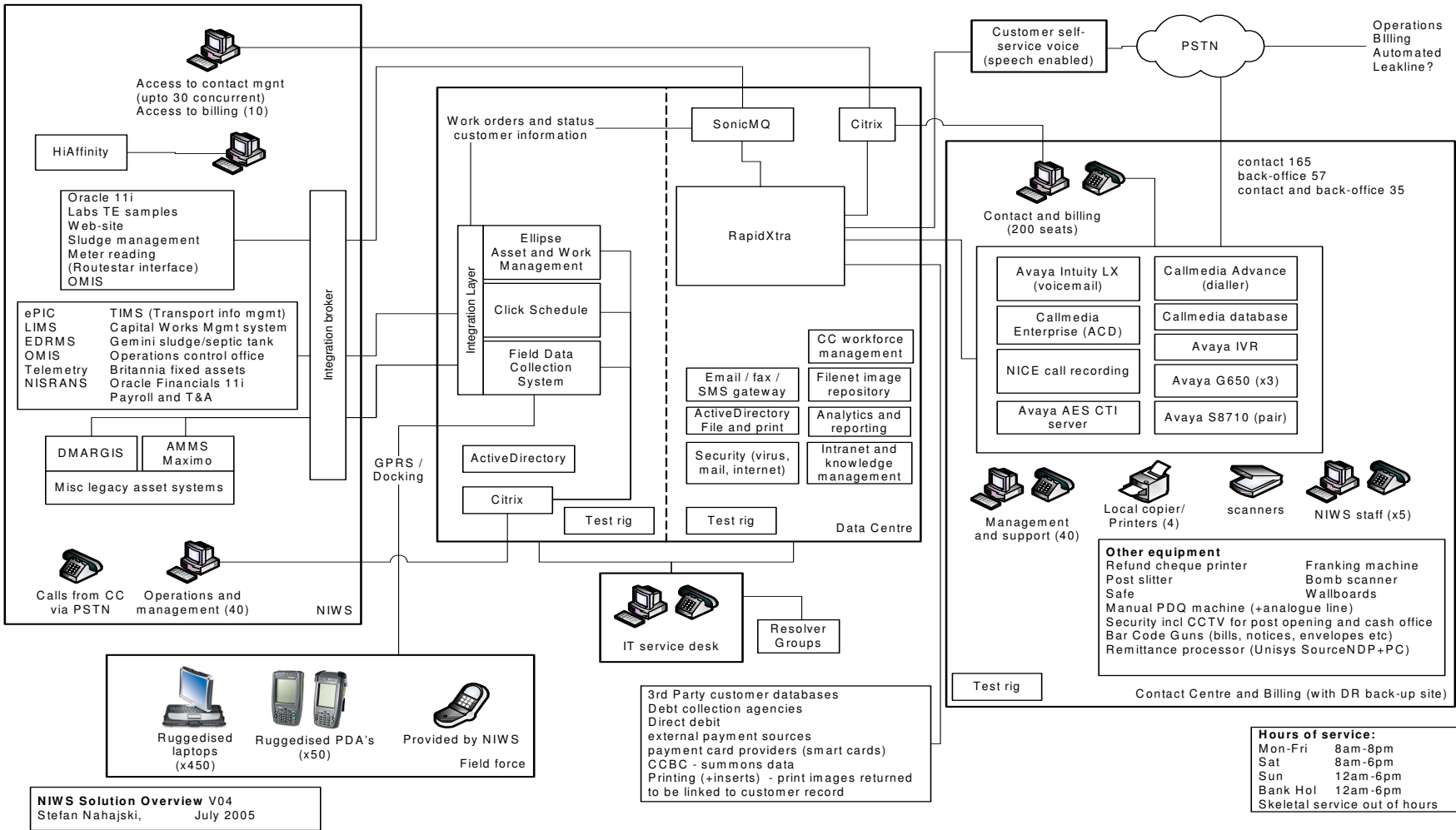
NIW is investigating if it is appropriate to 'reject' calls based on these reasons.

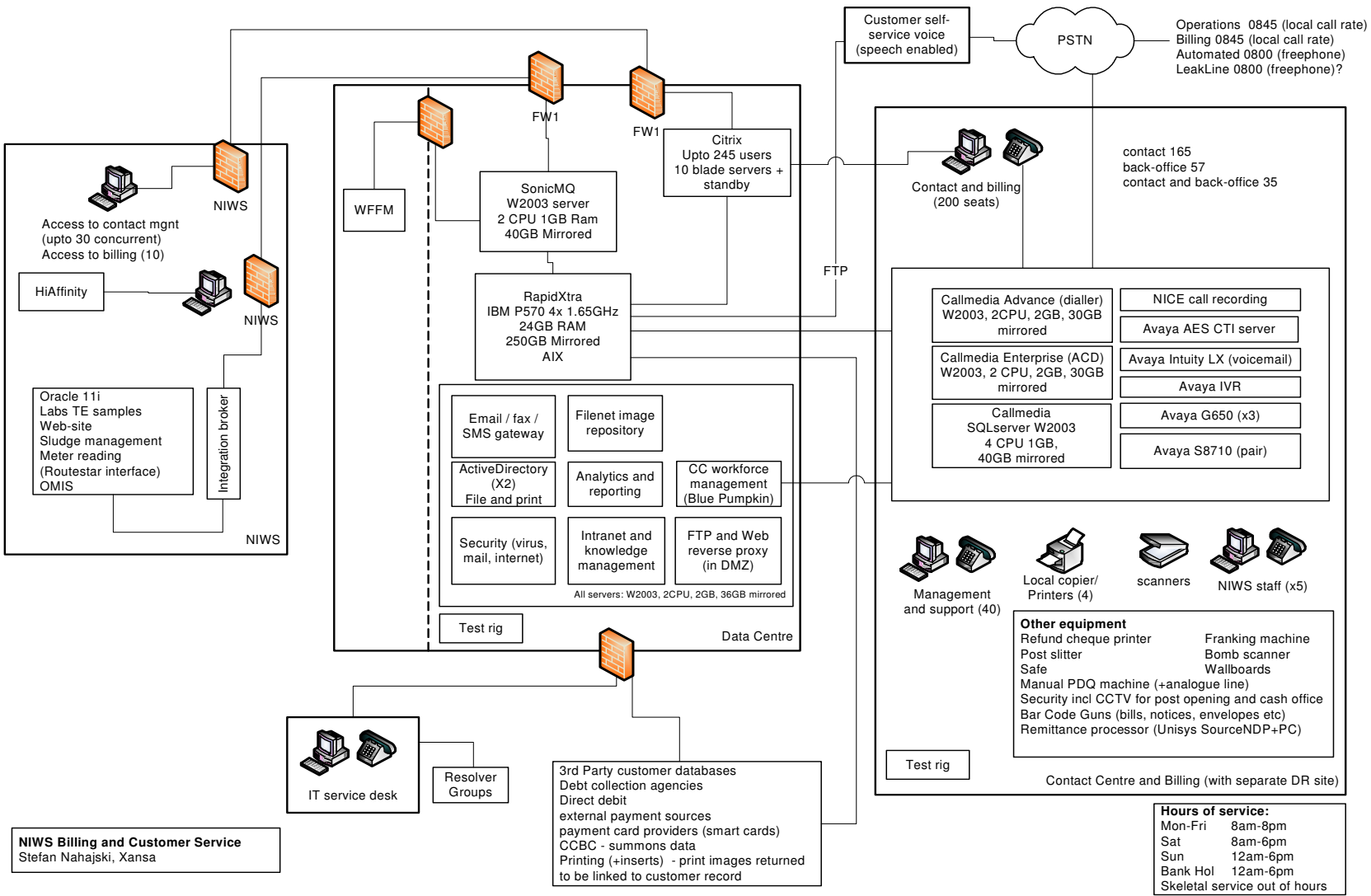
During the reported year, Call Media rejected 4,287 calls across all principle advertised customer contact points. These figures are not included in total calls received. A breakdown is available below:

- **Billing Enquiries: 349**
- **Waterline: 0**
- **New Connections: 260**
- **Leakline: 0**
- **Debtline (Collections & Recovery Services): 3,678**
- **MLA: 0**

Appendix 1

The schematics below, supplied by Crystal Alliance, illustrate the telephony infrastructure and show how the telephony components integrate with the overall operation. Please note however that not all components may have been enabled during the reporting year (i.e. customer self service voice speech enabled).







# **Annual Information Return 2009**

## **Section 5**

### **Customer Research Appendix**





# Annual Information Return 2009

## Customer Research Appendix

### 1. Call Handling Satisfaction

Customer's satisfaction with regards call handling is assessed by McCallum Layton, an independent market research company. McCallum Layton carry out a quarterly survey of customers who have called the Company for any reason. The answer to survey question 18 (*"Overall, how satisfied were you with how your call was handled1-5?"*) gives the call handling satisfaction score.

**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.

All surveys were administered using a Computer Aided Telephone Interviewing (CATI) unit.

Each individual water company's survey was undertaken by multiple interviewers to prevent any possibility of interviewer bias.

**Sample Provision:** NI Water provided McCallum Layton with an Excel spreadsheet of all incoming calls to the call centre for the seven days in question, irrespective of how calls were handled. The spreadsheet contained the following fields:

- Contact Name (customer or business name)
- Business or Domestic (to indicate if a business or domestic customer)

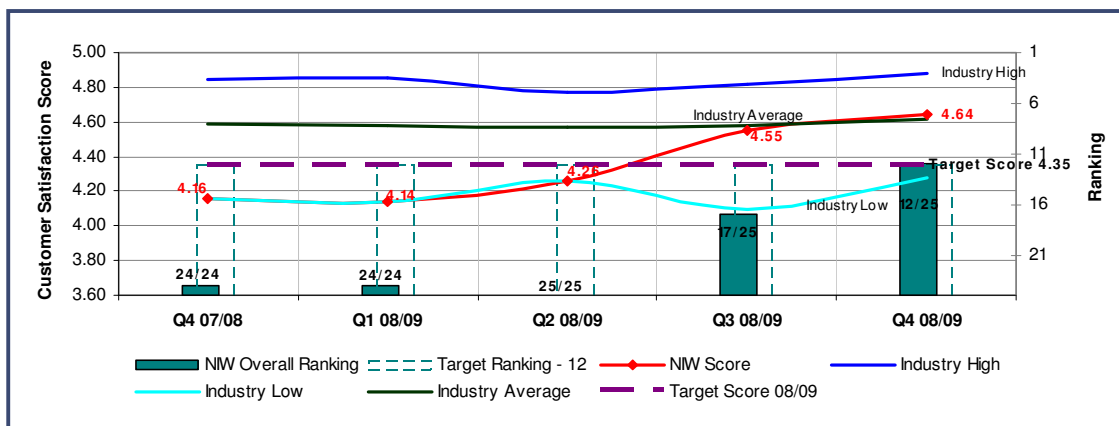
- Telephone Number
- Date of contact (date call made to NIW)
- Customer reference number (to trace any responses back through the system if necessary)
- Operational and Billing flag (to indicate the nature of call)

**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.

**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.

NI Water achieved an overall score of 4.4/5.0 for the reporting year, meeting the target set at the beginning of the year of 4.4. In the last quarter of 2008/09 NI Water was ranked 12<sup>th</sup> out of the 25 participating UK Water Companies.



It should be noted, that responsibility for this measure transferred from the Company's Customer Services Directorate to the Company's Customer Relations Partner Crystal Alliance after the second quarter of surveys. The performance drastically increased after Crystal Alliance took control of the measure. In the first two quarters of the reporting year the company scored 4.14 and 4.26. In the second quarter, under Crystal Alliance's oversight the Company scored 4.55 and 4.64. McCallum Layton will inform the senior management which week out of the quarter they will survey. This allows management to forward McCallum Layton all calls received during that week from which they will survey 100. It has come to light that on the weeks McCallum Layton indicated they wished to survey Crystal Alliance ran an initiative called "*Quality Week*". During this week staff were given extra encouragement and instruction to ensure that customers received the very best levels of service. The Company believes that the McCallum Layton surveys

should be carried out without the call centre staff having prior knowledge of which week would be assessed. The transfer of responsibility to Crystal Alliance and their introduction of “*Quality Week*” almost certainly affected the Customer Satisfaction score but it would be difficult to ascertain to what extent the overall performance was raised.

The Company has instructed Crystal Alliance not to inform staff in advance of the McCallum Layton survey in July 2009.

The audit sheets provided to the market researcher that set out the details of calls that were excluded from the survey have been included in *Appendix One* of the AIR09 Table 5 Commentary. The audit sheets comply with the guidance except in the omission of “*Percentage of useable Calls*”, this will be addressed in the new reporting year.

## **2. Customer and Stakeholder Views for the PC10 Business Plan**

Northern Ireland Water commissioned the Consumer Council to carry out the customer research for the PC10 Business Plan on its behalf. The project was delivered by ICS Consulting via the OneAM consortium, and PIMR who are a Belfast-based market research company engaged by CCNI to undertake customer consultation on water issues.

Affordability of bills is an important constraint on the overall level of funding provided to Northern Ireland Water at PC10. Hence, the customer consultation needed to be able to identify within the overall constraint of allowed funding:

- What service areas do NI customers want NIW to prioritise and improve?
- By when do NI customers want these priorities to be met?

The project was structured into two phases. Phase I provided quantitative market research to support the input of customer views to the initial Ministerial guidance for PC10, along with a pilot survey to refine the Phase II survey tool. Phase II of the research was a quantitative survey of domestic customers. Phase I was completed in September 2008 and the Phase II research in January 2009. The main findings of the research were:

- Maintaining the current level of drinking water quality was the customer’s top priority when considering the water supply service we provide.
- Low water pressure was not an important issue for customers.
- The reduction of internal sewage flooding events was customer’s highest priority, not only within Sewerage Services but when considering the service NI Water provide in its entirety.
- Customers prioritised reducing the environmental damage the Company caused to inland water ways over pollution to coastal waters and carbon emissions.
- When considering the customer service that they receive from NI Water, consumers stated that how quickly the Company responded to them when they needed something was their top priority.

- NI Water's customers have a much higher opinion of the company than media reports would suggest. For example, 82% of customers stated that they were satisfied with the service provided by Northern Ireland Water.

The customer consultation also needed to be able to deliver an understanding of priorities in a format that could work with the investment planning systems that are in use at Northern Ireland Water. This format was in the form of weightings that were aligned to the investment Output Performance Measures (OPMs) that have been identified and developed.

To translate the research into investment decisions the customer priorities and willingness to pay for service improvements were converted into weightings and provided to the Asset Management Directorate for use within the SCIM [Strategic Capital Investment Manager] tool.

Chapter C1 of the PC10 Business Plan submission contains the full detailed results of the customer views research.