



Annual Information Return 2010

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Section 1

Board's Overview

Board's Statement

In support of Northern Ireland Water's (NI Water) 2010 Annual Information Return (AIR10), its Board of Directors is required by the Utility Regulator to prepare a statement on the compilation of AIR10, explaining how it has satisfied itself as to the accuracy and completeness of the information provided.

The Directors consider that AIR10 provides a true and fair view of the state of affairs of NI Water for the financial year 2009/10. In preparing AIR10, 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 that have been made are reasonable and prudent; and
- UK Accounting Standards and applicable law (UK Generally Accepted Accounting Principles) have been followed, subject to any material departures disclosed and explained in 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 Board's Statement sets out how NI Water's Board has satisfied itself that the information provided in AIR10 is as reliable, accurate and complete as is reasonably practicable.

Processes and Internal Systems of Control

AIR10 has been compiled in accordance with NI Water's AIR Completion Manual, which was approved for use in compiling AIR10 and subsequent Annual Information Returns. The manual addresses recommendations from previous AIR audits made by NI Water's Internal Audit function and by the independent technical Reporter.

In 2009 NI Water's Internal Audit function carried out an audit of the 2008 Annual Information Return (AIR08) completion and submission process. The findings of the audit were presented in their report "Annual Information Return (AIR) Submission Process" (1 April 2009). The report's detailed findings included a recommendation that documentation be put in place to define the roles, responsibilities and procedures for completing and submitting the AIR.

In June/July 2009 the Reporter conducted an audit of AIR09. This audit included a review of the systems, procedures and internal controls utilised in compiling and approving the AIR submission. The Reporter made a number of recommendations similar to those of Internal Audit, including the need for clear ownership of AIR data, evidence of peer review and procedural

documentation covering the processes followed in compiling the AIR submission.

All of the recommendations made by NI Water's Internal Audit and the independent Reporter have been addressed in the AIR Completion Manual. It details roles, responsibilities and governance procedures, and provides guidance and templates for the completion of AIR methodologies, data tables and company commentaries.

AIR10 Project Governance

The AIR10 Project Board was chaired by the Regulation Manager and comprised representatives (senior managers) from eight functional areas, i.e. those functions which contribute data to the AIR10 submission. A representative from Internal Audit attended Project Board meetings ex officio.

The primary roles of the AIR Project Board included:

1. Disseminating information to and from functional Working Groups;
2. Coordinating any cross-functional operation of Working Groups;
3. Ensuring the AIR submission programme was adhered to; and
4. Other roles/responsibilities, included:
 - a. The ongoing development of line methodologies and oversight of line methodology quality; and
 - b. Monitoring implementation of Reporter's recommendations.

Each member of the AIR Project Board chaired a functional Working Group. The Working Groups' roles included:

- Ensuring that the Utility Regulator's "Reporting Requirements" were understood and followed;
- Ensuring that relevant Line Methodologies were updated in line with the Reporting Requirements;
- Coordinating the population of Data Tables and the drafting of associated Company Commentaries in accordance with Line Methodologies and Reporting Requirements in compliance with the AIR programme; and
- Ensuring that relevant Line Methodologies, Data Tables and Company Commentaries were reviewed and approved in accordance with the AIR Completion Manual Roles and Responsibilities Matrix and that all Assurance Statements were completed.

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

- Line Methodologies;
- Data Tables; and
- Company Commentaries.

Population of Data Tables and drafting of associated Company Commentaries was in accordance with the Utility Regulator's Reporting Requirements. In addition, company-specific methodologies (Line Methodologies), explaining how raw data is collected, processed and input to the Data Tables, were updated and adhered to when populating Data Tables and drafting Company Commentaries.

Responsibility for each of the key deliverables was agreed by the AIR10 Project Board. Authors, reviewers and approvers of Line Methodologies, Data Tables and Company Commentaries were designated for all input data in the AIR10 submission.

To ensure reporting consistency for AIR10, every item of data provided in the AIR10 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 AIR10 Reporting Requirements on 01 April 2010. Audits were undertaken by the company's Auditor and the Reporter in May and June 2010. Feedback from the Reporter and Auditor was used to redraft the tables and commentaries when appropriate.

Challenge, in respect of data assurance, was provided by consideration at departmental functional working groups, the Executive Committee and Board Meetings.

The complete AIR10 submission was endorsed by the Executive Committee and Board in June and July 2010 respectively.

Board Involvement

In summary, the involvement of NI Water's Board in the completion of AIR10 included:

- Reviewing monthly company business performance analysis;
- Receiving a presentation from both the Reporter and the Auditor in June and July;
- Reviewing, commenting upon and approving the AIR10 Board's Overview, while having access to the full return;
- Reference back to NI Water's Executive Committee and Senior Management Team to verify corporate information; and
- Executive Directors received regular reports on progress and reviewed, challenged, commented and influenced the content of AIR10.

The following activities were undertaken which enhanced NI Water's ability to meet the Reporting Requirements of AIR10:

- Development of systems and controls to populate AIR10 and other regulatory reporting requirements. This includes the ongoing development of methodologies to report against regulatory measures;
- Projects associated with the Business Improvement programme, such as the Management Information, Information Communications Technology (ICT) and Asset Management projects; and
- The data quality improvement project.

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

The following measures help to ensure that AIR10 complies with the Utility Regulator's Reporting Requirements and provides some assurance in respect of material assumptions and judgements included in the AIR10 commentaries:

- Clear accountability at senior management level for the ownership of all elements of AIR10. NI Water has established an accountability trail from the information providers to the line owners through to heads of function;
- Briefings on the importance of the AIR10 process have been disseminated through the AIR10 Project Board to all staff involved in the data collection process;
- Every datum in AIR10 has a designated owner, reviewer and approver;
- Every provider of data produces a written methodology documenting the method used for the derivation of the data reported;
- Every financial datum is prepared and reviewed by separate individuals and reconciled to the chart of accounts;
- Every financial datum is reviewed against the Utility Regulator's guidance by a separate individual to the preparer and reviewer. This includes undertaking cross-checks of tables to ensure consistency;

- Before each datum is submitted for AIR10 it is reviewed and approved by senior management in the data provider's business area;
- NI Water facilitates access to allow the Reporter and Auditor access to all relevant information required to discharge their duties;
- The Board receives regular presentations during the course of the year on key performance indicators; regulatory performance and key issues for the Annual Information Return;
- The Reporter makes a presentation to the Board near the conclusion of the AIR10 process. Both the Reporter and the Auditor present to the Audit Committee/Board near the conclusion of the AIR10 process;
- Directors directly challenge the production and content of AIR10 to satisfy themselves that their duties are fulfilled; and
- In any case of uncertainty regarding data, commentary or line methodology, NI Water seeks advice and clarification from the Utility Regulator, the Reporter and the Auditor as appropriate.

Directors' Endorsement

In light of the above, NI Water's Board believes that it has developed and applied processes, governance and systems of internal control sufficient to meet its obligations for the provision of information contained in AIR10.

Each Director is satisfied that:

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

For and on behalf of NI Water:

Laurence MacKenzie

Chief Executive, Northern Ireland Water

Donald Price

Non-Executive Director, Northern Ireland Water

Chapter 1

Key Outputs and Service Delivery

Tables A and B

Drinking water compliance at the customer tap has, for the first time, exceeded the recognised Social and Environmental Guidance aspiration of 99.7% Mean Zonal Compliance (MZC). The outturn for 2009 was 99.74% MZC and, as such, also exceeded our internal target of 99.65%. Work continued throughout 2009 to minimise chlorine levels and residence times in distribution. This, in combination with the commissioning of the Alpha PPP (Public-Private Partnership) treatment works, has resulted in a significant drop in trihalomethane levels at the customer tap. The Alpha PPP works were commissioned in late 2008 and have contributed to the improvement in MZC by minimising the impact of fluctuating raw water quality.

Water Quality

In 2004 the Water Supply (Water Quality) Regulations (NI) 2002 came into force (see also Water Supply (Water Quality) (Amendment) Regulations (Northern Ireland) 2009). 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 for certain parameters, provided that there is a planned programme of work at the appropriate water treatment works to improve the water quality, and provided that there are no adverse health implications arising from the departure.

The Amendment Regulations of 2009 built on the concept of risk management for drinking water supply systems by ensuring that Drinking Water Safety Plans (DWSPs) are implemented in Northern Ireland. NI Water has been working on DWSPs which encompass risk assessments for supply systems from raw water catchment, through treatment and distribution to the customer tap. NI Water is on track to deliver the regulatory obligations with respect to DWSPs to the Drinking Water Inspectorate by December 2010.

In 2009 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 and lowering inherent risk remains a top priority.

Wastewater

NI Water has reached the end of the three year Strategic Business Plan period, during which there has been a major investment to improve wastewater treatment facilities. The investment will continue over the Price Control period 2010-2013 (PC10) and will lead to increased levels of

compliance. The results of investment can already be seen, with compliance with the Urban Waste Water Treatment Regulations reaching 93% in 2009.

The impact of NI Water's capital investment programme is also reflected in improved compliance with the Water Order Consents issued by the Northern Ireland Environment Agency (NIEA). In 2009 over 87% of larger wastewater treatment works were compliant with the Water Order Consent and NI water achieved its best ever performance with over 91% of the population equivalent served by compliant wastewater treatment works. The latter is an increase of more than 10% over the three year Strategic Business Plan period.

Completion of further wastewater treatment works over the PC10 period will lead to increased compliance with Northern Ireland and European standards, thereby contributing to the long-term objective of the Water Framework Directive to improve water quality.

EC Bathing Waters

During 2009, NIEA monitored 24 identified bathing waters (under the European Bathing Water Directive) throughout the bathing season, which lasts from the beginning of June to mid-September. The Directive contains two standards for the quality of bathing water; a mandatory standard and a more stringent guideline standard. In 2009, 22 of the 24 identified bathing waters in Northern Ireland met the mandatory standard, and 11 met the higher guideline standards. One of the bathing water failures can be attributed to a pollution incident for which NI Water was not responsible.

NI Water has invested heavily in coastal wastewater treatment through its capital investment programme and the Omega PPP contract, particularly in the North Coast and North Down areas where there are a significant number of bathing waters. In addition, NI Water has targeted investment in upgrades to sewerage networks with intermittent discharges to bathing waters. For example, work on the Ballyholme sewerage network has been completed and work on the Luke's Point network is due for completion in the summer of 2010. Both of these projects will contribute to improvement in the quality of the Ballyholme bathing water.

It should be noted that the quality of bathing water can be impacted by many factors outside the control of NI Water – for example, urban run-off, agricultural run-off and river inputs. The weather can have a significant impact on bathing water quality, with high rainfall leading to increased run-off and operation of Combined Sewer Overflows (CSOs). The unusually heavy rainfall events of the past three years have had a significantly detrimental impact on bathing water quality.

Customer Billing and Contact

The quarterly independent market research, first introduced in 2007/08, continued to be carried out on NI Water's behalf. Having commenced 2009/10 with a score of 4.46 and ranking 19/24, this improved during the year to:

- 3rd overall (of 24 companies); and
 - 1st of Water and Sewerage companies (of 12) with a Q4 score of 4.8.
- Overall the target of 4.6 was achieved.

During 2009/10 NI Water experienced a number of major incidents due to water quality, water supply or flooding. In April a routine sample taken from Dunore Point indicated an apparent water quality failure, with an estimated 225,000 customers potentially affected. The Company immediately activated its major incident response plan to establish the cause of the failure and launched intensive media bulletins to advise affected customers. Further tests confirmed that the water quality had not failed and the water was safe.

Over the Christmas/New Year period, Northern Ireland witnessed the worst winter for 30 years. As a result of the prolonged freezing conditions, NI Water experienced significant numbers of burst water mains, leaving many of our customers without supplies. Despite the conditions, staff worked to restore supplies to customers affected. Throughout the year a number of flooding incidents were dealt with and the company's Incident Plan Procedures were activated in response to these incidents.

In 2008 NI Water and CCNI undertook a joint research project to determine customers' priorities concerning water and sewerage services. This research was used to reinforce investment priorities for the PC10 period. CCNI also proposed 24 recommendations arising out of the research on water quality, flooding, environmental and customer services. Building on the independent research of consumer views, NI Water has worked closely with CCNI and other stakeholders and, as a result, out of the 24 recommendations, 18 have either been completed or are nearing completion, with the remainder planned for completion during 2010/11.

In October 2009 a new approach was implemented on how written complaints are handled, with the aim of:

- Reducing the time taken to respond to customers;
- Reducing number of complaints received;
- Identifying and addressing the root causes of complaints; and
- Improving our overall customer service.

This has significantly improved company performance, with the average time taken to respond to written complaints now reduced to 6 days - outperforming the target for percentage of written complaints responded to in 10 days.

Following on from work commenced in 2008/09, further work was completed on systems to improve the quality of information delivered to NI Water's customers.

Non-Domestic Charges

Full measured sewerage charges were introduced from 1 April 2009. However, as a result of the decision to defer domestic charges during 2009/10, a new domestic allowance of 190m³ for eligible sewerage customers was also introduced.

Unmeasured water and sewerage charges continued to be billed at 50% of the full charge. The charges are published in the Company's Scheme of Charges available on www.niwater.com/watercharges or by writing to NI Water, PO Box 2026, Belfast, BT1 9DF.

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 2010/11, the Company will assess the potential for Account Management development in the course of reviewing how NI Water builds its business to serve its customers.

Metering programme

NI Water has continued its programme of installing meters on all new properties with first time connections to the water supply system, in accordance with existing legislation, and on existing unmeasured non-domestic properties where possible. NI Water will continue the metering of new build properties and first time connections in 2010/11, as well as continuing the programme of meter installations on unmeasured non-domestic properties. All meters installed on domestic premises will not currently generate a charge or bills.

Codes of Practice

Following the launch of the 'Priority Services' Codes of Practice in January 2009, NI Water has continued to promote this 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.

The current suite of Codes of Practice were reviewed with CCNI during early 2010/11 and have been submitted to the Utility Regulator, with further work planned with CCNI to develop and re-launch the Priority Services within a wider Northern Ireland utility context.

Customer Contact

NI Water dealt with over 350,000 customer calls in 2009/10, arising from a number of factors including, as previously mentioned, the prolonged freezing conditions over Christmas/New Year, flooding during last August and October and incident at Dunore Point last Easter.

During the period over Christmas/New Year, four times the volume of expected calls was received. As a result the Company missed its 2009/10 KPI on telephone contact with a performance of 96.68% against a target of 98%.

Health and Safety

The strategic Health and Safety (H&S) Action Plan, which was developed to deliver against NI Water "Zero Accident Ambition" continues to be updated. H&S action for improvement is now firmly focused on "Behavioural Change".

NI Water delivered an H&S Autumn Programme in 2009, which engaged staff and contractors at all levels to make a difference and report near-miss incidents so that measures could be taken to remove the potential for accidents in the workplace.

"Near-miss" reporting targets, which were set for 2009/10 for both NI Water and its contractors, have been surpassed. This has resulted in continuing reduction in the number of accidents in the workplace and an associated reduction in accident-related absence which has reduced by 68% on the 2008/09 out-turn.

A new "Working Safer" campaign was developed for introduction in the first quarter of 2010 and is again aimed at reducing workplace accidents and designed to deliver against new and more challenging H&S targets for 2010/11. The campaign will be supported through established communication channels and by a further engagement programme in Autumn 2010.

Carbon Accounting

The Environmental & Social Guidance for Water and Sewerage Services (2010-13) (approved by the Northern Ireland Assembly) 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 2009/10, approximately 12.72% of NI Water's total power usage came from renewable sources (well above the target level) – of which 4.6 GWh was sourced through self-generation and 33.1 GWh was purchased.

The following tables summarise NI Water's equivalent carbon emissions in 2009/10. The figures in the table are generated from the Water UK Carbon Accounting Workbook Version 4 May 2010.

	Description	Unit	Value	Conf. Grade
1	Annual operational emissions according to the CRC	tonnes of CO ₂ equivalent emissions	167,213	B3
2	Annual operational emissions according to the Defra GHG guidelines	tonnes of CO ₂ equivalent emissions	186,629	B3
3	Operational GHG emissions per MI of treated water	kg of CO ₂ equivalent emissions per MI	355	B3
4	Operational GHG emissions per MI of sewage treated	kg of CO ₂ equivalent emissions per MI	808	B3

SUMMARY OF ALL EMISSIONS		Defra (kg CO ₂ eqs)
Sum of drinking water treatment and pumping emissions		80,459,336
Sum of sewage treatment and pumping emission and sludge treatment, recycling and disposal emissions		99,626,100
Sum of all emissions (drinking water, sewage, sludge, administration and transport)		188,673
Volume of drinking water supplied (MI)		226,837
Volume of wastewater treated (MI)		123,234
Emissions from drinking water treatment and pumping per MI of drinking water treated		355
Emissions from sewage treatment and pumping and sludge treatment, recycling and disposal per MI of sewage treated		808

Chapter 2

Financial Performance Measures

Table C

The financial information in our Statutory Accounts has been prepared in accordance with UK Generally Accepted Accounting Principles ("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 £352.3m for the year to 31 March 2010 (31 March 2009: £331.6m). Included in turnover was £277.1m (2009: £267.5m) received from DRD (Subsidy £257.4m; Road Drainage Charges £19.7m) - 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 remain in place during 2010/11. The final decision on domestic charging for 2011/12 and beyond has not yet been taken by the Northern Ireland Executive.

Profit on ordinary activities before interest for the year was £89.5m. Operating costs in 2009/10 of £262.7m 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 £14.5m. The effective tax rate for the year to 31 March 2010 was 28.1% (2008/09 28.3%). The Board will consider a proposal to declare a dividend of approximately £36m in July 2010.

Net assets decreased by 1.0% to £717.6m. The main movements in the balance sheet items were increases in fixed assets of £192.3m relating to our commitment to investment in the Capital Works Programme offset by increases in net debt. The Company net debt figure was £722.2m at 31 March 2010 (£544.5m at 31 March 2009). Gearing increased from 38.5% to 46.7% 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 £139.7m (2009: £134.1m). Net cash outflows of £38.0m (2009: £20.4m) related to returns on investment and servicing of finance. This includes interest costs of £26.9m (2009: £18.0m), interest receivable of £0.3m (2009: £1.8m) and interest element of PFI arrangements £11.3m (2009: £4.2m). Net investing activities used £245m (2009: £263m). Dividends paid during the year totalled £35.0m 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 2010 was £722.2m (2009: £544.5m).

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 2009/10 was £1,421.5m. The table below shows the RCV roll forward from the 2008/09 closing balance.

	2009/10 (£ 000)	2008/09 (£ 000)
RCV opening balance at 1 April 2009	1,247,833	999,725
Capital expenditure	215,978	238,138
Infrastructure renewals expenditure	38,396	44,058
Infrastructure renewals charge	(37,035)	(34,272)
Grants and contributions	(1,221)	(5,747)
Depreciation	(42,407)	(47,216)
Closing RCV	1,421,544	1,194,686
Average RCV	1,334,689	1,097,206
Opening RCV		
At 1 April 2009	1,194,686	984,814
<i>adjust 2007-2008 RCV for application of broad equivalence</i>	-	18,696
Revised opening balance at 1 April 2009	1,194,686	1,003,510
indexed for 2009-10	53,147	(3,785)
Opening RCV	1,247,833	999,725

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.

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 2009/10 was 6.63%. 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	$(0.34 \times 5.25\%) + ((1-0.34) \times 5.1\%)$		
Result	<u>5.15%</u>		

PPP Contracts

Project Alpha:

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

The project objectives were 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. The 25 year Design, Build, Finance, Operate (DBFO) project includes major upgrade work on four existing water treatment works with a total capacity of 400MI/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. The £507m can be broken down in nominal terms as follows (figures based on financial model agreed at financial close):

- Initial Capex: £111m
- Lifecycle Maintenance: £27m
- Opex: £237m
- Funding Costs: £132m

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 were 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 sludge.

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. The £640m can be broken down in nominal terms as follows (figures based on financial model agreed at financial close):

- Initial Capex: £131m
- Lifecycle Maintenance: £43m
- Opex: £275m
- Funding Costs: £191m

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.

2009/10 PPP Cash Payments

On Balance Sheet Alpha	£k
Opex	1,402
Interest	11,325
Total P&L Impact	12,727
Capital Repayment	2,906
Life Cycle Maintenance	224
Total Balance Sheet Impact	3,130
Total Unitary Charge	15,857

Effective Interest Rate used to calculate Alpha finance charge	5.77%
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Off Balance Sheet	Omega £k	Kinnegar £k
Opex	13,225	2,017
Residual Interest	1,932	232
Total Unitary Charge	15,157	2,249

Estimated Residual Value at End of Contract

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

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 the Treasury Forum continued to operate as an advisory body to the Board and the Executive Committee. 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 Scheme is a separate limited company with NI Water as the principal employer. It has a benefits structure which is a 'mirror image' of the Civil Service Scheme in April 2007 and it currently has 287 pensioners.

The Scheme is a funded, defined benefit scheme. It is managed by a Board of Trustees made up equally of Company and Member nominated trustees who are legally responsible for managing the scheme. The Scheme had its first full valuation as at 1 April 2008 and this showed that it was broadly in balance.

The contribution rate has been revised to take account of this valuation and the Investment Strategy has also been revised to ensure that the return on investments will meet the needs of members going forward.

During 2010/11, NI Water will:

- Seek to conclude the Bulk Transfer of monies from the Civil Service Scheme to the NI Water Pension Scheme. This is to fund the accrued pension benefits of staff who transferred their Civil Service pension entitlement in to the 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 £210m of capital engineering projects were delivered during 2009/10. This included the continuation of projects previously started along with the commencement of new projects. Of this capital programme, 36% was targeted at water projects while 64% was targeted at wastewater projects.

Forty four 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 Altnahinch and Seagahan were also completed in 2009/10. Improvements were made to the water main infrastructure in a number of areas throughout Northern Ireland. Work continued on improving the wastewater network at various locations including Londonderry and Carrickfergus. The Belfast Sewers Project was completed in 2009/10.

£150m of capital projects are scheduled for delivery during 2010/11. This includes the continuation of projects previously started along with the commencement of new projects. The prioritisation of capital projects is based on Social and Environmental Guidance for NI Water as set down by the Northern Ireland Assembly. Work will continue to ensure compliance with the appropriate European Community Directives and meet the regulatory discharge consent standards. It is planned to target improvements to the water main infrastructure in a number of areas throughout Northern Ireland. Some 10 zones are programmed for work. This will be the start of a new three year programme of work to reline or replace some 900km of water mains 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 Newtownards.

Technology and Innovation Programme

NI Water is committed to investment in innovation through new systems and technology that provide benefits in terms of improving service performance or reducing operational costs, whilst ensuring the resilience and security of essential control and monitoring networks. Over the 2009/10 financial period NI Water has invested £6.1 million on 33 projects through the Technology (Innovation) Programme. The projects have included the installation of telemetry (remote monitoring) at an additional 80 wastewater treatment works, 270 combined sewer overflows and the upgrading of the central telemetry control system capacity and capability. Other projects have included the

investigation of the potential development of wind energy generation on a small number of sites within the company's estate and the upgrading of instrumentation used to monitor and control our works.

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.

Asset Management

NI Water has prepared the third Northern Ireland Asset Management Plan ("NIAMP3") defining its capital investment requirements over the next 3 year period. This plan is based on the Social and Environmental Guidance set down by the Northern Ireland Assembly. NIAMP3 has formed the central core for the company's capital investment needs in the first regulated Business Plan submission known as PC10.

NI Water is continuing to work through the regulatory process to develop a programme for delivery of the Utility Regulator's PC10 Final Determination. During the reporting period NI Water has implemented a number of asset management systems, tools and procedures to drive more efficient investment. The company has completed a Corporate Asset Register (CAR) and is installing tools to make management information, particularly on asset performance, widely available from the CAR.

NI Water has built and deployed the Unit Cost Database tool to help prioritise, optimise and cost the capital investment and are populating the tools with NI Water specific data. Gaps have been identified in the asset data and the company is competitively tendering contracts to fill gaps in asset data. The asset management processes have been evolved to control NI Water's capital investment processes via a major transformation exercise through the Tactical/Strategic Asset Management Review.

Public Private Partnerships

The Alpha Contract has consistently provided statutorily compliant drinking water services, at an average rate of almost 250 million litres per day, throughout the year. An unrepresentative sample result in April 2009 required a precautionary boil notice to all customers in the greater Belfast area. Through a contract change, NI Water has brought back in-house a proportion of the contracted laboratory analysis arrangements to enhance confidence in water quality supplied from this source.

All the Omega contract wastewater treatment upgrades are complete and now in operation. Statutory compliance has been maintained across the year on discharges from all the Omega sites. The Sludge Disposal Service, for all of NI Water's wastewater treatment sludge, has been brought into operation in March 2010, completing the investment stage of the Omega contract.

Kinnegar wastewater treatment has achieved another year of statutorily compliant wastewater treatment operations.

Water Resources, Supply and Demand

Water Resources

NI Water input water to the distribution system from approximately 40 sources, including PPP sites, which comprised upland impounding reservoirs, boreholes, rivers and loughs.

NI Water, through its Water Resource Strategy (WRS), has planned to ensure that demand for drinking water is met for the period to 2030. The 2002 Water Resource Strategy was updated in 2007 and is currently being revised. It will be known as a Water Resource Management Plan (WRMP) in line with the terminology used in the Water and Sewerage Services (Northern Ireland) Order 2006. The plan will cover the period to 2035. Public consultation will take place during 2010, with a Final Plan in place by mid 2011.

The WRMP seeks to improve NI Water's security of supply and will acknowledge the implementation of the WRS to date and continue to emphasize the need to rationalize existing uneconomic water sources and concentrate on the sources that can meet our needs cost effectively and reliably in combination with leakage reduction and demand management.

Leakage

For the 2009/10 year the average amount of leakage lost from the water distribution system was 186.9 MI/d. The winter freeze and subsequent thaw during the period from December 2009 to February 2010 had a very significant impact on the leakage figure.

NI Water was making good progress and was on target to achieve an annual reduction of 4.0 MI/d leading to a reported level of leakage of 176.9 MI/d. The effect of the extreme weather in late December, January and early February changed this outlook dramatically and leakage levels increased significantly. The impact of the weather meant that a major incident team was set up within the company to manage the situation.

During January 2010 the amount of water being produced from our water treatment works reached a peak of 800 MI/day compared to figures below 600 MI/day during November 2009. Despite the coldest winter for 30 years, sustained progress has been made in retrieving the additional leakage that was incurred during this difficult period.

During 2009/10 NI Water continued with the Water Balance Action Plan to address key components of the leakage calculation in order to improve known uncertainties in the previous methodology.

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 well advanced in a number of areas.

- To maintain a Sustainable Procurement Framework that reflects sustainable development strategic priorities and integrate these within the procurement process, where appropriate.
- To make sustainable procurement an integral part of NI Water procurement activity by developing and implementing a sustainable procurement policy which will seek to embed sustainable procurement principles within NI Water procurement processes for the acquisition of goods, services and capital works.
- 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 set clear and measurable targets on sustainable procurement for NI Water.
- To arrange professional training and development that helps to provide awareness to NIW staff on sustainable procurement principles and appoint sustainable procurement advisors to ensure that full consideration is given to sustainable procurement within NI Water procurement processes for the acquisition of goods, services and capital works.

Chapter 4 Efficiency

NI Water delivered against our £53.8m operating cost efficiencies target from a 2003/04 base and an approximate £100m capex efficiency saving over the three year SBP period. The operating cost efficiencies are generated by factors which include the following:

- Manpower reductions resulting from the introduction of improved ways of working such as Mobile Work Management (“MWM”);
- Reductions in headcount; and
- Depot rationalisation.

The capital cost efficiencies were generated by factors which include the following:

- 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 moved to a controlled close at the end of March 2010. Overall, the programme is expected to deliver benefits, in direct savings and avoided costs, in the order of £112m for an investment of £60m during the SBP period (2007/08-2009/10). The final benefits will be validated by NI Water's Internal Audit in the first quarter of 2010/11.

In total, 135 projects/programmes will be delivered:

- Cash Hub: 22
- Customer Hub: 41
- Compliance Hub: 53
- People Hub: 19

Sixteen projects will run into 2010/11 and will be managed to completion by the Programme Management Office as part of One Programme closure. The programme has been a key driver in the delivery of opex and capex efficiencies. It has also built capability to enable the company to become a standalone and sustainable utility, compliant with environmental, economic and legislative requirements. Examples of the benefits delivered by the programme include:

- Improved customer complaint processes via a dedicated 'Triage Team' and an MLA telephone hotline;
- Developing a centralised '24/7' Operational Control Centre;
- Reducing 3 stores to 1 and rationalizing 17 depots into 6 regional hubs;
- Reducing approximately 500 posts across all function of the business;
- Delivering capex efficiency savings of approximately £63m;
- Upgrading drinking water quality monitors, reducing costs and improving compliance;
- Installation of approximately 300 Combined Storm Overflow (CSO) monitors to reduce pollution incidents;
- Implementing a Human Resource function, Payroll Systems, Mirror-Image Pension Schemes and a new staff Performance Management System;
- Submission of our first price control Business Plan (PC10) to the Utility Regulator;
- Implementation of an improved Procurement and Contract Management system;
- Developing an Asset Management Model, Asset Registers and Asset Management processes;
- Implementing a Mobile Work Management system and automating the process for scheduling customer faults so that urgent jobs are prioritised;
- Creating a data warehouse and the integration of computer systems and upgrading of technology solutions to streamline the administration and regulatory functions; and
- Commencing a Data Quality Programme to fulfil 'legal undertakings' given to the Utility Regulator (this activity will continue into PC10).

Work continues to improve the company's customer service, environmental compliance and importantly efficiency but NI Water is confident in its own ability to deliver further business changes.

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.

Table A

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

ANNUAL RETURN - BOARD'S OVERVIEW
TABLE A - WATER SERVICE - KEY OUTPUTS AND SERVICE DELIVERY (TOTAL)

DESCRIPTION	UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10
A SERVICE AND PERFORMANCE						
1 DG2 Percentage of properties receiving low water pressure	%	2	N/C	1.29	0.72	0.27
2 DG3 Overall performance score	nr	2	1.39	1.43	1.41	2.21
3 DG4 % population - hosepipe restrictions	%	1	0.0	0.0	0.0	0.0
4 DG4 % population - drought orders	%	1	0.0	0.0	0.0	0.0
5 DG6 Percentage dealt with within 5 working days	%	1	73.1	95.0	98.6	98.1
6 DG7 Percentage dealt with within 10 working days	%	1	91.5	90.5	98.1	99.4
7 DG8 Bills for metered customers – performance	%	1	83.2	71.8	93.3	92.3
8 DG9 Percentage of calls abandoned	%	1	9.1	1.0	1.1	2.6
9 DG9 Percentage of calls receiving the engaged tone	%	1	0.1	0.0	0.0	0.0
10 Water ESL (1) enter description (including units)				N/C	N/C	N/C
11 Water ESL (2) enter description (including units)				N/C	N/C	N/C
B DRINKING WATER QUALITY OUTPUTS						
12 % mean zonal compliance with drinking water Regulations	%	2	99.34	99.30	99.49	99.74
13 % mean zonal compliance with PCV for iron at the tap	%	2	N/C	98.29	98.24	97.24
14 Water treatment works improvements	nr	0	N/C	0	3	2
14a Water treatment works improvements (PPP)	nr	0	N/C	0	4	0
15 Distribution mains renovated for quality	km	2	N/C	N/C	0.00	0.00
16 Distribution mains cleaned for quality	km	2	N/C	0	96.41	376.27
C ENVIRONMENTAL WATER OUTPUTS						
17 Environmental impact - number of investigations	nr	0				
18 Environmental impact - number of options appraisals	nr	0				
19 Other environmental improvements	nr	0				
D SERVICEABILITY						
20 Mains bursts per 1,000 km	nr	0	195	139	141	147
21 Water treatment work coliform non-compliance	%	2	N/C	0.12	0.08	0.08
22 Water Infrastructure	text		N/C	N/C	N/C	NI Water is currently in the process of defining serviceability indicators with NIAUR. Until these indicators have been agreed these lines cannot be usefully completed to indicate serviceability trends.
23 Water non-infrastructure	text		N/C	N/C	N/C	
E DEFINED OUTPUTS FOR MAINTAINING BASE SERVICES						
24 Water infrastructure (1)						<p>Description</p> <p>The SBP did not contain specific Base Maintenance outputs. As indicated in Table 32, IRE (water) for 09/10 was £26.9m and MNI (water) was £12.3m</p>
25 Water infrastructure (2)						
26 Water non-infrastructure (1)						
27 Water non-infrastructure (2)						

SERVICEABILITY ASSESSMENT
S Stable
M Marginal
I Improving
D Deteriorating

Table B

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010						
ANNUAL RETURN - BOARD'S OVERVIEW						
TABLE B - SEWERAGE SERVICE - KEY OUTPUTS AND SERVICE DELIVERY - WATER SERVICE (TOTAL)						
DESCRIPTION	UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10
A SERVICE PERFORMANCE						
Sewer flooding- internal						
1 2 in 10 register at end of year	nr	0	N/C	80	80	1
2 1 in 10 register at end of year	nr	0	N/C	0	745	704
3 1 in 20 register at end of year	nr	0	N/C	0	0	0
3A Potential risk of property flooding identified requiring further investigation to assess the risk category.	nr	0				6
4 Properties flooded in the year (overloaded sewers)	nr	0	N/C	195	3	6
5 Properties flooded in the year (other causes)	nr	0	N/C	366	23	5
Sewer flooding- external						
6 Areas flooded externally in the year (overloaded sewers)	nr	0	N/C	899	1792	1196
7 Areas flooded externally in the year (other causes)	nr	0	N/C	4283	7968	6872
B QUALITY & ENVIRONMENTAL COMPLIANCE - Total						
8 % of sewage treatment works discharges non-compliant (WO consents)	%	1	N/C	12.4	10.0	8.4
9 % of sewage treatment works discharges non-compliant (UWWTD consents)	%	1	N/C	14.0	8.0	7.1
10 % of total p.e. served by sewage treatment works in breach of WO consent	%	1	N/C	18.5	10.3	6.2
11 % of total p.e. served by sewage treatment works in breach of UWWTD consent	%	1	N/C	10.6	10.6	2.4
12 % of intermittent discharges satisfactory	%	2	61.99	67.97	93.89	74.01
13 Percentage unsatisfactory sludge disposal	%	2	0.00	0.00	0.00	0.00
C QUALITY AND ENVIRONMENTAL ACTIVITIES AND OUTPUTS						
14 Unsatisfactory intermittent discharges dealt with	nr	0	N/C	N/C	27	11
15 First time sewerage schemes - properties	prop	0				
16 Sewage treatment works improved	nr	0	N/C	16	44	63
17 Additional sewage sludge arising from new quality obligations since April 2005	ttds	1	3.1	1.5	0.0	0.0
18 Total sewage sludge produced (inc. PPP)	ttds	1	38.0	38.4	38.0	37.9
19 Number of investigations completed related to the quality programme	nr	0				
D SERVICEABILITY TO CUSTOMERS						
20 Sewer collapses per 1,000 km	nr	1	86.4	47.3	96.3	68.7
21 Nr of pollution incidents at CSOs and foul sewers (categories 1, 2 and 3)	nr	0	N/C	230	199	244
22 Percentage of sewage treatment works discharges failing numeric consents	%	2	N/C	12.40	11.20	7.93
23 Sewerage infrastructure	text		N/C	N/C	N/C	NI Water is currently in the process of defining serviceability indicators with NIAUR. Until these indicators have been agreed these lines cannot be usefully completed to indicate serviceability trends.
24 Sewerage non- infrastructure	text		N/C	N/C	N/C	
E DEFINED OUTPUTS FOR MAINTAINING BASE SERVICES						
25 Sewerage infrastructure (1)						The SBP did not contain specific Base Maintenance outputs. As indicated in Table 32, IRE (sewerage) for 09/10 was £11.5m and MNI (sewerage) was £30.1m
26 Sewerage infrastructure (2)						
27 Sewerage non-infrastructure (1)						
28 Sewerage non-infrastructure (2)						

SERVICEABILITY ASSESSMENT
S Stable
M Marginal
I Improving
D Deteriorating

Table C

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN 2010

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE C - EXPENDITURE & FINANCIAL PERFORMANCE MEASURES (TOTAL)

DESCRIPTION	UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10
A TOTAL EXPENDITURE						
1 Total operating expenditure - water service (NI Water only)	£m	3	N/C	95.358	98.499	71.762
1a Total operating expenditure (PPP) - water service	£m	3	N/C	N/C	N/C	10.944
2 Total capital expenditure (excl. adopted and nil cost assets)	£m	3	N/C	80.389	206.859	101.554
3 Total operating expenditure - sewerage service (NI Water only)	£m	3	N/C	88.395	109.092	97.808
3a Total operating expenditure (PPP) - sewerage service	£m	3	N/C	2.872	N/C	17.975
4 Total capital expenditure (excluding adopted and nil cost assets)	£m	3	N/C	173.896	186.296	156.420
B CURRENT COST ACCOUNTS - PROFIT & LOSS						
5 Total Turnover	£m	3	N/C	294.057	327.395	347.569
6 Current cost operating costs (including CCD & IRC)	£m	3	N/C	-278.250	-315.427	-328.924
7 Current cost operating profit	£m	3	N/C	17.077	11.626	22.963
C CAPITAL BASE & POST TAX RETURN						
8 Capital Value Year - End (outturn)	£m	3	N/C	984.814	1194.686	1421.544
9 Total net debt	£m	3	N/C	250.717	435.006	617.211
10a Post tax return on capital	%	2	N/C	1.88	1.06	1.72
10b Pre tax return on capital	%	2	N/C	N/C	1.06	1.72
D KEY FINANCIAL INDICATORS						
11 Cash interest cover (funds from operations; gross interest)	ratio	2	N/C	12.26	5.75	3.97
12 Adjusted cash interest cover (funds from operation less capital charges; gross interest)	ratio	2	N/C	2.17	0.77	0.49
13 Adjusted cash interest cover (funds from operation less capital maintenance; gross interest)	ratio	2	N/C	5.12	1.62	1.86
14 Funds from operations: debt	ratio	2	N/C	0.43	0.24	0.18
15 Retained cash flow: debt	ratio	2	N/C	0.54	0.18	0.11
16 Gearing: D/RCV	%	2	N/C	25.45	36.41	43.42

Table D

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE D - WATER SERVICE: KEY SUPPORTING INFORMATION (TOTAL)

DESCRIPTION	UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10
A OPERATING EXPENDITURE/PROPERTY ANALYSIS						
1 Base service - operating expenditure/property served	£/prop	2	N/C	128.35	130.39	96.65
2 Enhanced service - additional operating expenditure/property served	£/prop	2	N/C	0.00	0.00	0.00
3 Improving and maintaining supply demand balance – additional operating expenditure/property served	£/prop	2	N/C	0.00	0.00	0.00
4 Quality enhancements - additional operating expenditure/property served	£/prop	2	N/C	0.00	0.07	0.42
5 New outputs/obligations – additional operating expenditure/property served	£/prop	2	N/C	0.00	0.00	0.00
6 Water service - total operating expenditure/property served	£/prop	2	N/C	128.35	130.46	97.06
B CAPITAL EXPENDITURE/PROPERTY ANALYSIS						
7 Base service - capital maintenance expenditure/property served (infra and non-infra)	£/prop	2	N/C	52.70	75.67	53.03
8 Enhanced service - additional capital expenditure/property served	£/prop	2	N/C	7.99	43.86	18.19
9 Improving and maintaining supply/demand balance - additional capital expenditure/property served	£/prop	2	N/C	21.04	83.46	33.77
10 Quality enhancements - additional capital expenditure/property served	£/prop	2	N/C	21.16	65.22	26.65
11 New outputs/obligations – additional capital expenditure/property served	£/prop	2	N/C	0.00	0.00	0.00
12 Water service - total capital expenditure/property served	£/prop	2	N/C	102.89	268.22	131.64
C CAPITAL WORKS ACTIVITY						
13 Number of existing water treatment works refurbished for maintenance (excl. PPP)	nr	0				
13a Number of existing water treatment works refurbished for maintenance (PPP)	nr	0				
14 Capacity of refurbished water treatment works for maintenance (excl. PPP)	MI/d	3				
14a Capacity of refurbished water treatment works for maintenance (PPP)	MI/d	3				
15 Mains relined	km	2	10.05	0.00	0.00	0.00
16 Mains renewed	km	2	239.87	136.00	288.62	172.22
17 Total mains relined & renewed	km	2	249.92	136.00	288.62	172.22
D WATER BALANCE						
18 Distribution input (inc. PPP)	MI/d	2	619.32	614.45	632.71	623.24
19 Total leakage	MI/d	2	168.75	156.52	180.93	186.86
20 Total water savings achieved/assumed	MI/d	2	N/C	0.00	0.02	0.04
21 Water delivered	MI/d	2	788.07	498.10	496.50	477.89
22 Security of supply index (planned levels of service)	nr	0	N/C	-26	42	88
23 Security of supply index (reference levels of service)	nr	0	N/C	-26	42	88
E METERING						
24 Number of household meters renewed	nr	0				
24a Number of non household meters renewed	nr	0				779
25 Meter optants installed	nr	0	0	0	0	0
25a Meter optants installed- non household	nr	0				26
26 Selective meters - installed	nr	0	0	0	0	3945
26a Selective meters - installed- non household	nr	0				907
27 Percentage of households metered	%	1	4.5	4.6	0.0	0.0
27a Percentage of non households metered	%	1				81.1
F OTHER KEY SUPPORTING INFORMATION						
28 Statutory GSS - Total number of GSS events: water and sewerage service	nr	0				
29 Customers on the special assistance register	nr	0	N/C	N/C	N/C	546
30 Total revenue outstanding < 48 months as % of annual forecast revenue	%	2	N/C	N/C	N/C	0.00
31 Average connected properties - water (excluding void properties)	000	0	780	743	755	739

Table E

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN 2010

ANNUAL RETURN - BOARD'S OVERVIEW

TABLE E - SEWERAGE SERVICE: KEY SUPPORTING INFORMATION (TOTAL)

DESCRIPTION	UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10
A OPERATING EXPENDITURE / PROPERTY ANALYSIS						
1 Base service - operating expenditure/property served	£/prop	2	N/C	139.71	172.33	157.28
2 Enhanced service - additional operating expenditure/property served	£/prop	2	N/C	0.00	0.07	0.56
3 Supply/demand balance - additional operating expenditure/property served	£/prop	2	N/C	0.95	0.78	1.60
4 Quality enhancements - additional operating expenditure/property served	£/prop	2	N/C	0.15	1.65	2.34
5 New outputs/obligations - additional operating expenditure	£/prop	2	N/C	0.00	0.00	0.00
6 Sewerage service - Total operating expenditure/property served	£/prop	2	N/C	140.81	174.83	161.78
B CAPITAL EXPENDITURE/PROPERTY ANALYSIS						
7 Base service - Capital expenditure/property served (infrastructure and non-infrastructure)	£/prop	2	N/C	46.98	55.19	68.80
8 Enhanced service - additional capital expenditure/property served	£/prop	2	N/C	79.16	45.21	33.08
9 Supply/demand balance - additional capital expenditure/property served	£/prop	2	N/C	70.14	67.80	48.70
10 Quality enhancements - additional capital expenditure/property served	£/prop	2	N/C	78.73	127.27	104.00
11 New outputs/obligations - additional capital expenditure	£/prop	2	N/C	0.00	0.00	0.36
12 Sewerage service - Total capital expenditure/property served	£/prop	2	N/C	275.01	295.47	254.94
C CAPITAL WORKS ACTIVITY						
13 Sewers renovated	km	2	4.33	2.96	3.90	2.19
14 Sewers replaced	km	2	N/C	12.52	8.24	11.26
15 Total sewers renovated and replaced	km	2	N/C	15.48	12.14	13.45
16 Number of sewage treatment works refurbished for maintenance (excl. PPP)	nr	0				
16a Number of sewage treatment works refurbished for maintenance (PPP)	nr	0				
17 P.e. of refurbished sewage treatment works for maintenance (excl. PPP)	000	0				
17a P.e. of refurbished sewage treatment works for maintenance (PPP)	000	0				
D SEWER FLOODING ACTIVITY						
18 Internal property flooding solved by company action	nr	0	N/C	N/C	N/C	185
19 External only flooding problems solved by company action	nr	0	N/C	N/C	N/C	N/C
20 External linked problems solved by company action	nr	0	N/C	N/C	N/C	N/C
21 Reduction in internal flooding due to other causes	nr	0	N/C	N/C	N/C	18
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	
E OTHER KEY SUPPORTING INFORMATION						
24 Volume waste water returned	MI/d	2	407.45	382.57	347.82	337.63
25 Average connected properties - sewerage (excluding void properties)	000	0	664	628	624	605



Annual Information Return 2010

Section 2

Tables and Commentary

Table 1

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010											
ANNUAL INFORMATION RETURN - TABLE 1 KEY OUTPUTS											
WATER SERVICE - 1 (TOTAL)											
DESCRIPTION	UNITS	DP	1		2		3		4		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	
A HOUSEHOLD - LEAKAGE											
1	Number of household supply pipes repaired	nr	0			495	C5	975	B3	1114	B3
2	Number of household supply pipes repaired free	nr	0			0		0	A1	0	A1
3	Number of household supply pipes repaired - subsidised	nr	0			0		0	A1	0	A1
4	Number of household supply pipes replaced	nr	0			0		0	A1	0	A1
5	Number of household supply pipes replaced free	nr	0			0		0	A1	0	A1
6	Number of household supply pipes replaced - subsidised	nr	0			0		0	A1	0	A1
7	Total savings achieved/assumed	MI/d	2			0.00	C5	0.00	A1	0.00	A1
8	Total cost of initiative	£000	2			0.00		0.00	A1	0.00	A1
B HOUSEHOLD - WATER EFFICIENCY METHODS											
9	Number of cistern devices distributed to households	nr	0			188	C5	2472	B3	2813	B3
10	Number of cistern devices installed	nr	0			0	A1	494	B4	800	B4
11	Total savings achieved/assumed	MI/d	2			0.00	A1	0.02	B4	0.02	B4
12	Total cost of initiative	£000	2			N/C		1.66	B3	1.60	B3
13	Number of water butts distributed to households	nr	0			N/C		0	A1	0	A1
14	Number of water butts installed	nr	0			N/C		0	A1	0	A1
15	Total savings achieved/assumed	MI/d	2			N/C		0.00	A1	0.00	A1
16	Total cost of initiative	£000	2			N/C		0.00	A1	0.00	A1
17	Number of water audit packs distributed to households	nr	0			N/C		660	B3	3028	B3
18	Total savings achieved/assumed	MI/d	2			N/C		0.00	B3	0.02	B4
19	Total cost of initiative	£000	2			N/C		0.53	B3	0.75	B3
20	Number of water audits carried out by the company in households	nr	0			N/C		500	B1	0	A1
21	Total savings achieved/assumed	MI/d	2			N/C		0.00	B4	0.00	A1
22	Total cost of initiative	£000	2			N/C		7.57	B2	0.00	A1
C NON HOUSEHOLD - WATER EFFICIENCY METHODS											
23	Self water audit packs distributed to commercial customers by co.	nr	0			N/C		0	A1	277	B3
24	Total savings achieved/assumed	MI/d	2			N/C		0.00	A1	0.00	B4
25	Total cost of initiative	£000	2			N/C		0.00	A1	0.05	B3
26	Water audits at commercial premises completed by co. or agent	nr	0			N/C		4	B1	0	A1
27	Total savings achieved/assumed	MI/d	2			N/C		0.00	A1	0.00	A1
28	Total cost of initiative	£000	2			N/C		0.17	B3	0.00	A1
D TOTALS											
29	Total savings achieved/assumed	MI/d	2			0.00	C5	0.02	B4	0.05	B4
30	Total cost of initiatives	£000	2			81.23	B4	84.77	B3	74.39	B3
E OTHER WATER EFFICIENCY METHODS											
31a	Water Efficiency Publications - leaflets etc.	£	0			N/C		846	B3	1679	B3
31b	Water efficiency Promotional Material - magnets etc.	£	0			N/C		5670	B3	5142	B3
31c	Water Efficiency Devices - shower timers etc.	£	0			N/C		4666	B3	7944	B3
31d	Water Efficiency Education - Water Bus etc.	£	0			N/C		63662	B3	57218.2	B3
32	Total savings achieved/assumed	MI/d	2			N/C		0.00	B4	0.01	B4
33	Total cost of initiative	£000	2			N/C		74.85	B3	71.98	B3

Table 1 – Key Outputs – Water Service 1**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. If the repair is not completed by the customer then a Failure to Comply Notice may be served and indeed a repair undertaken by NIW, the cost of which is passed on to the customer.

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.

The implementation of the Leak Notice process has resulted in savings and efficiencies in terms of increased communication with the consumer to shorten defect run times. However lines do not exist to capture this information as the current table relates solely to free/subsidised repair and 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

NI Water has during this year continued its efforts to promote water efficiency to its customers.

These efforts have included using the methods successful to date i.e. education schemes, distribution of water saving devices and working in partnership with other organisations on new projects, and by designing and introducing new strategies.

The Water Education Team (WET) consists of two personnel serving schools, community and specialist groups, stakeholders and partners. Sixty percent of their time is spent promoting water efficiency.

The key elements of our strategy are as follows:

1. Efficient use of water in the home
 - a) Ensuring no leaks from taps, toilets, pipe joints etc.
 - b) Cistern displacement devices used where necessary
 - c) Efficient use of domestic appliances e.g. full load for washing machine, dishwashers and care as to the machine selected (water saving)
 - d) Use of showers rather than baths and shower timers to reduce time spent in the shower
 - e) Aerating shower heads are recommended
2. Efficient use of water in the garden

WET have attended a variety of external public events:

- Balmoral Agricultural Show in May;
- Tall Ships in August;
- Lifestyle Green Show in September 2009;
- World Water Day at IKEA;
- World Environment Day at Ulster Bank;
- Three Family Fun days held at Silent Valley Mountain Park (June, July and August 2009);
- South Eastern Health Trust in Downshire Hospital;
- North West Health Trust Altnagelvin Hospital;
- Ballinderry Fair (May); and
- Stormont Fun Day (May).

At these events staff attended to discuss water conservation and distribute leaflets and a selection of promotional items and advice on using water wisely.

Talks are presented twice a month to community groups including:

- Mother and toddler groups;
- Voluntary Services Belfast groups;
- Inner Whee;
- Help the Aged;
- Rotary groups;
- National Trust staff;
- Groundwork – sustainable community allotments;
- Carers of elderly (Health Trust Day Centre); and
- Newtownabbey Councils Saving Campaign.

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

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

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

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

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). For 2009/2010 the figure requested from CRC was 20.

NI Water has distributed a number of CDD's by other means: at school visits, community talks, shows and at the request of an organisation. Each teacher we came into contact with was also issued with a sample. Community Groups receiving presentations on conservation also received a hippo bag.

The table below shows the number of CDD's distributed in 2009/10. During the report year an increase of 300 CDD's was recorded from 2008/09.

Month	Number Distributed		Total
	at School Visits	at Community visits / shows	
April 09	12	0	12
May 09	44	1240	1284
June 09	39	311	350
July 09	0	5	5
August 09	0	178	178
September 09	30	0	30
October 09	23	76	99
November 09	67	127	194
December 09	58	39	97
January 10	82	218	300
February 10	68	0	68
March 10	31	145	176
Total	454	2339	2793

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 used i.e. through shows and events. 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 2009/10 report year is as follows:
 $S * O * F * (D * I) = \text{Savings in litres}$

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

Calculation:

$$2.5 * 2.5 * 5 * (2339 * 0.2) = 14168.75 \text{ l/per day}$$

$$= 0.0146 \text{ MI/d}$$

70% installation rate for those from customer requests (20) and those given to schools (454) giving a total of 474, 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 2009/10 report year is as follows:
 $S * O * F * (D * I) = \text{Savings in litres}$

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

Calculation:

$$2.5 * 2.5 * 5 * (474 * 0.7) = 10368.75 \text{ l/per day}$$

$$= 0.01037 \text{ MI/d}$$

Giving a total of 0.02497 MI/d

Lines 13-16 - Water Butts Distributed to Households

For the report year 2009/10 NI Water have not distributed water butts to households. NI Water has promoted the use of waterbutts through leaflet distribution. During 2009/10 we have developed a relationship with a large national DIY company with a view to working together to promote waterbutts and water efficiency items for the home.

Lines 1-22 - Water Audits: Household

During 2009/10 the self water audit for domestic households which can be accessed through the company's website has not been taken up well by visitors to the site. There have however been 614 hits to the site and 3 audits have been completed online. To overcome this, a link has now been introduced at intervals on the home page. This facility is still in its infancy.

An advantage of the website self water audit is that as soon as the customer completes the form the information is emailed directly to WET and this data can then be collated in a spreadsheet to accumulate water usage across NI Water's customer base.

Domestic Self Water Audit Packs

Over the report year 2009/10 WET ran a conservation campaign "Spread the Word" to distribute self audits to the parents of school children. For each school visited by the Team, the Principal was asked to distribute NI Water Domestic Water Audits to all families within their school. Every school that entered received Hippo Bags for their toilets. A school returning 75% completed audits, received a water saving pack including a waterbutt, watering cans and drought resistant seeds. The school with the highest percentage of returns will receive a cash prize. This initiative will run until the end of May 2010 to return the completed audits.

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 distributed was 2049 and the number of audits returned was 364 which is a return rate of 18%. The percentage acted upon is assumed to be 70%. It has been assumed that completed audit achieved savings of 10 litres per property per day.

The calculation for the savings achieved in 2009/10 report year is as follows:
 $D * A * S = \text{Savings in litres}$

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

Calculation:

$$2049 * 0.70 * 10 = 14343 \text{ l/per day} \\ = 0.014343 \text{ Ml/d}$$

From the figures supplied by Water Education Department, 365 Domestic Water Audits have been distributed at shows.

To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets

2010-11 to 2014-15). The percentage acted upon is assumed at 20% saving 10 litres per property per day.

$D*A*S$ = Savings in litres

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

Calculation:

$$365*0.20*10 = 730 \text{ l/per day} \\ = 0.000730 \text{ MI/d}$$

From the figures supplied by IT Corporate Communications, 614 hits have been recorded at on line water audits.

To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets 2010-11 to 2014-15). The percentage acted upon is assumed at 10% saving 10 litres per property per day.

$D*A*S$ = Savings in litres

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

Calculation:

$$614*0.10*10 = 614 \text{ l/per day} \\ = 0.000614 \text{ MI/d}$$

Total savings figure for domestic audits 0.015687 MI/d

Water Audits Completed by Company in Households

No audits were completed in the homes of customers.

The company have met with the Housing Executive (HE) re any new refurbishment work they intended to do in the 09/10 period but work has been postponed until the HE budget becomes available. Permission was granted for two pieces of work to commence and as a result NI Water put meters in these areas to capture data prior to commencement of the work. NI Water intends to make a provision to collect the data after new Water Efficiency products are installed. It should be noted that the HE only use inexpensive products and install baths and not baths and showers.

It was requested that all HE contractors contact NI Water's Communications Manager prior to doing any installations and in turn they would be forwarded a guide on Water Efficiency products that they should use.

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

The Energy Saving Trust have developed an on-line interactive house and by clicking on energy using items within the house the customer's energy bill is calculated and also the savings that can be made by reducing the number of times each item is used. NI Water intends to have a link to this site which will be going live in late May 2010.

Non-household - Water Efficiency Methods

NI Water operates a large user discount scheme¹ which is dependent on the commitment of the customer to water efficiency. The customer will have to be seen to be promoting water efficiency; this may be through changes in procedure, installing water saving devices, installation of recycling plants and the review of water efficiency by an independent industry expert.

Work was carried out on NI Water's website; an area was developed to deal with promoting water efficiency within the commercial customer sector, supplied by NI Water.

The areas included are:

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

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

Lines 23-28 - Non-Household - Water Audits

During 2009/10 277 Water Audits for Schools were distributed by WET through, Teachers Packs. To calculate the savings achieved through this initiative it is necessary to make assumptions on the savings achieved (Ofwat Water Efficiency Targets 2010-11 to 2014-15). The percentage acted upon is assumed at 20% saving 10 litres per property per day

$D \times A \times S = \text{Savings in litres}$

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

¹ www.niwater.com/largeusertariff.asp

Calculation:
 $277 * 0.20 * 10 = 2554$ l/per day
 $= 0.000554$ MI/d

Totals

Lines 29-30 - Totals Savings

The total recorded savings for Sections A, B, C and E is 0.0479 MI/d (47.9 l/per day).

These savings have been achieved through Section B (Household- Water Efficiency Methods), Section C (Non Household- Water Efficiency Methods) and Section E (Other Water Efficiency Methods). NI Water do not operate a free/subsidised repair/replacement on supply pipes, therefore no savings where obtainable from Section a (Household- Leakage).

Efficiency Method	Savings per MI/ day	Cost of initiative £
Household		
Cistern Devices	0.02497	1603
Self Water audits	0.015687	749
Non Household		
School Audits	0.000554	54.43
Other Methods		
Shower timers (see below)	0.0067	7944
Leaflets (see below)		1679
PR items(see below)		5,142
Education Dept		57,218
Total	0.047911	74,389

The calculation of costs due to staffing has been calculated using accepted methodology from the AIR09 return.

Costs

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

Lines 31-33 - Other Water Efficiency Methods

The majority of NI Water's other Water Efficiency Methods are education based.

As already mentioned, NI Water has a dedicated Water Education Team consisting of two full time employees. The Environmental Education Manager and the Outreach and Learning Officer, who deliver presentations to a variety of community and youth groups, organise/attend external events as well as attend educational establishments at all levels. Conservation classroom presentations are given on demand and we work with the Eco Schools Award scheme. The double decker Waterbus, a mobile education unit provides displays, quiz, demonstrations, DVD and computer facilities. This exhibition aims to make children aware of a range of water issues such as the water cycle, water for health, water sources, water/wastewater cleaning and water efficiency. The Waterbus programmes have been written for Key Stage 1 (P1-P4) and Key Stage 2 (P5-P7) and we work closely with the revised curriculum. The service is well received by Education and Library Boards and we have been in contact with over 8000 pupils delivering water conservation messages alone. NI Water has a Wastewater Heritage Centre sited at Duncrue in Belfast. This site provides an insight into the history of water supply and removal of waste and the importance and techniques of waste water management. We consider contact with school children to be the vital link with parents at home, bringing news and promotional items and encouraging them to become water efficient and to be aware of the value of water management.

NI Water also has a large range of leaflets that promote water efficiency, the distribution of these may also lead to increased water savings but at present these savings can not be calculated.

The items and leaflets distributed are shown in the table below:

Efficiency Method	Number	£ Cost
Leaflet – Water Butt	1360	299.20
Leaflet- How water wise are you	6777	671
Leaflets-Hippo Bag	2813	573.85
Leaflet: Drought gardening	1646	134.97
Sub Total	1679.02
Bookmark- Saving Water	5007	495.69
Bookmark- “Flo” Kids saving water	2494	246.90
Seeds: Drought Resistant	411	1196.01
Magnet: Save Water	5065	1410.20
Pencil- Use water wisely	7168	1576.96
Game: Snakes and Ladders	554	216.06
Sub Total	5141.82
Shower timers	5833	7944.54
Total		14739.33

Over the reporting year 5833 shower timers were distributed at shows, events and presentations by NI Water staff. The installation rate of these can be assumed at 23% (Ofwat Water Efficiency Targets 2010-11 to 2014-15) a saving of 5 litres per property per day can also be assumed (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:

$D \times I \times S = \text{Savings in litres}$

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

Calculation:

$5833 \times 0.23 \times 5 = 6707.95 \text{ l/per day}$
 $= 0.0067 \text{ MI/d}$

During the reporting year 2009/10 NI Water has regularly updated its existing website (www.niwater.com). Building on the efficiency element, NI Water has also developed an educational microsite. "What 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. It has been well received by both teachers and pupils and is widely used for "investigation" in the revised curriculum and is a valuable tool to both schools, education establishments and the company. The website was nominated for the following awards during 2009: for CIPR National Excellence Award 2009, CIPR PRide Award (NI) – received Silver Award (runner up) and Golden Spider Award.

NI Water has highlighted throughout the year the issue of water efficiency and in particular the potential for frozen pipes. During the "big freeze" of December and January the statement of "Wrap up warm this winter" was released extensively to all daily and regional papers as well as broadcast on a daily basis. A new "U tube" video on "Protect Your Pipes this Winter" was made by NI Water's Corporate Affairs Team and the video made available to the public, there have been 798 hits on the site to date².

NI Water have dedicated website pages with advice on household water efficiency and also 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 doing calculations automatically and also provides NI Water with completed audits instantly once the customer has submitted it. The website also includes guidance on the types of appliances that could be fitted to houses and business, which would help them to be more efficient in the future.

² <http://www.youtube.com/northernirelandwater>

Table 2

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1		2		3		4		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	
A DG2 PROPERTIES RECEIVING PRESSURE/FLOW BELOW REFERENCE LEVEL											
1	Total connected properties at year end	000	1	794.7	A2	800.0	A2	804.4	A2	798.7	A2
2	Properties below reference level at start of year	nr	0	N/C		N/C		10321	B4	5770	B4
3	Properties below reference level at end of year	nr	0	N/C		10321	B4	5770	B4	2154	B3
4	Properties receiving low pressure but excluded from DG2	nr	0	N/C		N/C		218	B4	94	B3
4a	DG2 Properties with pressure below a surrogate level of 7.5m at end of year	nr	0					320	B2	169	B2
B DG3 PROPERTIES AFFECTED BY SUPPLY INTERRUPTIONS											
(i) UNPLANNED INTERRUPTIONS											
5	More than 3 hours	nr	0	41241	B4	60662	B3	56480	B3	47970	B3
6	More than 6 hours	nr	0	10285	B4	9483	B3	8175	B3	9427	B3
7	More than 12 hours	nr	0	767	B4	1839	B3	2010	B4	3675	B3
8	More than 24 hours	nr	0	9	B4	72	B3	609	B4	2294	C4
(ii) PLANNED AND WARNED INTERRUPTIONS											
9	More than 3 hours	nr	0	77958	B4	39237	B3	48163	B3	43341	B3
10	More than 6 hours	nr	0	41803	B4	20273	B3	26480	B3	22460	B3
11	More than 12 hours	nr	0	265	B4	62	B3	0	B4	135	B3
12	More than 24 hours	nr	0	25	B4	0	B3	0	B4	0	B3
(iii) INTERRUPTIONS CAUSED BY THIRD PARTIES											
13	More than 3 hours	nr	0	6258	B4	1472	B3	2477	B3	2737	B3
14	More than 6 hours	nr	0	854	B4	510	B3	36	B3	499	B3
15	More than 12 hours	nr	0	185	B4	22	B3	33	B4	154	B3
16	More than 24 hours	nr	0	175	B4	6	B3	4	B4	0	B3
(iv) UNPLANNED INTERRUPTIONS (OVERRUNS OF PLANNED INTERRUPTIONS)											
17	More than 6 hours	nr	0	404	B4	835	B3	590	B3	452	B3
18	More than 12 hours	nr	0	40	B4	99	B3	43	B4	118	B3
19	More than 24 hours	nr	0	0	B4	0	B3	8	B4	1	B3
C POPULATION											
20	Population (winter) (total)	000	2	1743.46	B2	1771.11	B2	1800.32	B2	1805.80	C2
D DG4 RESTRICTIONS ON USE OF WATER											
21	% population - hosepipe restrictions	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1
22	% population - drought orders	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1
23	% population - sprinkler/unattended hosepipe restrictions	%	1	0.0	A1	0.0	A1	0.0	A1	0.0	A1

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

At the start of this year the DG2 Register indicated that 5770 properties were receiving a service below the reference level. NI Water gave a commitment that during AIR10 the following tasks would be conducted:

- Available data from completed Watermain Rehabilitation schemes would be applied to the Register and used to substantiate removals.
- Field logging and investigation would continue to verify the robustness of data used to populate the Register for AIR09. This would cover properties not included in the Watermain Rehabilitation schemes.

NI Water's priority during the report period was to validate data giving rise to DG2 properties and identify removals resulting from capital works. The company are not in a position to report on the number of properties on the DG2 register served by common service pipes as such records are not available.

Line 1 - Total connected properties at year end

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

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 5770 as reported in line 3 of AIR09. It should be noted that this number would have included those properties within 15m elevation of service reservoirs and those those identified under the definition of allowable exclusions

Line 3 - Properties below reference level at end of year

The number of properties reported as being below the reference level at end of year, AIR10 is 2154 which represents a reduction of 3616 against the AIR09 reported figure of 5770. The number of 2154 excludes 94 allowable exclusions that are within 15m elevation of a supply service reservoir. The reported figure includes 713 properties added as a result of the verification work.

There is 1 property remaining as being under investigation. Of the 4705 properties planned for validation this year, 4350 were duly logged with the remainder residing in areas covered by Rehabilitation schemes. Throughout

this process 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 report and logged data. The AIR10 Table 2 Methodology Statement outlines in detail the additions and removals process.

The reductions arising from capital works are the result of an ongoing watermain rehabilitation programme. PPRAs received for 13 Work Packages resulted in 572 properties being removed from the DG2 register due to Company Action.

Rehabilitation Scheme	DG2 Properties Removed
Bangor Outer	445
Clough	10
Cargan	3
Silent Valley, West of The Bann, Camlough and Breda	19
Glarryford	16
Seagahan Phases 1&2	33
Stewartstown	18
Altnahinch	18
Fofanny Rathfriland	8
Lough Fea / Cookstown	2
Total	572

Extensive field logging continued during the AIR10 report period to support the removal of properties owing to improved information. As a direct result of this exercise 3606 properties were removed. For each property removed there is a supporting report and logged data.

As a result of the field logging process to validate those properties as receiving a surrogate pressure of less than 15m pressure and hence to be included on the DG2 register there have been 713 additional properties added to the DG2 register as being below the reference level.

A total of 57 properties were removed during the year due to rationalisation of the distribution system through pressure management schemes and network improvements. Areas affected were McCrackens DMA - 25 properties, Derrybeg Newry West DMA - 10 properties and Mourneview DMA 22 properties.

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

Schedule of Changes

	No. of Properties
Additions due to better information	713
Reductions due to better information	3606
Reductions due to asset improvements – capital works	572
Reductions due to operational improvements	57
Under Investigation	1

Line 4 - Properties receiving low pressure but excluded from DG2

The Register contains details of 94 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.

NI Water 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. Although this work commenced during the latter part of the reporting year, this project is in its infancy and will continue throughout and beyond the forthcoming year, should funding be available in line with the Reporter's recommendation. The long term objective is to link continuous data from these sites to a corporate system to maximise the potential of this information and report on company performance. Appropriate software will need to be developed to achieve this.

Line 4a – DG2 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 198 of which 29 are within the 7.5m elevation of the service reservoir and can therefore be classed as valid exclusions. A total of 73 properties were removed in this category as they were established as being either derelict, demolished or not connected to the watermains during this investigation.

Confidence Grades

The confidence grades assigned to lines 2, 3, 4 and 4a for AIR10 are B4, B3, B3 and B2 respectively.

The confidence grade for line 2 is as per the AIR09 line3. For line 3 a confidence grade of B3 has been assigned in comparison to B4 for AIR09. There has been substantial field logging work undertaken to substantiate the

robustness of the inclusion of properties on the DG2 register. The higher confidence level reflects the field logging and analysis undertaken during the 2009/10 year and the greater level of confidence could have merited a B2 confidence grade. However we believe the B3 figure is appropriate at present until the register has 'bedded in'. Line 4 has been allocated a confidence grade of B3 similar to line 3. The confidence grade for line 4a is B2 which mirrors the figure for AIR09.

Lines 5 to 19 - DG3 Properties Affected by Supply Interruptions

The rules governing the recording and collation of data for the DG3 Register are explained in the Levels of Service Procedures. The calculation, checking and presentation of figures is explained in the Methodology Statement for AIR10: 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

AIR	DG3 Properties Affected	2007/08	2008/09	2009/10
Table 2: Line 5	More than 3 hours	60,662	56,480	47,970 (46,406)*
Table 2: Line 6	More than 6 hours	9,483	8,175	9,427 (7,863)*
Table 2: Line 7	More than 12 hours	1,839	2,010	3,675 (2,111)*
Table 2: Line 8	More than 24 hours	72	609	2,294 (730)*

*Figures excluding properties affected by frozen communication pipes are listed in brackets

The numbers of properties affected by unplanned interruptions lasting more than 3 hours have fallen over the last three years, by 4,182 properties between 2007/08 and 2008/09 and by a further 8,510 properties between 2008/09 and 2009/10. The numbers of properties affected by unplanned interruptions lasting more than 6 hours, decreased by 1,308 properties between 2007/08 and 2008/09 but increased by 1,252 properties between 2008/09 and 2009/10.

The numbers of properties affected by unplanned interruptions lasting more than 12 hours have risen over the last three years, by 171 properties between 2007/08 and 2008/09 and by a further 1,665 properties between 2008/09 and 2009/10. The numbers of properties affected by unplanned interruptions lasting more than 24 hours have also risen over the last three years, by 537 properties between 2007/08 and 2008/09 and by a further 1,685 properties between 2008/09 and 2009/10.

The increases in numbers can be largely attributed to the inclusion of 1,564 properties affected by frozen communication pipes during the prolonged

period of cold weather in December and January. The increases can also be attributed to operational difficulties experienced during this time such as high numbers of bursts, low reservoir levels and non-functioning pumping equipment. A further contributory factor was the heavy snow and resultant electricity supply failures at the end of March.

Planned and Warned Interruptions

AIR	DG3 Properties Affected	2007/08	2008/09	2009/10
Table 2: Line 9	More than 3 hours	39,237	48,163	43,341
Table 2: Line 10	More than 6 hours	20,273	26,480	22,460
Table 2: Line 11	More than 12 hours	62	0	135
Table 2: Line 12	More than 24 hours	0	0	0

The numbers of properties affected by planned and warned interruptions exceeding 3 hours and 6 hours, increased by 23% and 31% respectively between 2007/08 and 2008/09 but decreased by 10% and 15% respectively between 2008/09 and 2009/10. The main reason for the reduction is that the Company's overall meterage of new and replacement watermains reduced significantly in 2009/10. Although overall planned and warned interruptions decreased, the number of properties interrupted per meter of new watermain installed increased due to work in more urban environments such as Belfast and Lisburn City Centres, etc.

The numbers of properties affected by planned and warned interruptions lasting more than 12 hours, decreased by 62 properties between 2007/08 and 2008/09 but increased by 135 properties between 2008/09 and 2009/10. The 135 properties were affected by one-off incident in June involving a planned interruption between 18:15 and 06:30 the following day. As a large part of this interruption occurred throughout the night, customers would have been unlikely to realise the full impact.

For the third year in succession, no properties experienced planned and warned interruptions exceeding 24 hours.

Interruptions Caused by Third Parties

AIR	DG3 Properties Affected	2007/08	2008/09	2009/10
Table 2: Line 13	More than 3 hours	1,472	2,477	2,737
Table 2: Line 14	More than 6 hours	510	36	499
Table 2: Line 15	More than 12 hours	22	33	154
Table 2: Line 16	More than 24 hours	6	4	0

The numbers of properties experiencing interruptions caused by third parties lasting more than 3 hours, increased by 1,005 properties between 2007/08 and 2008/09 but decreased by 260 properties between 2008/09 and 2009/10.

The numbers of properties experiencing interruptions caused by third parties lasting more than 6 hours, decreased by 474 properties between 2007/08 and 2008/09 but increased by 463 properties between 2008/09 and 2009/10.

The numbers of properties experiencing interruptions caused by third parties lasting more than 12 hours have risen over the last three years, by 11 properties between 2007/08 and 2008/09 and by a further 121 properties between 2008/09 and 2009/10.

No properties experienced interruptions caused by third parties lasting more than 24 hours compared to 4 in 2008/09 and 6 in 2007/08.

Unplanned Interruptions (Overruns of Planned Interruptions)

AIR	DG3 Properties Affected	2007/08	2008/09	2009/10
Table 2: Line 17	More than 6 hours	835	590	452
Table 2: Line 18	More than 12 hours	99	43	118
Table 2: Line 19	More than 24 hours	0	8	1

The numbers of properties experiencing overruns of planned interruptions greater than 6 hours have fallen over the last three years, by 245 properties between 2007/08 and 2008/09 and by a further 138 properties between 2008/09 and 2009/10.

The numbers of properties experiencing overruns of planned interruptions lasting more than 12 hours decreased by 56 properties between 2007/08 and 2008/09 but increased by 75 properties between 2008/09 and 2009/10.

Only one property experienced an overrun of a planned interruption lasting more than 24 hours compared to 8 in 2008/09.

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: Up to and including 2009/10, the number of properties experiencing unplanned and unwarned interruptions has included interruptions caused by

third parties and unplanned interruptions (overruns of planned interruptions). From 2010/11 onwards, third party interruptions and overruns will be excluded.

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		Outturn		07/08 KPI Target	Outturn		08/09 KPI Target	Outturn		09/10 KPI Target
		2007/08 Props	2007/08 %		2008/09 Props	2008/09 %		2009/10 Props	2009/10 %	
>6hrs	U/P	9,483	1.185%		8,115	1.009%		9,427	1.180%	
	UTP	510	0.064%		96	0.012%		499	0.062%	
	O/R	835	0.104%		590	0.073%		452	0.057%	
	Total	10,828	1.353%	2.0%	8,801	1.094%	1.2%	10,378	1.299%	1.0%
>12hrs	U/P	1,839	0.230%		2,010	0.250%		3,675	0.460%	
	UTP	22	0.003%		33	0.004%		154	0.019%	
	O/R	99	0.012%		43	0.005%		118	0.015%	
	Total	1,960	0.245%	0.25%	2,086	0.259%	0.15%	3,947	0.494%	0.15%
>24hrs	U/P	72	0.009%		609	0.076%		2,294	0.287%	
	UTP	6	0.001%		4	0.000%		0	0.000%	
	O/R	0	0.000%		8	0.001%		1	0.000%	
	Total	78	0.010%	0.03%	621	0.077%	0.01%	2,295	0.287%	0.01%

Note: Percentage outturns are based on total connected properties as follows: 800,018 (AIR08); 804,418 (AIR09); 798,740 (AIR10)

>6hr KPI: The 2009/10 final outturn of 10,378 properties (1.299% of connected properties) exceeds the yearend target of 1.0%.

>12hr KPI: The 2009/10 final outturn of 3,947 properties (0.494% of connected properties) exceeds the yearend target of 0.15%.

>24hr KPI: The 2009/10 final outturn of 2,295 properties (0.287% of connected properties) exceeds the yearend target of 0.01%.

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

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

The following table provides a summary of those interruption records in 2009/10 whose Interruption Start Date/Time and All Props Restored Date/Time fell within the hours of 12 midnight and 7am.

Interrupt Type	Interrupt No.	Interruption Start		All Props Restored		Duration Of Interruption (Hours)	Properties Affected	
		Date	Time	Date	Time		> 0 Hrs	> 3 Hrs
Unplanned	8914	06/04/09	00:00	06/04/09	04:00	4	40	40
Unplanned	8945	06/04/09	01:30	06/04/09	05:30	4	735	735
Unplanned	9049	29/04/09	00:00	29/04/09	03:30	3.5	43	43
Unplanned	9046	29/04/09	00:15	29/04/09	03:45	3.5	1,246	1,246
Unplanned	9129	07/05/09	00:00	07/05/09	03:15	3.25	2,055	2,055
Unplanned	9793	27/07/09	02:30	27/07/09	06:30	4	194	194
Unplanned	9776	02/08/09	00:15	02/08/09	04:30	4.25	198	198
Unplanned	9866	06/08/09	00:00	06/08/09	04:00	4	10	10
Unplanned	9959	26/08/09	00:00	26/08/09	04:00	4	889	889
Unplanned	10299	01/10/09	00:45	01/10/09	05:00	4.25	10	10
Planned	E&P020	21/10/09	00:00	21/10/09	04:00	4	12	12
Unplanned	10669	11/11/09	00:30	11/11/09	05:30	5	18	18
Planned	E&P010	12/11/09	01:00	12/11/09	05:00	4	19	19
Planned	E&P011	13/11/09	00:00	13/11/09	06:00	6	19	19
Planned	E&P015	13/11/09	02:00	13/11/09	06:00	4	10	10
Unplanned	10709	16/11/09	00:45	16/11/09	04:15	3.5	85	85
Unplanned	11135	04/01/10	00:00	04/01/10	03:45	3.75	250	250
Planned	E&P005	09/01/10	00:30	09/01/10	04:30	4	16	16
Unplanned	11572	14/01/10	00:00	14/01/10	03:15	3.25	962	962
Planned	E&P006	14/01/10	00:45	14/01/10	05:00	4.25	12	12
Planned	E&P003	19/01/10	01:00	19/01/10	05:00	4	12	12
Planned	E&P016	19/02/10	00:30	19/02/10	05:00	4.5	100	100
Unplanned	11997	16/03/10	00:15	16/03/10	03:45	3.5	499	499

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

15 unplanned records and 8 planned records have been identified where customers would not have noticed the loss of service because it occurred at night. All 23 interruptions lasted 6 hours or less. The numbers of properties affected by these interruptions was 7,234 unplanned and 200 planned. 7,234 represents a significant proportion of the total number of properties experiencing unplanned interruptions lasting more than 3 hours in 2009/10 (47,970 properties).

Unplanned: $(7,234 / 47,776) \times 100 = 15.1\%$

Planned: $(200 / 43,341) \times 100 = 0.5\%$

NI Water reported in its AIR09 Commentary that there were 20 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 14,551.

Interruptions of 3 hours or less

NI Water has a record of 231 unplanned interruptions and 6 planned interruptions of 3 hours or less where customers would not have noticed the loss of service because it occurred at night. The numbers of properties affected by these interruptions were 139,918 unplanned and 117 planned.

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 2009/10.

Interrupt. No.	Month	Duration Of Interruption (Hours)	Properties Affected		Duration Of Overrun (Hours)
			> 0 Hrs	> 3 Hrs	
8987	Apr 09	1.5	36	0	0.25
E&P058	May 09	4.00	3	3	3.00
9315	May 09	4.25	200	200	4.25
9359	Jun 09	2.25	3	0	0.25
9537	Jun 09	6	4	4	0.75
9751	Jul 09	1.25	42	0	0.25
9807	Jul 09	5.25	62	62	0.25
9835	Aug 09	2.25	10	0	0.25
10278	Sep 09	1.75	20	0	0.25
10542	Oct 09	2	57	0	0.50
10489	Oct 09	4.5	24	24	1.00
10986	Dec 09	2.5	2	0	0.50
11380	Jan 10	3	24	0	1.00
11627	Feb 10	2.25	18	0	0.25

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

$$3 + 200 + 4 + 62 + 24 = 293$$

This number is small compared to the number of properties that experienced a planned and warned interruption of between 3 and 6 hours (20,881).

T2: L9 = 43,341

T2: L10 = 22,460

$43,341 - 22,460 = \mathbf{20,881}$

NI Water reported in its AIR09 Commentary that there were 5 overruns of planned and warned interruptions lasting between 3 and 6 hours. The number of properties affected by these overruns was 165.

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

The following table provides a summary of the 32 unplanned interruptions caused by electricity supply failures in 2009/10. Interruption Numbers 12196-12216 relate to power failures during a period of heavy snow at the end of March.

Interrupt No.	Month	Duration (Hrs)	Properties Affected					Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs	
9341	May 09	5.5	8	8	0	0	0	NIE power failure
9077	May 09	5.75	80	80	0	0	0	
9443	Jun 09	3	15	0	0	0	0	
9450	Jun 09	6	38	38	0	0	0	Pumps tripped due to lightening strike. Pumps started again at reduced pressure. Pumps only pumping to one property on [REDACTED].
9737	Jul 09	4.25	6	6	0	0	0	Pump fault
9736	Jul 09	5	6	6	0	0	0	Pump failure at [REDACTED]
9738	Jul 09	5	50	50	0	0	0	
10518	Oct 09	2	12	0	0	0	0	Reason for pump trip unknown
10573	Oct 09	3	36	0	0	0	0	Mains supply interruption – unknown cause
11200	Jan 10	1.5	30	0	0	0	0	
12076	Mar 10	22	3	2	2	2	0	[REDACTED] Booster off. Pump would not build up the pressure to 2 properties on. Possible air lock.
12196	Mar 10	2	11	0	0	0	0	[REDACTED]
12452	Mar 10	9	49	49	49	0	0	[REDACTED] DMA
12220	Mar 10	4.5	1	1	0	0	0	Booster station at Derrylin SR – [REDACTED]
12205	Mar 10	15	7	7	7	7	0	Glen Booster - [REDACTED]. Electric failure due to storm.
12446	Mar 10	17.5	24	24	24	24	0	NIE Power Failure – [REDACTED]
12445	Mar 10	18.25	24	24	24	24	0	NIE Power Failure – [REDACTED]
12467	Mar 10	37.5	21	21	21	21	21	Killyland WPS
12456	Mar 10	38.5	9	9	9	9	9	[REDACTED]

Interrupt No.	Month	Duration (Hrs)	Properties Affected					Comments
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs	
12207	Mar 10	39.25	38	38	38	38	38	Power off due to heavy snow - [REDACTED]
12209	Mar 10	39.25	15	15	15	15	15	Power off due to heavy snow - [REDACTED]
12461	Mar 10	43.5	8	8	8	8	8	Bratwell PS
12464	Mar 10	53.5	5	5	5	5	5	Clagan WPS
12212	Mar 10	53.75	21	21	21	21	21	Power off due to heavy snow - [REDACTED]
12214	Mar 10	53.75	20	20	20	20	20	Power off due to heavy snow - [REDACTED]
12468	Mar 10	54	59	59	59	59	59	Lettermire PS
12453	Mar 10	72.5	3	3	3	3	3	[REDACTED]
12215	Mar 10	78	5	5	5	5	5	Power off due to heavy snow - [REDACTED]
12457	Mar 10	78.5	5	5	5	5	5	[REDACTED]
12455	Mar 10	81	10	10	10	10	10	Slaught Lane PS
12460	Mar 10	91.25	25	25	25	25	25	South of Belraught Pumps
12216	Mar 10	142	1	1	1	1	1	Pump keeps tripping out - [REDACTED]

32 unplanned interruptions were caused by electricity supply failures in 2009/10. 21 of the power failures occurred during a period of heavy snow at the end of March.

In terms of numbers of properties affected, the most significant incident occurred in May when 80 properties were without supplies for 5.75hrs. In terms of interruption duration, the most significant incident occurred in March when 1 property was without supplies for 142hrs.

The combined impact of the 32 electricity supply failures on the annual outturns is as follows:-

	>3 Hrs	>6 Hrs	>12 Hrs	>24 Hrs
Numbers of Properties Affected by Electricity Supply Failures	540 (350)	351 (349)	302 (300)	(245)
Numbers of Properties Affected by Unplanned Interruptions	47,970	9,427	3,675	2,294
Percentage Impact	1.13% (0.73%)	3.72% (3.70%)	8.22% (8.16%)	(10.68%)

Figures relating to the heavy snow are in brackets

The impact of the electricity supply failures was greatest on the >24hr outturn, accounting for 10.68% of the total number of properties affected by unplanned interruptions.

The combined impact of the electricity supply failures on KPI target compliance was as follows:-

	> 6 Hrs	> 12 Hrs	> 24 Hrs
Percentage of Connected Properties Affected by Electricity Supply Failures	0.044%	0.038%	0.031%
Percentage of Connected Properties Affected by Unplanned Interruptions	1.299%	0.494%	0.287%
Percentage Impact	3.39%	7.69%	10.80%

Figures relate to the heavy snow

The impact of the electricity supply failures was greatest on >24hr KPI target compliance, accounting for 10.80% 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 >6hr, >12hr and >24hr KPI targets.

Note: Due to the nature of the interruptions occurring at the end of March, supplies were not restored to some properties until after the 2010/11 reporting period had commenced. NI Water has included these interruptions in the reporting of its figures for 2009/10. This is consistent with the policy normally adopted by the Company for the reporting of interruptions spanning two months where the interruption is reported under the month of commencement.

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

The following table provides a summary of the 44 interruption to supply incidents during 2009/10 for which Upward Reports were generated. Significant incidents are in bold text.

Ref	Interrupt No.	Date of Incident	Cause of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
001	8996	14 Apr 09	██████████ - Drumsaragh DMA Area - Burst Main	5.25	313	313	0	0	0	3
002	Additional 1	20 Apr 09	██████████	9	9	9	9	0	0	3
003	9327	10 May 09	Burst watermain, Portaferry	27.5	1	1	1	1	1	3
	9365			7.5	7	7	7	0	0	
	9366			10.25	6	6	6	0	0	
	9367			16.25	6	6	6	6	0	
004	9242	15 May 09	██████████ NT'Ards burst TM	20.75	56	56	56	12	0	3
005	E&P053	04 Jun 09	'Do Not Drink' Notice, ██████████	5.50	10	10	0	0	0	3
006	9393	05 Jun 09	Burst TM, ██████████ Downpatrick	10.5	37	37	37	0	0	3
007	9410	11 Jun 09	Burst watermain, ██████████	21	12	12	2	1	0	3
008	9473	12 Jun 09	Burst watermain, ██████████ Dungannon	8	74	74	6	0	0	3
009	9451	16 Jun 09	Burst Main Dungiven	6	750	750	0	0	0	3
010	9458	20 Jun 09	Burst trunk main Omagh	6	160	160	0	0	0	3
011	9541	20 Jun 09	Burst Main Randalstown	4.5	96	96	0	0	0	3
012	9551	22 Jun 09	Banbridge loss of supply	5	86	86	0	0	0	3
	9552			9	37	37	37	0	0	
	9553			5.5	24	24	0	0	0	

Ref	Interrupt No.	Date of Incident	Cause of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
013	9773	30 Jul 09	Burst watermain [REDACTED] [REDACTED] Belfast	5.75	400	400	0	0	0	3
014	9921	17 Aug 09	Burst watermain, [REDACTED] [REDACTED] Ballygawley	10.5	350	200	200	0	0	3
015	Additional 2	20 Aug 09	Loss of Telemetry	10	100	27	20	0	0	3
016	Additional 1	23 Aug 09	Loss of supplies to customers in Ballymoney fed from Dunaghy SR	6.17	37	95	15	0	0	3
017	10009	26 Aug 09	Burst inlet main, Stang SR, Hilltown	6	4	4	0	0	0	3
	10011			6	24	24	0	0	0	
	10012			6	26	26	0	0	0	
	10013			5	5	5	0	0	0	
	10014			1.5	5	0	0	0	0	
018	10073	28 Aug 09	Burst Main, Brishey SR, Dungiven	6.5	260	260	260	0	0	3
	10074			13.25	352	352	352	352	0	
	10075			19.75	4	4	4	4	0	
019	10098	03 Sep 09	Breach on 9" Inlet to Craig Park SR, Bushmills	9.25	57	57	57	0	0	3
020	Additional 1	28 Sep 09	Burst, Waterside	4	25	25	0	0	0	3
021	10452	02 Oct 09	Loss of Supply Backford Bridge DMA Coalisland	39.25	45	44	36	29	29	3
022	10451	14 Oct 09	Eglinton DMA Loss of mains supply	8.5	899	899	72	0	0	3
023	10408	17 Oct 09	Scone Service Reservoir - Burst on the inlet main	9.5	9	9	9	0	0	3
024	10920	04 Nov 09	Interruption to Supply Limavady Area	8.75	108	108	32	0	0	3
	10926			9	38	38	3	0	0	

Ref	Interrupt No.	Date of Incident	Cause of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
025	10776	06 Nov 09	Burst Watermain, Springhill SR, L'derry	19	457	457	457	457	0	3
	10823			5.75	418	418	0	0	0	
026	10915	13 Nov 09	No water complaints Altnagelvin, L'derry	12	234	227	12	0	0	3
027	n/a	21 Nov 09	Interruption to NIE Supply in Derry City and Surrounding Area	No supply interruption						3
028	10712	23 Nov 09	No Water Beltoy SR Carrickfergus	6	400	400	0	0	0	3
029	10730	24 Nov 09	Whiteabbey Lower SR Outlet Main	5.5	80	80	0	0	0	3
030	10883	28 Nov 09	Radergan SR Ballygawley	11.5	31	31	31	0	0	3
	10884			16.5	6	6	6	0	0	
031	10890	13 Dec 09	Burst Watermains Mallusk & Hollywood	7.25	85	85	85	0	0	n/a
032	10941	14 Dec 09	██████████ Castlereagh	7.25	100	100	100	0	0	3
033	10990	18 Dec 09	Supply Problems in Greysteel Area	126	87	87	72	23	16	3
034	Additional 3	19 Dec 09	8" DI Trunk Main Burst at ██████████ Ballymagorry, Strabane	10	3	3	3	0	0	3
035	Numerous incidents	24 Dec 09 21 Jan 10	Winter Freeze	n/a	31,305	10,374	3,390	716	383	1
036	Additional 4	31 Dec 10	Loss of supply - Ballygomartin SR	3.75	250	250	0	0	0	3
037	11596	09 Jan 10	Loss of Production Capability at Fofanny WTW	193.25	9	9	9	9	9	2
	11597			3	25	0	0	0	0	
	11598			5	25	25	0	0	0	

Ref	Interrupt No.	Date of Incident	Cause of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
	11600			157.5	30	30	30	30	30	
	11664			15.5	313	313	313	1	0	
	11665			16	165	165	165	165	0	
038	12043	24 Jan 10	Altmoe WTP	2.5	3	0	0	0	0	Precautionary
039	11656	03 Feb 10	Loss of Supply - Lough Maccrory	7	50	50	50	0	0	3
040	11846	04 Feb 10	Restricted production from Lough Fea WTWs	7	155	155	155	0	0	3
	10			238	238	238	0	0		
	9.25			434	434	434	0	0		
041	11819	08 Feb 10	Randalstown Burst Trunk Main	5.25	1803	1803	0	0	0	3
042	Additional 1	26 Feb 10	Loss of Supply - PRV Malfunction - ██████████ Belfast	3	2500	2500	0	0	0	3
043	12126	24 Mar 10	██████████ Lisburn - Burst Trunk Main	6	300	300	0	0	0	3
	12127			4	200	200	0	0	0	
	12128			13	150	150	150	150	0	
044	12196	30 Mar 10	Adverse Weather - Loss of Power All Areas	2	11	0	0	0	0	2
	12452			9	49	49	49	0	0	
	12220			4.5	1	1	0	0	0	
	12205			15	7	7	7	7	0	
	12446			17.5	24	24	24	24	0	
	12445			18.25	24	24	24	24	0	
	12467			37.5	21	21	21	21	21	
	12456			38.5	9	9	9	9	9	
	12207			39.25	38	38	38	38	38	
	12209			39.25	15	15	15	15	15	
	12461			43.5	8	8	8	8	8	

Ref	Interrupt No.	Date of Incident	Cause of Incident	Duration	>0hrs	>3hrs	>6hrs	>12hrs	>24hrs	Category
	12464			53.5	5	5	5	5	5	
	12212			53.75	21	21	21	21	21	
	12214			53.75	20	20	20	20	20	
	12468			54	59	59	59	59	59	
	12453			72.5	3	3	3	3	3	
	12215			78	5	5	5	5	5	
	12457			78.5	5	5	5	5	5	
	12455			81	10	10	10	10	10	
	12460			91.25	25	25	25	25	25	
	12216			142	1	1	1	1	1	

In order to determine which incidents contributed most to KPI underperformance, NI Water has examined the records of interruptions lasting longer than 6 hours, 12 hours and 24 hours and particularly, those interruptions where the numbers of affected properties exceeded the monthly target allowances or those months where the actual number of interruptions was exceptional.

The following table provides a summary of the 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					Cause	Target Allowance		
			> 0 Hrs	> 3 Hrs	> 6 Hrs	> 12 Hrs	> 24 Hrs		> 6 Hrs	> 12 Hrs	> 24 Hrs
9518	Jun 09	26	12	12	12	12	12	Disconnection of Old Main	473	71	5
10074	Aug 09	13.25	352	352	352	352	0	Burst Distribution Main	473	71	5
10452	Oct 09	39.25	45	44	36	29	29	Burst Distribution Main	473	71	5
10776	Nov 09	20.5	457	457	457	457	0	Burst Distribution Main	946	141	9
10915	Nov 06	33.5	234	227	28	20	10	Other	946	141	9
10990	Dec 09	126	87	87	86	48	41	Burst Distribution Main	946	141	9
11142	Dec 09	104.5	30	30	30	30	30	Low Reservoir Level	946	141	9
11144	Dec 09	36.5	50	50	50	50	20	Low Reservoir Level	946	141	9
11697	Dec 09	175	40	40	40	40	40	Low Reservoir Level	946	141	9
11698	Dec 09	47.5	18	18	18	18	18	Low Reservoir Level	946	141	9
11699	Dec 09	99.75	50	50	50	50	50	Low Reservoir Level	946	141	9
11700	Dec 09	60	180	180	180	180	180	Low Reservoir Level	946	141	9
11600	Jan 10	157.5	30	30	30	30	30	Low Reservoir Level	946	141	9
11604	Jan 10	12.5	1,587	1,587	1,587	1	0	Burst Trunk Main	946	141	9
11665	Jan 10	16	165	165	165	165	0	Low Reservoir Level	946	141	9
12128	Mar 10	15.5	150	150	150	150	0	Burst Trunk Main	946	141	9
12455	Mar 10	81	10	10	10	10	10	Power Failure	946	141	9
12209	Mar 10	39.25	15	15	15	15	15	Power Failure	946	141	9
12214	Mar 10	53.75	20	20	20	20	20	Power Failure	946	141	9
12467	Mar 10	37.5	21	21	21	21	21	Power Failure	946	141	9
12212	Mar 10	53.75	21	21	21	21	21	Power Failure	946	141	9
12460	Mar 10	91.25	25	25	25	25	25	Power Failure	946	141	9
12207	Mar 10	39.25	38	38	38	38	38	Power Failure	946	141	9
12468	Mar 10	54	59	59	59	59	59	Power Failure	946	141	9

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

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

KPI	2009/10 Target		Monthly Target Allowance			
			Apr to Oct		Nov to Mar	
	%	Properties	%	Properties	%	Properties
>6hrs	1.00	8,044	0.059	473	0.118	946
>12hrs	0.15	1,206	0.0088	71	0.018	141
>24hrs	0.01	80	0.00059	5	0.0012	9

There were 24 occurrences during the year where the number of properties affected by a single incident exceeded the entire monthly target allowance. On one occasion, both the >12hr and >24hr target allowances were exceeded. The property count for 1 incident (relating to the freeze/thaw) exceeded the >6hr monthly target allowance. The property counts for 5 incidents (2 relating to the freeze/thaw) exceeded the >12hr target allowance. And the property counts for 19 incidents (8 relating to the freeze/thaw and 8 relating to the power failures) exceeded the >24hr target allowance.

The following table provides a summary of the months throughout 2009/10 when the total of number of properties affected by unplanned interruptions, third party interruptions and overruns exceeded the monthly target allowance.

Month	Properties Affected by Unplanned & Third Party Interruptions & Overruns			Target Allowance		
	>6hrs	>12hrs	>24hrs	>6hrs	>12hrs	>24hrs
June	495 (426)		17	473	71	5
August	937 (695)	356		473	71	5
October			29	473	71	5
November		510	12	946	141	9
December	1,231 (1,091)	573 (471)	379	946	141	9
January	2,796	293	45	946	141	9
March		463 (313)	247	946	141	9

Note: Numbers of properties affected by unplanned interruptions are given in brackets if different from total.

There were 4 months in the year when the total number of properties affected exceeded the >6hr monthly target allowance, 5 months in the year when the total exceeded the >12hr monthly target allowance, and 6 months in the year when the total exceeded the 24hr monthly target allowance.

December/January: Official sources suggest this has been one of the coldest winters in approximately 50 years. Underperformance against all

three KPI targets in December and January can be largely attributed to the exceptionally high numbers of bursts, low reservoir levels and frozen communication pipes as a consequence of the freeze/thaw conditions experienced. The following table contains 2009/10 temperature and air frost data and average temperature and air frost data derived from the Met Office website. According to the provisional data for December to March there were 61 days of air frost compared to an average of 30.2 days. Maximum and minimum temperatures were generally several degrees lower than expected.

	Max Temp (°C)		Min Temp (°C)		Air Frost (Days)	
	Armagh	Average	Armagh	Average	Armagh	Average
Apr 09	13.5	12.2	5.4	4.0	0	3.3
May 09	15.4	15.2	7.0	6.3	0	0.5
Jun 09	19.7	17.7	9.3	9.1	0	0
Jul 09	19.5	19.6	12.0	11.4	0	0
Aug 09	18.9	19.2	12.0	11.0	0	0
Sep 09	17.4	16.6	9.8	9.0	0	0
Oct 09	14.7	13.0	8.5	6.7	0	0.9
Nov 09	10.5*	9.5	4.2*	3.5	5*	5.4
Dec 09	5.6*	7.6	-0.3*	2.4	15*	7.5
Jan 10	4.9*	7.0	-1.0*	1.7	17*	9.3
Feb 10	6.2*	7.6	-0.9*	1.7	17*	8.3
Mar 10	10.5*	9.7	0.9*	2.9	12*	5.1

*Provisional

August/October/November: High rainfall and subsequent ground movement may have contributed to underperformance against the >6hr and >12hr targets in August and the >12hr target in November. The following table contains 2009/10 rainfall data and average rainfall data derived from the Met Office website. According to the data, November was the wettest month with 2.4 times the average rainfall and August was the second wettest month with 1.7 times the average rainfall.

	Rainfall (mm)	
	Armagh	Average
Apr 09	90.9	55.4
May 09	77.7	54.4
Jun 09	56.6	55.7
Jul 09	97.6	52.3
Aug 09	124.7	71.9
Sep 09	23.6	67.1
Oct 09	84.6	81.1
Nov 09	171.8*	72.1
Dec 09	47.6*	83.4
Jan 10	44.0*	79.8
Feb 10	42.2*	57.5
Mar 10	83.7*	64.9

*Provisional

March: Underperformance against the >12hr and >24hr targets in March can be attributed to the heavy snowfall at the end of the month and resultant power failures.

Impact of Freeze/Thaw on Numbers of Unplanned Interruptions Caused by Burst Mains

The freeze/thaw is considered to have taken place between 24 December to 21 January. The following table provides details of the numbers of unplanned interruptions caused by burst mains and the numbers of properties affected by these incidents during the freeze/thaw.

	>0hrs	>3hrs	>6hrs	>12hrs
Incidents	489	148	18	7
Properties	24,179	8,943	2,290	101

Interruptions to Supply Caused by Frozen Service Pipes due to Severe Weather in 2009-10

A service pipe may be frozen in one of three ways:

1. Communication pipe frozen – NI Water responsible
2. Supply pipe frozen – Customer responsible
3. Communication pipe and supply pipe frozen – NI Water responsible

During the freeze/thaw, a limited number of investigations were conducted in order to establish the extent of frozen pipe problems at certain properties. The results of these investigations remain the only firm evidence in support of the extent to which the company or the customer was responsible.

If the results are viewed as a sample representing all frozen pipe problems, then knowing the total number of problems, the numbers of company and customer related problems can be estimated.

In the absence of a more complete set of records, NI Water has taken the decision to estimate numbers by following the process described and to review the way it establishes and records the extent of frozen pipes for future reporting.

The sample consists of **66** random investigations into the extent of frozen pipe problems. *Details of the excavations (including addresses and findings) are listed in the LoS Methodology.*

According to the results of the excavations,

- 28 excavations found that the communication pipe was frozen (42%). Note that in most cases the supply pipe was also frozen.
- 38 excavations found that the supply pipe was frozen (58%).

The total number of problems relating to frozen pipes was determined as follows:

1. 55,280 calls were logged at the Customer Response Centre between 21 December and 21 January. These calls were transposed by CRC staff into the Ellipse system. As a result, 13,397 “No Water” complaints were input into the Ellipse system for action. It is noted that duplicate calls made by customers were linked to the original calls and that CRC were still receiving “non-incident” calls e.g. meter consumption and account queries, septic tank emptying requests, blocked sewer reports, etc.
2. A report was derived from Ellipse listing the 13,397 Work Requests created during the reporting period (24-12-2009 to 21-01-2010) with a Request Type of “NO - No Water”.
3. Records were sorted according to Date and Address fields and filtered to remove duplicate records. The number of records remaining after this process was **5,316**.
4. Records were removed if they related to areas that experienced operational difficulties such as bursts, empty reservoirs and non-functioning pumping equipment. These records were identified as a result of Field Manager reviews and OMIS and Upward report comparisons. The number of records remaining after this process was **3,724**. This represents the estimated number of no water complaints received by the Company as a result of frozen pipes.

By applying the earlier percentages, the Company has estimated the numbers of frozen communication pipes and frozen supply pipes.

$(3,724 / 100) \times 42 = \mathbf{1,564}$ communication pipes frozen (NIW responsibility)

$(3,724 / 100) \times 58 = \mathbf{2,160}$ supply pipes frozen (customer responsibility)

Assumption: It is not known how long interruptions lasted relating to frozen pipes. The company has therefore assumed that in each instance, the interruption would have lasted for more than 24 hours.

The numbers of properties affected by interruptions lasting longer than 3, 6 12 and 24 hours (Lines 5-8) have been increased by 1,564.

Please see the Confidence Grading section of the Commentary for a breakdown of numbers by DG3 time band, including numbers for incidents not caused/caused by frozen service pipes and a total column reconciling to the figures reported in Table 2.

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

In the past, the tendency has been for NI Water to assign the same confidence grade to Lines 5 to 19 of Table 2. This is because the same processes and procedures are used to capture and report the data throughout. The exception came in 2009 when the Company believed it may be more appropriate to distinguish between the accuracy of the higher numbers it reports (>3hr & >6hr time bands) and the lower numbers it reports (>12hr & >24hr time bands) by assigning accuracy bands of “3” and “4” respectively. The Reporter’s recommendation to use consistent accuracy bands was later noted and it was the Company’s intention in AIR10, to assign a confidence grade of “B3” to all of the DG3 lines, provided there had been no significant changes to its processes and procedures.

This year, the task of calculating final figures for the Return has been complicated by the requirement to include the numbers of properties affected by frozen supply/communication pipes. As such, the Company feels it should employ a more quality-assured approach in the methodology used to assign its confidence grades, particularly as sampling techniques have been used.

Reliability Band – Excluding Frozen Supply/Communication Pipes

With the exception of numbers relating to frozen supply/communication pipes, NI Water believes the reliability of its data to be “B”. This is justified as follows:

- There is no reliance on unconfirmed verbal reports, cursory inspections or analysis. Every record in the DG3 Register represents an interruption to supply where the cause has been investigated, identified and recorded by experienced field staff or contractors.
- There is no reliance on extrapolation from a limited sample for which Grade A or B data is available. Every figure reported in Table 2 is derived, in its entirety, from the records in the DG3 Register. Every interruption record includes the category, times and property counts necessary to meet the regulatory reporting requirements of a DG3 Register.
- Although the Company considers its records, procedures, investigations and analysis to be properly documented, its assessment cannot be recognised as the best method. The systems used for capturing DG3 data are independent from other sources of supply interruption data within NI Water such as Rapid Xtra, Ellipse and the GIS. Although these systems are currently used to improve the reliability of the data already captured, the tendency has been to focus on interruptions lasting longer than 6 hours.

As reliability bands “D”, “C” and “A” are inappropriate on the basis of the descriptions, NI Water believes a reliability band of “B” to be most representative of its data. There are minor shortcomings. There may be some missing documentation in the form of missing address details. Some short duration interruptions may not have been captured.

Accuracy Band – Excluding Frozen Supply/Communication Pipes

With the exception of numbers relating to frozen supply/communication pipes, NI Water believes the accuracy of its data to be “3”. This is justified as follows:

An accuracy band of “3” represents an accuracy outside +/- 5% but within +/- 10%. The numbers of properties affected in 2009/10 and the numbers of incidents from which they were derived are listed in the following table, together with numbers reflecting the accuracy limits.

		Properties	Outside +/-5%	Within +/-10%	Incidents	Outside +/-5%	Within +/-10%
	Unplanned						
Line 5	>3hrs	46,406	2,320	4,641	844	42	84
Line 6	>6hrs	7,863	393	786	139	7	14
Line 7	>12hrs	2,111	106	211	53	3	5
Line 8	>24hrs	730	37	73	21	1	2
	Planned & Warned						
Line 9	>3hrs	43,341	2,167	4,334	803	40	80
Line 10	>6hrs	22,460	1,123	2,246	465	23	47
Line 11	>12hrs	135	7	14	1	0	0
Line 12	>24hrs	0	0	0	0	0	0
	Third Party						
Line 13	>3hrs	2,737	137	274	26	1	3
Line 14	>6hrs	499	25	50	7	0	1
Line 15	>12hrs	154	8	15	2	0	0
Line 16	>24hrs	0	0	0	0	0	0
	Overrun of Planned						
Line 17	>6hrs	452	23	45	13	1	1
Line 18	>12hrs	118	6	12	5	0	1
Line 19	>24hrs	1	0	0	1	0	0

Whilst there is a possibility that some interruptions may have been overlooked when compiling the DG3 Register, NI Water does not believe their exclusion would account for more than 10% of either the total numbers of reported properties or the total number of incidents. The Company has made every attempt to ensure that all major interruptions are accounted for and in its efforts, has compared its Upward Reports for the year to ensure the inclusion of records representing all 44 major supply disruptions.

There is also a possibility that the start and end times of some interruptions may be inaccurate and this may have resulted in property counts being assigned to the wrong time bands. Again, NI Water does not believe that these inaccuracies would exceed 10%. Throughout 2009/10, the Company has improved the accuracy of its time band assignments for unplanned and third party interruptions lasting longer than 6 hours by comparing the start and end times recorded in the DG3 Register with the times at which the earliest and latest “no water” complaints were received from customers, amending the times where appropriate. By focusing on interruptions where the numbers of affected properties are fewer and any inaccuracies are likely to represent a larger proportion of the overall figures, the Company is confident of its selected grading.

In addition to the consistency checks described, the Company also carries out a series of “sense” checks on the data in the DG3 Register to ensure that:

- Customers experiencing planned and warned interruptions are provided with adequate advanced notification;
- Planned interruptions do not start before the planned start time;
- Planned interruptions ending after the planned end time are correctly classed as overruns;
- Property counts are provided for all relevant time bands;
- Interruptions caused by companies working for, or on behalf of, NI Water are classed as “unplanned”;
- Interruptions caused by electricity supply failures are classed as “unplanned”;
- No records have been lost during the transfer of data between spreadsheets; and
- All calculations involving the summation of property counts are correct.

The information associated with unplanned interruptions, third party interruptions and overruns lasting more than 6 hours is less likely to be inaccurate because of the interest these interruptions generate within Operations and of their impact on KPI performance. It is unlikely that any incident affecting a significant number of properties or involving a longer than average restoration time would have been omitted from the DG3 Register in error or that the property counts and timings would have been reported inaccurately.

Impact of Frozen Supply/Communication Pipe Interruptions on Confidence Grading

NI Water acknowledges that the methodology employed for estimating the numbers of properties affected by frozen supply/communication pipes is less reliable than the established methodology. As the methodology involves reliance on extrapolation from a limited sample for which Grade A or B data is available, the Company believes that a reliance band of “C” would be more appropriate for its numbers relating to frozen supply/communication pipes.

In order to determine whether or not the inclusion of these numbers would impact on the overall reliability of its Table 2 figures, the Company has studied the proportions of less reliable data.

DG3 Unplanned Category	Underlying data assessed using standard methodology	Estimated DG3 figure for incident based on less robust methodology – all categorised as >24hr	Total	% of Total represented by lower quality data
>3hrs	46,406	1,564	47,970	3%
>6hrs	7,863	1,564	9,427	17%
>12hrs	2,111	1,564	3,675	43%
>24hrs	730	1,564	2,294	68%

The above table shows that impact is greatest on the >24hr figure where the less robust data accounts for a greater percentage (68%) of the overall figure. The impact is less significant on the other time bands where robust data accounts for the greater percentage of the overall figures. Based on this analysis, the Company has decided to demote the overall reliability band of its >24hr figure from “B” to “C”.

The percentages in the above table do not reflect the inaccuracy of the overall figures as it is only the inaccuracy of the estimate that will have an impact. The Company has decided to demote the overall accuracy of its >24hr figure from “3” to “4”.

Action Plan for Improvement

As NI Water is unable to report confidence grades of A2, A3, B2 or better for its DG3 data, the Company intends to carry out the following actions:

- The Company will analyse interruptions with a view to identifying:
 1. Why the circumstances resulted in an interruption,
 2. What weaknesses were exposed, and
 3. Whether or not anything could be done in future to minimise the impact if a similar situation arose.
- The Company will improve the link between the DG3 Register and investment/operational practices
- The Company will identify the DG3 information requirements of its Asset Management directorate to enable the delivery of cost effective solutions
- The Company will review the way it establishes and records the extent of frozen supply/communication pipe interruptions for future reporting

- The Company will continue to pursue a long-term DG3 reporting solution within its data warehouse “DIAMOND”. The DG3 Register should be compiled with data from Rapid Xtra, Ellipse and the GIS. A linkage to these systems would provide automatic confirmation of property counts, start times, end times and other details that may help to ensure incident and address completeness/consistency.
- Customer Field Managers will check the records of all interruptions lasting longer than 24 hours to ensure that the alternate supplies field has been completed.
- The Company will reduce the time it takes to amend the data following “No Water” complaint and Upward Report comparisons by limiting the number of persons in the process chain. By involving Customer Field Managers in amendment decisions, it is hoped to further improve the accuracy of any amendments.
- The formal Head of Function monthly signing off procedure, introduced in April 09, is to be expanded to include Level 4 signoff.

Reporter’s Recommendations on AIR09 – Progress Update

Recommendation	Document Reference	Recommendation Detail
19	Table 2 – Pg 9 para 4	NI Water to continue DG3 start time consistency checks for unplanned interruptions and amend OMIS if required

In 2009/10, NI Water introduced an additional audit measure whereby the details of DG3 interruption records for unplanned and third party interruptions lasting longer than 6 hours were compared with records of “No Water” complaints from customers. The no water complaints were derived from Rapid Xtra via CorVu Reports or manual interrogation of the system.

Recommendation	Document Reference	Recommendation Detail
20	Table 2 – Pg 10 para 2	Company to maintain and improve the recording of “split interruptions”

Throughout 2009/10, NI Water has improved the reporting process in general by carrying out DG3/Upward Report comparisons for all Upward Reports relating to supply interruptions (44 in total) and DG3/“No Water” complaint comparisons for all unplanned and third party interruptions lasting more than 6hrs. This has allowed the Company to identify complaint calls within the 6, 12 and 24hr time bands, where relevant. Although the emphasis has been on amending the Start and End Times to suit the “No Water” complaints i.e. the two extremes, there have been instances where an interruption has had to be reported under a higher time band than originally anticipated and where the

comparisons have been used to determine the smaller number of properties in the higher time band. Telemetry data has also played a role.

Recommendation	Document Reference	Recommendation Detail
21	Table 2 – Pg 15	Confidence Grade for all Table 2 DG3 lines should be consistent

In 2009, NI Water was undecided about the most appropriate confidence grade to assign to its property counts for interruptions lasting longer than 12 hours. One argument was that the percentage error was likely to be higher for these property counts because the interruptions were more likely to involve small numbers of properties. Another argument was that the likelihood of error would be reduced because of the greater attention given to accuracy and the higher profile of such interruptions.

After much consideration, NI Water opted for a lower confidence grading. However, this conflicted with the Reporter's recommendation for consistent grading throughout Table 2. In 2010, the Company has adopted a more quality-assured approach in the methodology used to assign its confidence grades, particularly as sampling techniques have been used to estimate numbers of properties affected by frozen supply/communication pipe interruptions.

Recommendation	Document Reference	Recommendation Detail
6	BOV – Pg 6 para 4.2	Further work is required to ensure DG3 systems are embedded, reporting is consistent and robust audit trails are maintained

See progress update for Recommendations 20 and 21

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 2009. Information was extracted from monthly bulletins published in the Research section of the NI Tourist Board website³.

MONTH	HOTEL BED-SPACES SOLD	GUESTHOUSE & B&B BED-SPACES SOLD	TOTAL BED-SPACES SOLD	PERCENTAGE
Jan-09	142,700	22,200	164,900	5.42%
Feb-09	178,700	27,900	206,600	6.79%
Mar-09	184,000	31,900	215,900	7.10%
Apr-09	206,000	40,100	246,100	8.09%
May-09	226,400	59,000	285,400	9.38%
Jun-09	228,100	52,973	281,073	9.24%
Jul-09	263,200	74,500	337,700	11.10%
Aug-09	292,300	84,500	376,800	12.39%
Sep-09	201,200	58,100	259,300	8.53%
Oct-09	234,000	43,600	277,600	9.13%
Nov-09	176,000	21,600	197,600	6.50%
Dec-09	168,800	23,700	192,500	6.33%
Total	2,501,400	540,073	3,041,473	100%

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.

$$5.42\% + 6.79\% + 7.10\% + 8.09\% + 6.50\% + 6.33\% = 40.23\%$$

- According to the "GB and Overseas Visitors to Northern Ireland Summary for January - August 2009" (NITB website), the number of non-resident visitor nights for Northern Ireland was 4,892,000.

- The percentage bed-spaces sold (Jan-Aug 09) was calculated as follows:

$$5.42 + 6.79 + 7.10 + 8.09 + 9.38 + 9.24 + 11.10 + 12.39 = 69.52\%$$

- The number of non-resident visitor nights for Northern Ireland (Jan-Dec 09) was estimated as follows:

$$(4,892,000 / 69.52) \times 100 = 7,036,824$$

³ www.nitb.com

- By calculation, the estimated number of non-resident winter visitor nights
= $(7,036,824 / 100) \times 40.23 = 2,830,914$
- By calculation, the estimated average number of non-resident winter visitors per night = $2,830,914 / (31 + 28 + 31 + 30 + 30 + 31) = 15,640$
- According to AIR10: Table 7: Line 17, the baseline resident population is **$1,790.16 \times 10^3$** .
- By calculation, the Population (winter) = $1,790,160 + 15,640 = 1,805,800$.

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

AIR08	AIR09	AIR10
$1,771.11 \times 10^3$	$1,800.32 \times 10^3$	$1,805.80 \times 10^3$

The Winter Population figure has increased from $1,800.32 \times 10^3$ in AIR09 to $1,805.79 \times 10^3$ in AIR10, an increase of 5.48×10^3 (0.3%). This slight increase can be attributed to changes in the component figures that make up this figure. The baseline resident population has increased from $1,775.11 \times 10^3$ to $1,790.16 \times 10^3$, an increase of 15,050. However, the estimated average number of non-resident winter visitors per night has decreased from 25,195 to 15,640, a decrease of 9,555.

The “Northern Ireland Visitor Performance Year End Estimates 2009” states that 2009 brought one of the toughest years for tourism worldwide and despite the weakness of sterling against other currencies, visits from other Eurozone countries and North America did not increase. Overall, the business tourism sector saw significant declines, and the Visiting Friends and Relatives sector also struggled in the uncertain economic climate.

Changes in Methodology

In previous years, this calculation was based on an estimated annual number of non-resident visitor nights for Northern Ireland, published in NI Tourist Board’s “Preliminary Visitor Tourism Forecast”. According to the publication, the estimate was based on January to August data from both the Northern Ireland Passenger Survey (NITB) and the Survey of Overseas Travellers (Fáilte Ireland).

This year, NI Tourist Board has published the actual number of non-resident visitor nights (Jan-Aug 09) in their “GB and Overseas Visitors to Northern Ireland Summary”. The annual number was estimated by NI Water on the basis that the percentage bed-spaces sold for hotel, guesthouse and bed and breakfast establishments (Jan-Aug 09) was 69.52%.

Confidence Grade

The annual average non-resident population is an estimate based on several sources of information:

1. The GB and Overseas Visitors to Northern Ireland Summary provides the actual number of non-resident visitor nights for Northern Ireland but only for Jan-Aug 09. The number is based on surveys conducted by both NITB and Fáilte Ireland. An annual equivalent is only obtainable through extrapolation.
2. The Hotel and Guesthouse/B&B Occupancy Reports provide the numbers of bed-spaces sold. However, the numbers are based on the extrapolation of data for a representative sample of establishments.

NI Water has assigned a confidence grade of **C2** to account for known deficiencies in the reliability and accuracy of the reported figure.

The “2” has been assigned because even if all visits occurred in the winter, the difference in the calculated winter population would only be 23,237 properties (+1.29%). *(See calculation below.)*

$$\begin{aligned}
 &7,036,824 / (31 + 28 + 31 + 30 + 30 + 31) = 38,877 \\
 &1,790,150 + 38,877 = 1,829,027 \\
 &1,829,027 - 1,805,790 = 23,237 \\
 &(23,237 / 1,805,790) \times 100 = 1.29\%
 \end{aligned}$$

Lines 21-23 - DG4 RESTRICTIONS ON USE OF WATER

Drought orders are not applicable in N.I.

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.

Table 3

NORTHERN IRELAND WATER LIMITED -ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1		2		3		4		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	
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	603.4	C3
(i) OVERLOADED SEWERS											
2	Properties flooded in the year (overloaded sewers)	nr	0	N/C		195	D6	3	B4	6	B4
3	Flooding incidents in the year (overloaded sewers)	nr	0	N/C		212	D6	3	B4	6	B4
4	Flooding incidents (overloaded sewers attributed to severe weather)	nr	0	N/C		126	D6	0	B4	0	B4
5	Props. where flooding limited to uninhabited cellars only (o/loaded sewers)	nr	0	N/C		0	D6	0	DX	0	D6
(ii) OTHER CAUSES											
6	Properties flooded in the year (other causes)	nr	0	N/C		366	D6	23	B4	5	B4
7	Properties which have flooded more than once in the last ten years (other causes)	nr	0	N/C		108	D6	3	CX	1	CX
8	Flooding incidents (other causes - equipment failures)	nr	0	N/C		19	D6	4	B4	0	B4
9	Flooding incidents (other causes - blockages)	nr	0	N/C		324	D6	16	B4	3	B4
10	Flooding incidents (other causes - collapses)	nr	0	N/C		34	D6	3	B4	2	B4
11	Props. where flooding limited to uninhabited cellars only (other causes)	nr	0	N/C		0	D6	0	DX	0	D6
B DG5 PROPERTIES ON THE AT RISK REGISTER											
(i) SUMMARY											
12	2 in 10 register at end of year	nr	0	N/C		80	DX	80	DX	1	DX
13	1 in 10 register at end of year	nr	0	N/C		0	DX	745	D6	704	D6
14	Total 1 in 10 and 2 in 10 properties on the register at end of year	nr	0	N/C		80	DX	825	DX	705	DX
15	1 in 20 register at end of year	nr	0	N/C		0		0	DX	0	DX
15A	Potential risk of property flooding identified requiring further investigation to assess at risk category.	nr	0							6	B2
16	Props. on the register which have not flooded in the past 10 yrs (excl. severe weather)	nr	0	N/C		N/C		N/C		N/C	
17	Properties which have not flooded internally but suffer restricted toilet use (RTU)	nr	0	N/C		N/C		N/C		350	C4
(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								
19	Non cost beneficial problems where risk is reduced by temporary measures (mitigation)	nr	0								
20	Cost beneficial problems without mitigation awaiting solution and those which have not been appraised	nr	0								
21	Non cost beneficial problems without mitigation	nr	0								
(iii) ANNUAL CHANGES TO 2 IN 10 & 1 IN 10 REGISTERS											
22	Removed by company action	nr	0	N/C		N/C		N/C		185	A1
23	Removed because of better information	nr	0	N/C		N/C		N/C		N/C	
24	Added because of better information	nr	0	N/C		N/C		N/C		71	B2
25	Added because of increased demand	nr	0	N/C		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								
27	Non cost beneficial problems where risk is reduced by temporary measures (mitigation) (1 in 20)	nr	0								
28	Cost beneficial problems without mitigation awaiting solution and those which have not been appraised (1 in 20)	nr	0								
29	Non cost beneficial problems without mitigation (1 in 20)	nr	0								
(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		N/C	
31	Removed because of better information (1 in 20)	nr	0	N/C		N/C		N/C		N/C	
32	Added because of better information (1 in 20)	nr	0	N/C		N/C		N/C		N/C	
33	Added because of increased demand (1 in 20)	nr	0	N/C		N/C		N/C		N/C	

Table 3 - Key Outputs – Sewerage Service – Internal Flooding

Line 1 – Number of domestic properties connected to sewerage system

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

We would expect the confidence grade for this table (C3) to improve throughout the year as the benefits of the data quality programme are realised.

Calculation Process

Data gathering and calculation is as described below in the Line- Specific Methodology Statements for Table 3: Lines 2 to 11.

Lines 2 to 11 – Annual Flooding Summary

Sources/Process

A download of internal sewer flooding records was obtained from the Ellipse system for the period April 08 to March 09 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 AIR10, 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 tend to be received within three days of an incident occurring. There is then a much longer passing of time before calls are again received from the same locality, suggesting that the original incident has passed and that the calls relate to a different incident.

Lines 2, 3, 6, 8, 9 and 10 - Properties and flooding incidents

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 – Flooding Incidents

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 – Flooding to uninhabited cellars

As stated in last year’s methodology from JR08 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.

The Flooding Incident Report Form has now been amended to capture the required detail for flooding of cellars and NIW should be in a position to report on these lines for AIR11.

Line 7 – Properties flooded more than once in the last 10 years

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

As stated NIW's Flooding register is still at the development stage with only partial reporting capability. It is our aim to move towards full flooding reporting capability. Therefore as recommended by the Regulator, properties flooded (Other Causes) for AIR10 have been added to Line 15a 'requiring further investigation line'. These will be investigated as part of the remit of the newly created a DG5 expert panel comprised of key personnel.

Initially, the role of the DG5 panel is to provide a forum in which all areas of the business can feed into the flooding register development exercise for both internal and external flooding. However, as the Flooding Register and supporting business processes develop, the focus of this panel will shift to agreeing additions to and removals from the DG5 register, while ensuring the business process is maintained at all levels.

NIW are currently agreeing a programme for the development of the Flooding register along with methodologies, processes, definitions and roles and responsibilities. NIW will work towards full reporting capability for both internal and external flooding incidents before the end of the PC10 period.

Work has progressed during the year to identify critical and lateral sewers these layers have been recently added to NIW's Corporate Asset Register. Because of this work NIW should be in a better position for AIR11 to report on whether collapses or blockages have occurred in a private lateral, public lateral or public main sewer.

Call centre scripting has been revised twice in the last 18 months regarding internal and external flooding reported by the public. The totals have been recorded and there appears to be a slight reduction in reporting of internal flooding.

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 B4, because the numbers reported in these lines are so small a change of only one property would exceed the accuracy implied by a higher CG. The confidence grade for line 7 because of use of historical data is CX as recommended by the Reporter and for lines 5 and 11 is, as last year, D6. The reason for this is given in the Line Specific Methodology. It had been proposed to enhance the confidence grade further for AIR10 by using Insurance Claim data but this information was not readily available. NIW now intend to, for each confirmed internal flooding, investigate adjacent properties. In addition the Flooding Incident Report Form has now been amended to capture the required detail for flooding of cellars and NIW should be in a position to report on these lines for AIR11.

Lines 12 – 17- DG5 Properties on the at risk register

Calculation Process

Data gathering and calculation is as described below in the Line Specific Methodology Statements for Table 3: Lines 12 to 15a.

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 2009/2010

A download of internal sewer flooding records was obtained from the Ellipse system for the period April 09 to March 10 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 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 a 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; and
- 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:

1. A visual check was made against each incident reading all data held on all sources for each incident at each address.
2. 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.
3. Where a mention was made of blockage or equipment failure etc. then this incident was excluded.
4. 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:

1. The number of records assigned to the Internal 2 in 10 "At Risk" Register was counted to give the figure for Line 12.
2. The number of records assigned to the Internal 1 in 10 "At Risk" Register was counted to give the figure for Line 13.
3. 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.
4. The number of records assigned to the Internal 1 in 20 "At Risk" Register was counted to give the figure for Line 15.

Confidence Grading for DG5

Although a 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. Grades remain the same as last year.

Of the 742 properties taken from 2000+ historical records defaulting to the 1:10 register it was 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 substantially complete and NIW were able to remove 110 properties from the 1 in 10 register.

Line 22 – Removed by Company action

The 'At Risk' Register at April 09 – which the company acknowledges was not yet robust - included many flooding locations which had *already* been addressed by company action.

106 properties at such locations were identified and removed. This may be viewed as one element in the process of enhancing the Register, in line with the Reporter's recommendations.

Line 24 – Added because of better information

A procedure was set up to enable NIW staff to report known flooded properties via a Flooding Incident Report form because of the known weakness of gathering historical information and the fact that known flooded properties have been missed, purely because the incident was never reported to NIW. These properties were added to the appropriate 'At Risk' register.

Lines 23, 25, 30 to 33

The data to populate these lines is not gathered by NIW at present as the Internal Flooding register is still under development as stated in Line Specific Methodology Statement.

Table 3a

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1 BASE YEAR SBP		2 REPORTING YEAR		3 REPORTING YEAR		4 REPORTING YEAR	
			2006-07	CG	2007-08	CG	2008-09	CG	2009-10	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	1196	D6
2	Curtilege flooding incidents in the year (overloaded sewers)	nr	0	N/C	733	D6	1619	D6	1160	D6
3	Highway flooding incidents (overloaded sewers)	nr	0	N/C	194	D6	357	D6	299	D6
4	Other flooding incidents (overloaded sewers)	nr	0	N/C	120	D6	244	D6	144	D6
5	Total flooding incidents (overloaded sewers)	nr	0	N/C	1047	D7	2220	D6	1603	D6
6	External flooding incidents (overloaded sewers attributed to severe weather)	nr	0	N/C	458	D6	1062	D6	575	D6
(ii) OTHER CAUSES										
7	Areas flooded externally in the year (other causes)	nr	0	N/C	4283	D6	7968	D6	6872	D6
8	Areas which have flooded more than once in the last 10 years (other causes)	nr	0	N/C	1723	D6	3828	D6	5861	D6
9	Flooding incidents (other causes - equipment failure)	nr	0	N/C	173	D6	438	D6	318	D6
10	Flooding incidents (other causes - blockages)	nr	0	N/C	4300	D6	9217	D6	7323	D6
11	Flooding incidents (other causes - collapses)	nr	0	N/C	210	D6	528	D6	401	D6
B AREAS ON THE 1:10, 2:10, 1:20 AT RISK REGISTER										
(i) SUMMARY										
12	2 in 10 register at end of year	nr	0	N/C	7	DX	7	DX	7	DX
13	1 in 10 register at end of year	nr	0	N/C	1	DX	1	DX	1	DX
14	1 in 20 register at end of year	nr	0	N/C	0	DX	0	DX	0	DX
15	Total on the 1:10, 2:10, 1:20 register at end of year	nr	0	N/C	8	DX	8	DX	8	DX
15A	Potential risk of property flooding identified requiring further investigation to assess at risk category.								40863	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							
17	Non cost beneficial problems where risk is reduced by temporary measures (mitigation)	nr	0							
18	Cost beneficial problems awaiting solution and problems which have not been appraised	nr	0							
19	Non cost beneficial problems which have not been solved by mitigation	nr	0							
(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		N/C	
21	Removed by company action (external linked)	nr	0	N/C	N/C		N/C		N/C	
22	Removed because of better information	nr	0	N/C	N/C		N/C		N/C	
23	Added because of better information	nr	0	N/C	N/C		N/C		N/C	
24	Added because of increased demand	nr	0	N/C	N/C		N/C		N/C	
25	Removed from external to internal register	nr	0	N/C	N/C		N/C		N/C	

Table 3a, Key Outputs – Sewerage Service – External Flooding**Lines 1-11 – Annual flooding summary****Calculation Process**

Data gathering and calculation is as described below in the Line- Specific Methodology Statements for Table 3: Lines 1 to 11. See also DG5 Methodology Flowcharts.

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

1. A download of external sewer flooding records was obtained from the Ellipse system for the period April 09 to March 10.
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; and
 - 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 AIR10, 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 Methodology 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 AIR10, 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 Methodology 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 AIR10, 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 monthly rainfall for Armagh and Ballypatrick (April 09 – March 10) was obtained from the Met Office site.
2. The average monthly rainfall for Armagh and Ballypatrick combined (April 09 – March 10) was derived from the monthly rainfall for the two sites.
3. The average monthly rainfall for Carmoney, Aldergrove and Armagh was obtained from the Met Office site.
4. The average monthly rainfall for Carmoney, Aldergrove and Armagh combined was derived from the average monthly rainfall for the three sites.
5. The results of Step 4 were subtracted from the results of Step 2 in order to calculate the difference between the two sets of results. A +ve difference signified an “above average” rainfall. A –ve difference signified a “below average” rainfall.
6. The results of Steps 4 and 5 were expressed as fractions of the total rainfall in 2009/10.
7. The fractions calculated in Step 6 were applied to the estimated number of incidents due to overloaded sewers in 2009/10 (1,603) in order to calculate the estimated numbers of incidents attributed each month to the average rainfall and the above/below average rainfall.
8. The monthly numbers of incidents attributed to above average rainfall were summated to give the total number of incidents in 2009/10 (556). This figure is used as the estimated number of external flooding incidents in 2009/10 due to overloaded sewers attributed to severe weather.

Line 8 Methodology

Sources

1. A download of external sewer flooding records was obtained from the Ellipse system for the period April 09 to March 10
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 2010.

NOTE: At this stage of the process, it was necessary to go through the same process of elimination as described in the Line-Specific Methodology Statement 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.

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; and
 - 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 AIR10, 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 Methodology 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 AIR10, 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 AIR 09. 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.

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 JR09 average for England and Wales.

Future Reporting Line 15a

There are currently approximately 40863 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 March 2011.

Lines 12 – 15 - Areas on the 1:10, 2:10, 1:20 at risk register

Calculation Process

Data gathering and calculation is as described below in the Line- Specific Methodology Statements for Table 3a: Lines 12 to 15.

Lines 12 - 15 Methodology

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 2010 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; and

- 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 09. 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 AIR09.

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 - Areas on the 1:10, 2:10, 1:20 at risk register Calculation Process

The data to populate lines 16 to 33 is not gathered by NIW at present as the External Flooding register is still under development as stated in Line-Specific Methodology Statement.

Going Forward to Implement Reporter’s Recommendations

Work will commence during the AIR11 reporting period to gather the required information to more accurately complete the lines in Table 3a. Meetings have been held with the Flooding Contractor on the supply of information that will fulfil our commitment. Together with this and a more dedicated DG5 role being set up (April 10) within the Wastewater Business Unit and a more active involvement by Asset management good progress should be made.

Table 4

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1		2		3		4		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	
A DG6 RESPONSE TO BILLING CONTACTS - GENERAL											
1	Total billing contacts	nr	0	36208	C2	53137	B2	81370	B3	99126	B3
2	Number dealt with within 5 working days	nr	0	26478	C2	50464	B2	80262	B3	97271	B3
3	Number dealt with in more than 10 working days	nr	0	6676	C2	1497	B2	12	B3	59	B3
4	DG6 Percentage dealt with within 5 working days	%	1	73.1%	C2	95.0	B2	98.6	B3	98.1	B3
5	Percentage dealt with in more than 10 working days	%	1	18.4%	C2	2.8	B2	0.0	B3	0.1	B3
B CONNECTED PROPERTIES											
6	Number of properties connected for water supply only	nr	0	90810	B3	135779	B3	141751	A2	144655	A2
7	Number of properties connected for water and sewerage services	nr	0	705167	B3	664282	B3	662629	A2	654085	A2
8	Number of properties connected for sewerage services only	nr	0	128	B3	197	B3	38	A2	35	A2

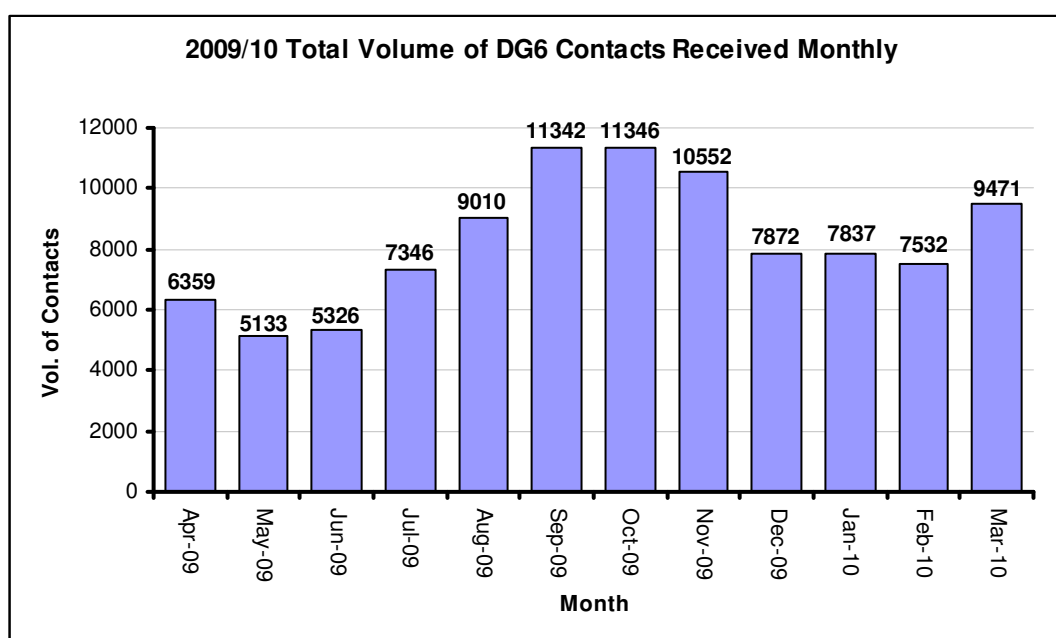
Table 4 – Key Outputs – Customer Service 1**Lines 1- 5 - DG6 – Response to Billing Contacts**

This was the third year of non domestic billing by Northern Ireland Water (NIW). Following decision of the Executive, domestic charges continued to be deferred for 2009/10 charging year.

Two significant changes were made to billing from April 2009:

- Introduction of domestic sewerage allowance for all those accounts which already had a domestic rateable allowance for water; and
- Non domestic sewerage charges went to 100% of charge.

The chart below shows the monthly profile of DG6 contacts received during 2009/10.



The profile of billing contacts was low in the first quarter due to a delay in measured billings from April 2010. This was because of required system changes to accommodate the new sewerage domestic allowance and contractual issues with our outsource partner which prevented this work being completed in time for start of new financial year. Billing resumed in July 2010 and contacts increased August, September and October as six months billings had to be completed in three. The increase in contacts recorded in March 2010 is a combination of factors. The major freeze/thaw incident during January had a significant impact on our DG8 performance; meter readers were unable to locate or read meters due to the winter conditions and many were diverted to support the incident response teams. This in turn impacted on the number of DG6 contacts as more customers raised queries regarding their bill as it was based on a system generated estimate read. Additionally the release of 540 backdated bills in March 2010 due to the re-classification

of test meters project has increased the number of charge enquiry contacts for March 2010.

The source data for DG6 Table 4 (lines 1 to 5) is reported using the submitted methodology stated for DG6. The difference of 1855 between received and closed contacts (which is a 1.87% variance) is attributable to DG6 open contacts spanning year end.

In response to the AIR09 reporter's feedback, 2009/10 monthly reports for DG6 (received and closed) are run by Echo and independently validated by the NIW contract office on a monthly basis. At the beginning of each month the DG6 reports are run for both the current and previous months to accurately update closed figures on a retrospective basis and support the annual reconciliation. Variances are queried with Echo and resolved as they arise.

NIW does not issue payment cards to non domestic customers.

Responses

For DG6 reporting purposes the date of resolution of the item or date of the substantive response/holding response is used as the closure date. If a customer has a billing related query which leads to a recalculated bill, the date of the telephone call explaining the reason for the bill is used as date and timestamp of the response. The recalculation is generated overnight; the file transferred and the recalculated bill is printed. In line with Reporter recommendations, NIW can confirm that mail received after 2pm is logged on the same working day and that telephone contacts requesting a copy bill are actioned within 5 days.

Holding replies

Holding replies are used when ongoing investigations or results of future activity delay resolution of a billing contact. For instance, a high consumption query may require a field visit prior to resolution. In this instance the Customer Relations Centre does not currently report the actual number of holding letters sent and the length of time a contact remains open. NI Water now receives the following requested additional information for DG6 2010 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; and
- Ageing profile of all outstanding DG6 contacts.

A request is still outstanding for the following holding letter information:

- Total number of DG6 holding letters issued per month; and
- Total number of DG6 contacts closed to a holding letter.

In light of the Reporter's recommendations to review the use of multiple holding letters, a DG6 project is underway to both improve the number of open queries and remove the use of holding letters. The estimated timescale for this project is quarter 3 2010/2011.

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

The NIW Billing & Revenue team also randomly selects 5 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.

Lines 6 - 8 - Connected Properties

A confidence grade of A2 can be assigned as the data is taken directly from the RapidXtra Property Summary Report.

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

Line 6 – Number of properties connected for water supply only

AIR09 figure – 141751

AIR10 figure – 144655

Line 7 – Number of properties connected for water and sewerage services

AIR09 figure – 662629

AIR10 figure – 654085

This figure has most likely decreased (by 8500) due to the economic downturn during the reporting year.

Line 8 - Number of properties connected for sewerage services only

AIR09 figure – 38

AIR10 figure – 35

Table 5

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1		2		3		4		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	
A DG7 RESPONSE TO WRITTEN COMPLAINTS											
1	Total written complaints	nr	0	1220	B2	2644	B2	3727	B4	3469	B4
2	Number dealt with within 10 working days	nr	0	1116	B2	2394	B2	3636	B4	3449	B4
3	Percentage dealt with within 10 working days	%	1	91.5	B2	90.5	B2	97.6	B4	99.4	B4
4	Number dealt with in more than 20 working days	nr	0	30	B2	10	B2	16	B4	14	B4
5	Percentage dealt with in more than 20 working days	%	1	2.5	B2	0.4	B2	0.4	B4	0.4	B4
B DG8 BILLS FOR METERED CUSTOMERS											
6	Total metered accounts	nr	0	77534	B2	78444	A2	84075	B2	85540	B2
7	Metered accounts excluded from indicator	nr	0	869	B2	1126	A2	17692	B2	17447	B2
(i) NO. OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING AT LEAST ONE BILL DURING YEAR BASED ON METER READING:											
8	Company readings	nr	0	63580	B2	55401	A2	61751	B2	62553	B2
9	Company or customer readings (or both)	nr	0	63753	B2	55517	A2	61904	B2	62825	B2
(ii) NUMBER OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING:											
10	Estimated bills only	nr	0	1949	B2	2836	A2	3901	B2	4971	B2
11	No bills received during the report year	nr	0	10963	B2	18965	A2	578	B2	297	B2
12	Unread by company for 2 years	nr	0	9148	B2	9930	A2	895	B2	1074	B2
C DG9 TELEPHONE CONTACT											
13	Total calls received on customer contact lines	nr	0	259046	B2	322318	B2	321720	A2	351864	A2
14	All lines busy	nr	0	142	B2	0	B2	0	A2	0	A2
15	Total of abandoned calls	nr	0	23575	B2	3374	B2	3591	A2	9069	A2
16	Call handling satisfaction	nr	2			4.23	B2	4.40	A2	4.60	A2
17	Total telephone complaints	nr	0	13788	B2	22636	B2	33102	A2	47860	A2
D SPECIAL ASSISTANCE REGISTER											
18	Customers on the special assistance register	nr	0	N/C		N/C		N/C		546	A2

Table 5 – Key Outputs – Customer Service - 2

Lines 1-5 – DG7 Response to Written Complaints

A complaint is closed on the RapidXtra system once a full response is issued.

On occasions where a substantive holding response is sent to the customer, the contact is kept open on the RapidXtra system until all of the agreed actions have been completed. On these occasions the complaint is closed to the date of the substantive holding response.

If a repeat contact is received for the same subject, this will be handled as a new complaint. A closed complaint will not be reopened.

Methodology

It should be noted that the line methodology for calculating the percentage of complaints closed within 10 working days intentionally differs from that submitted for AIR 09, in line with the Reporter's AIR 09 Table 5 Commentary.

The percentage of complaints closed within 10 working days is expressed as a percentage of the total volume of complaints **received** during the reporting period.

That is:

$3449 \text{ (closed within 10 days, regardless of date of receipt)} / 3469 \text{ (received in year)} = 99.42\%$

The methodology employed for the 2008/09 reporting period, as reported in AIR09, expressed the number of complaints **closed** within 10 working days as a percentage of the total volume of complaints closed during the reporting period

Had this methodology been employed this year:

$3449 \text{ (closed within 10 days, regardless of date of receipt)} / 3515 \text{ (closed, regardless of date of receipt)} = 98.12\%$

It is noted that last year's submitted DG7 figure of 98.1% was corrected to 97.6% by the Reporter in the November erratum. A calculation error was highlighted.

NIW have been in initial discussions with the Reporter to gain clarification on the DG calculation method, and will be seeking further clarification for the forthcoming reporting period.

NIW will be investigating this matter further and will be engaging with both the Reporter and Echo to clarify the reporting requirements set out by the regulator, in particular how out of year contacts are reported.

Responses

It has been practice to issue several holding responses for a single contact, where we were unable to fully address the complaint within 10 working days. It is accepted that this is not good practice, and we committed to address this during the 2009/10 reporting period.

A number of other areas for improvement were identified, including quality of response and the need for engagement with customers.

Improvements

Triage Team

On 26th October 2009, we introduced a new 'triage' approach to dealing with written complaints. This new process supplemented the existing process in an effort to provide better and quicker responses to customers.

A dedicated Triage Team was set up within the Customer Services Directorate. The team was made up of experienced staff with specialist knowledge of technical and operational issues, billing, letter writing and complaint management.

The key objectives of the team were to:

- Increase rate of first contact resolution;
- Reduce average time taken to resolve complaint;
- Reduce number of holding letters issued;
- Reduce number of repeat contacts;
- Improve quality of response to customer; and
- Reduce volume of escalated contacts within the business.

The team assesses and prioritises each complaint and assigns it to a given owner, ensuring the relevant research and resolution is completed. Where possible, the team will also contact the customer by telephone to ensure that the issues raised are fully understood. Draft responses are reviewed by the appropriate expert. The process has encouraged better communication between the complaints teams and the wider business. This ensures that complaints are resolved as quickly as possible.

The new approach has proven to be successful.

Between 26th October 2009 and 31st March 2010:

- Almost 1500 complaints dealt with through Triage approach;
- 49% closed at first point of contact;
- 89% fully closed within 10 working days – no substantive holding responses issued; and
- 6 day average closure time.

This approach has also reduced the volume of on-hand open complaints within the business.

At the end of the reporting period we had:

- 56 open complaints;
- Oldest complaint – 15 working days;
- 3 complaints open for more than 10 working days – all pending completion of agreed actions, as outlined in substantive responses; and
- 4 day average open time.

CCNI Pilot Complaints Review

At the close of the reporting period, CCNI carried out a pilot complaints review. This review assessed a random sample of complaints dealt with during the year. Feedback was generally positive, and CCNI have made a number of recommendations that will be taken forward during 2010/11.

Logging Correspondence

It had been practice to log any items of correspondence received after 2.00pm as being received the following working day. We recognised that this was not acceptable. All complaints were reviewed and 'date received' fields have been corrected.

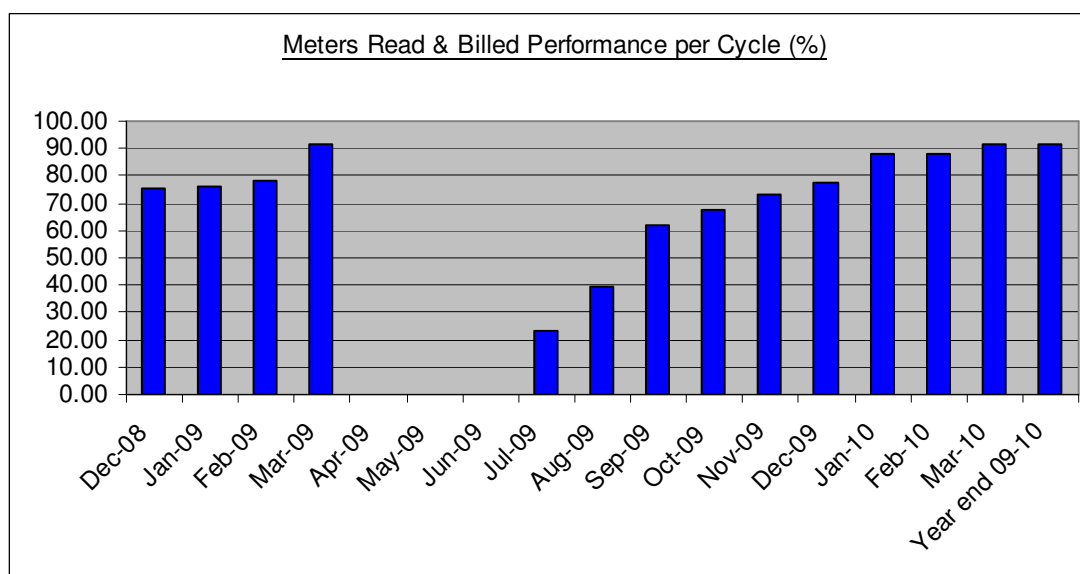
This resulted in 32 complaints not being closed within 10 working days and these have been counted as fails.

Lines 6 - 12 - DG8 – Bills for metered customers

As part of an efficiency initiative the Customer Field Services Organisation was restructured at the beginning of April 2009 with several Meter Readers leaving our organisation. This resulted in the loss of local knowledge within some Meter Reading Areas. At this point in time Route Optimisation Technology was being considered to enhance Meter Reading Performance. This initiative was subsequently shelved as it was felt that issues around management and data quality needed to be addressed in the first instance.

As an alternative to Route Optimisation a combination of Route Navigation and GIS was rolled out to assist Meter Readers in November 2009.

The graph below illustrates a summary of meter reading performance, i.e. meters read versus total meters scheduled to be read shown as a percentage per cycle. (Data Source: Rapid)



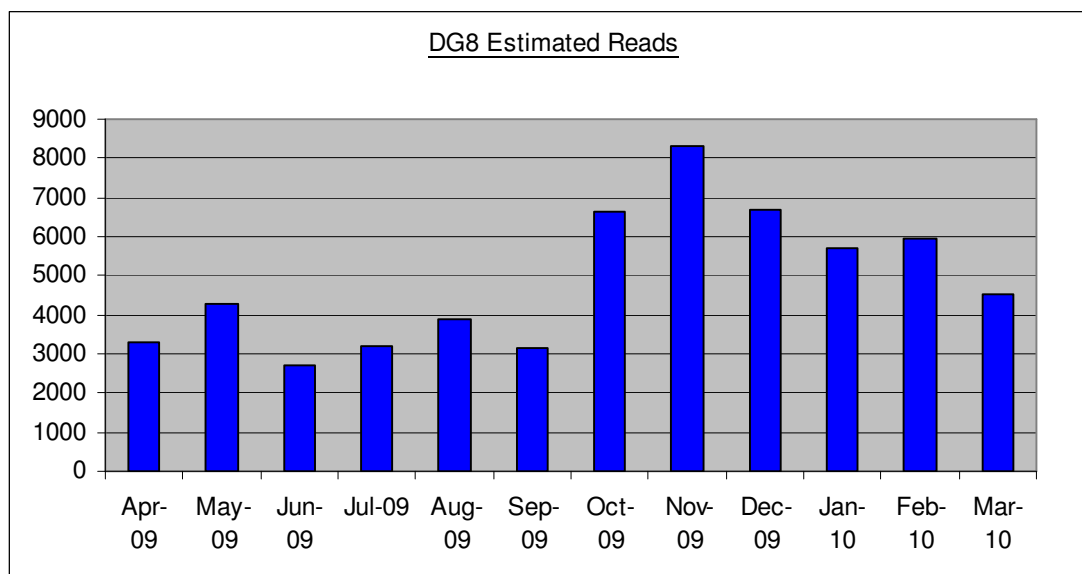
The graph above illustrates:

- 0% for the read and billed figure for April, May & June 09 because we were unable to upload reads into the billing system until the system had been changed to facilitate the new sewerage allowance introduced from 1 April 2010. This change was delayed due to contractual difficulties experienced with the Steria exit from our outsource contract.
- The percentage increases throughout the year as the graph is based on actual meter reads out of the total meter base for the year.

It was also noted that there was:

- A decrease in performance after March 2009 moving into April 2009 when the New Meter Reading Organisation came into effect.
- From October 2009 (Cycle 7) and forward there was a decrease in overall performance due to the focus on reading meters which had not been read during the first half of the year.

Although this allowed us to allocate meter reading resources more effectively and efficiently to target the DG8 KPI, it was not without its consequences. Meters not targeted in the second read cycle were billed based on an estimate (as per graph below), which generated greater customer contact impacting on DG6 volumes.



The major freeze/thaw incident during January had a significant impact on our DG8 performance; meter readers were unable to locate or read meters due to the winter conditions and many were diverted to support the incident response teams.

Based on our performance up to end December, we were forecasting that the annual DG8 target would be met, but this prolonged incident has contributed greatly to the target being missed.

Moving forward into 2010/11 year we will be reviewing working practices which should improve meter reading performance, by;

- Focusing meter reading resource on billable meters.
- Targeting all Routes/Meters during the first 6 months inclusive of the difficult routes.
- Realising the increased benefits from Route Navigation.
- Delivering on recommendations coming from the Meter Reading Internal Benchmarking Project.

In addition, we will take this opportunity to promote customer self-reads via automated telephone and web based services. We will also look to work with specific customer groups, such as UFU, to communicate with their members to explain how they should locate their meter and monitor their own consumption as measured customers.

These initiatives may impact our DG8 performance initially as new processes are implemented, but can be offset by the expected reduction in the number of estimated reads, customer contacts and allow for more accurate reporting of consumption.

The number of metered accounts excluded from the indicator are:

- 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

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.

The Confidence grade of B2 has been applied for lines 6-8.

Lines 13 – 17 - DG9 Telephone contact

Line 13 – Total calls received on customer contact lines

This is the Director General standard for the measurement of telephone answering performance. Currently our expected SLA is 97% of telephone calls must be substantively answered in 30 seconds. During 2009/10, Northern Ireland Water answered 92.62% of all calls received during business within 30 seconds out of a total of 351,864 calls. This is a significant decline on the last reporting year's performance of 97.09%. There are however a number of significant contributory factors to this reduction in overall performance as outlined below:

The adverse winter weather conditions in December and January, known within Northern Ireland Water as the Freeze / Thaw event.

The exceptional level of call volumes during the above incidents had a major impact on service levels.

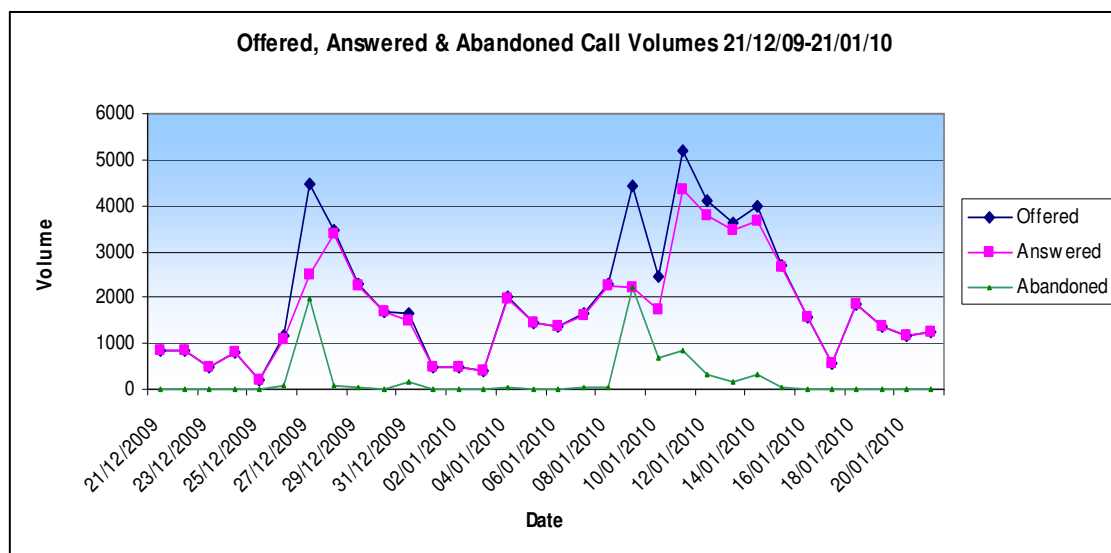
Line 14 - All Lines Busy

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.

Line 15 - Calls Abandoned

9,069 calls were abandoned during the reporting year. The Company's performance of 97.42% of calls not abandoned falls short of the 99% target set for the year. The failure to meet the expected target can be attributed in the main to freeze/thaw event in December and January. During this period the call centre received 55,280 calls, of which 7,142 were abandoned. This equates to approximately 2% of abandoned calls. Without this event NIW would have been well within the 1% target.

On a typical day the Contact Centre would normally deal with around 1,300 calls. This spiked on several days during the incident, for example on Monday 28th December 3479 calls were received, on Monday 11th January 5201 calls were received. A typical Sunday would present on average 150 calls to the Contact Centre. On the 27th December 4451 calls were received, on Saturday 9th January 4447 calls were received. The table below shows the calls offered, answered and abandoned during the incident.



Calls Rejected

Rejected calls are calls received on advertised lines outside of published working hours, such as on the billing line after 8:00pm on a weekday. There were 4923 rejected calls made outside of published working hours recorded during the 2009/10 reporting period. The customer will receive the appropriate out of hours message.

Line 16 - 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 handled1-5?*") 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 4.6/5.0 for the reporting year, meeting the target set at the beginning of the year. In the last quarter of 2009/10 NI Water was ranked 3rd out of the 25 participating UK Water Companies, a massive improvement on the 12th place from the previous year.

Line 18 - Customers on the Special Assistance Register

The Company launched its Priority Services Service in February 2009. At the end of March 2010, 546 customers were on the Special Assistance Register.

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'. Flooding Incident Line logs the call and passes the jobs through to NIW using similar systems to NIW. From 1st April to 31st March 430 jobs were received by NIW through this process.

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 (although the system would have IVR functionality)

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 customer's 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 freeze/thaw event in December/January, the following incidents may have affected service:

- Suspected water contamination issue in the Dunore area in April 2009 impacting 220,000 customers lead to a significant increase in call volumes, for example on 14th April 2771 calls were received; and
- 31st March 2010 – due to a widespread power outage a number of NIW pumping stations failed to operate. This led to an increase in calls on this day to 3226 (more than double the average daily call volume).

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.

Table 5a

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

ANNUAL INFORMATION RETURN - TABLE 5A KEY OUTPUTS

Customer complaints data for Consumer Council for Northern Ireland (TOTAL)

DESCRIPTION	UNITS	DP	1		2		3		4	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG
A TOTAL WRITTEN COMPLAINTS										
1 Total written complaints	nr	0	1220	B2	2364	B2	3727	B4	3469	B4
2 Number dealt with within 10 working days	nr	0	116	B2	2268	B2	3636	B4	3449	B4
3 Number dealt with in more than 20 working days	nr	0	30	B2	10	B2	16	B4	14	B4
B CATEGORY OF WRITTEN COMPLAINTS										
(i) Charges and Bills										
4 Total written complaints about charging and billing issues	nr	0	N/C		820		1577	B2	1345	B2
5 Total written complaints about charging and billing issues escalated to second stage review	nr	0	N/C		N/C		36	B2	n/a	
(ii) Water Service										
6 Total written complaints about water service issues	nr	0	N/C		366		822	B2	622	B2
7 Total written complaints about water service issues escalated to second stage review	nr	0	N/C		N/C		18	B2	n/a	
(iii) Sewerage Service										
8 Total written complaints about sewerage service issues	nr	0	N/C		771		1024	B2	914	B2
9 Total written complaints about sewerage service issues escalated to second stage review	nr	0	N/C		N/C		7	B2	n/a	
(iv) Metering										
10 Total written complaints about metering issues	nr	0	N/C		32		71	B2	92	B2
11 Total written complaints about metering issues escalated to second stage review	nr	0	N/C		N/C		2	B2	n/a	
(v) Other activities										
12 Total written complaints about other service issues or activities	nr	0	N/C		375		233	B2	496	B2
13 Total written complaints about other service issues or activities escalated to second stage review	nr	0	N/C		N/C		7	B2	n/a	

Table 5a - Complaints data for the Consumer Council

We identified that a number of DG7 written complaints have been categorised incorrectly. In particular, we found high levels of complaints were coded as 'other' and 'poor service'.

We are currently, reviewing the coding/rules underpinning DG7 reporting to confirm accuracy and compliance with Regulatory Guidelines.

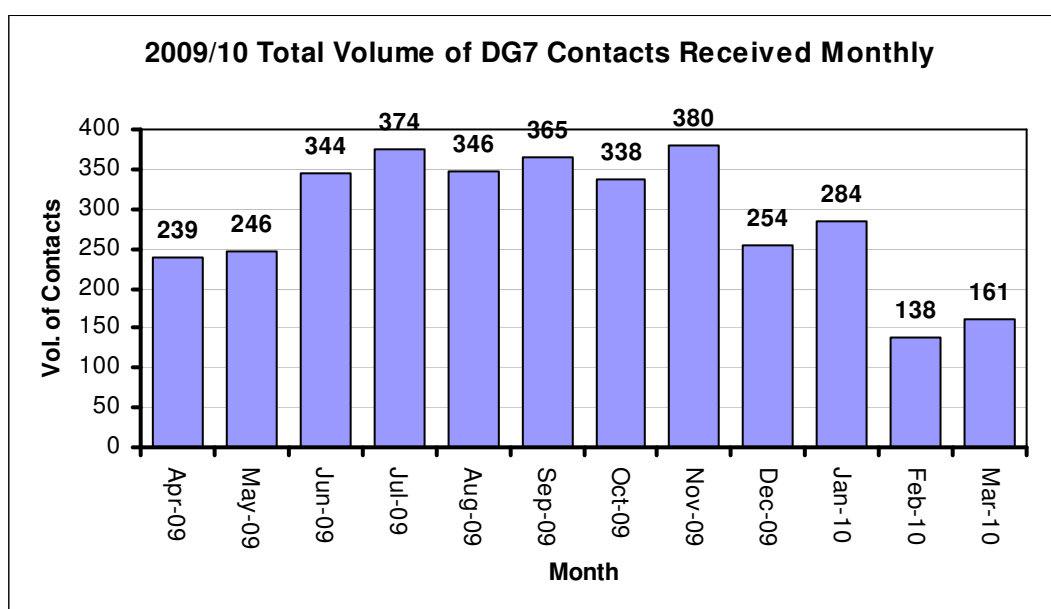
Operational Issues

During December 2009 and January 2010, Northern Ireland experienced a severe and prolonged freeze. The freezing conditions and subsequent thaw caused major operational difficulties and much of the province suffered from interruptions to water supplies. This resulted in an increased volume of written operational complaints.

Also, there were times during this period when customers experienced difficulty in contacting our call centre. This also resulted in a relatively high volume of complaints. It is of note that a high proportion of these complaints were made by e-mail.

DG7 Received Annual Profile and Explanation

The volume of DG7 complaints received each month is shown in the chart below.



Due to a contractual dispute with Steria, non-domestic billing was delayed until July 2009. The backlog of bills were issued during July, August and September. This led to an increased volume of billing queries (DG6) and written complaints.

Delays in providing full responses to billing queries generated written complaints about how the initial query was handled. This would account, in part, for the high volumes of complaints received during October and November.

DRD Roads Service introduced the requirements of the Street Works (NI) Order 2005 on 1st April 2009 with the consequence that only persons with a valid Street Works License are permitted to undertake excavation and reinstatement work in a public area. As the approved Utility for the installation of watermains and sewers in a public street, Northern Ireland Water, now carry out the excavation and reinstatement for new water connections. The cost for this service is included in the charge for a new water connection. Customers saw this as an increase in the cost of a new connection and this change generated a number of complaints.

The total volume of complaints received during February and March has reduced significantly. There is no obvious explanation for this decrease.

Table 6a

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

ANNUAL INFORMATION RETURN - TABLE 6A BAD DEBT

OUTSTANDING REVENUE AND BREAKDOWN OF CUSTOMER SERVICES OPERATING EXPENDITURE (TOTAL)

DESCRIPTION	UNITS	DP	1	2	3	4	CG
			BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10	
A REVENUE OUTSTANDING - MEASURED HOUSEHOLDS							
1 Total revenue outstanding < 48 months (measured households)	£m	3			0.000	0.000	A1
2 Number of measured households with outstanding revenue < 48 months	nr	0				0	A1
3 Revenue outstanding < 3 months (measured households)	£m	3				0.000	A1
4 Number of measured households with outstanding revenue < 3 months	nr	0				0	A1
5 Revenue outstanding 3 - 12 months (measured households)	£m	3				0.000	A1
6 Number of measured households with outstanding revenue 3 - 12 months	nr	0				0	A1
7 Revenue outstanding 12 - 24 months (measured households)	£m	3				0.000	A1
8 Number of measured households with outstanding revenue 12 - 24 months	nr	0				0	A1
9 Revenue outstanding 24 - 36 months (measured households)	£m	3				0.000	A1
10 Number of measured households with outstanding revenue 24 - 36 months	nr	0				0	A1
11 Revenue outstanding 36 - 48 months (measured households)	£m	3				0.000	A1
12 Number of measured households with outstanding revenue 36 - 48 months	nr	0				0	A1
13 Revenue outstanding > 48 months (measured households)	£m	3				0.000	A1
14 Number of measured households with outstanding revenue > 48 months	nr	0				0	A1
B REVENUE OUTSTANDING - UNMEASURED HOUSEHOLDS							
15 Total revenue outstanding < 48 months (unmeasured households)	£m	3			0.000	0.000	A1
16 Number of unmeasured households with outstanding revenue < 48 months	nr	0				0	A1
17 Revenue outstanding <3 months (unmeasured households)	£m	3				0.000	A1
18 Number of unmeasured households with outstanding revenue < 3 months	nr	0				0	A1
19 Revenue outstanding 3 -12 months (unmeasured households)	£m	3				0.000	A1
20 Number of unmeasured households with outstanding revenue 3 - 12 months	nr	0				0	A1
21 Revenue outstanding 12-24 months (unmeasured households)	£m	3				0.000	A1
22 Number unmeasured households with outstanding revenue 12 - 24 months	nr	0				0	A1
23 Revenue outstanding 24-36 months (unmeasured households)	£m	3				0.000	A1
24 Number of unmeasured households with outstanding revenue 24 - 36 months	nr	0				0	A1
25 Revenue outstanding 36 -48 months (unmeasured households)	£m	3				0.000	A1
26 Number of unmeasured households with outstanding revenue 36 - 48 months	nr	0				0	A1
27 Revenue outstanding >48 months (unmeasured households)	£m	3				0.000	A1
28 Number of unmeasured households with outstanding revenue > 48 months	nr	0				0	A1
C REVENUE OUTSTANDING - MEASURED NON HOUSEHOLDS							
29 Total revenue outstanding < 48 months (measured non households)	£m	3			7.875	12.721	A2
30 Number of measured non households with outstanding revenue < 48 months	nr	0			27160	20,254	A2
31 Revenue outstanding < 3 months (measured non households)	£m	3			5.913	9.556	A2
32 Number of measured non households with outstanding revenue < 3 months	nr	0			13002	12,754	A2
33 Revenue outstanding 3 - 12 months (measured non households)	£m	3			1.962	3.165	A2
34 Number of measured non households with outstanding revenue 3 - 12 months	nr	0			14158	7,500	A2
35 Revenue outstanding 12 - 24 months (measured non households)	£m	3				0	A1
36 Number of measured non households with outstanding revenue 12 - 24 months	nr	0			0	0	A1
37 Revenue outstanding 24 - 36 months (measured non households)	£m	3				0	A1
38 Number of measured non households with outstanding revenue 24 - 36 months	nr	0				0	A1
39 Revenue outstanding 36 - 48 months (measured non households)	£m	3				0	A1
40 Number of measured non households with outstanding revenue 36 - 48 months	nr	0				0	A1
41 Revenue outstanding > 48 months (measured non households)	£m	3				0	A1
42 Number of measured non households with outstanding revenue > 48 months	nr	0				0	A1
D REVENUE OUTSTANDING - UNMEASURED NON HOUSEHOLDS							
43 Total revenue outstanding < 48 months (unmeasured non households)	£m	3			0.584	0.302	A2
44 Number of unmeasured non households with outstanding revenue < 48 months	nr	0			5647	3,238	A2
45 Revenue outstanding <3 months (unmeasured non households)	£m	3			0.173	0.042	A2
46 Number of unmeasured non households with outstanding revenue < 3 months	nr	0			198	516	A2
47 Revenue outstanding 3 -12 months (unmeasured non households)	£m	3			0.411	0.260	A2
48 Number of unmeasured non households with outstanding revenue 3 - 12 months	nr	0			5449	2,722	A2
49 Revenue outstanding 12-24 months (unmeasured non households)	£m	3				0.000	A1
50 Number unmeasured non households with outstanding revenue 12 - 24 months	nr	0				0	A1
51 Revenue outstanding 24-36 months (unmeasured non households)	£m	3				0.000	A1
52 Number of unmeasured non households with outstanding revenue 24 - 36 months	nr	0				0	A1
53 Revenue outstanding 36 -48 months (unmeasured non households)	£m	3				0.000	A1
54 Number of unmeasured non households with outstanding revenue 36 - 48 months	nr	0				0	A1
55 Revenue outstanding >48 months (unmeasured non households)	£m	3				0.000	A1
56 Number of unmeasured non households with outstanding revenue > 48 months	nr	0				0	A1
E REVENUE WRITTEN OFF							
57 Amount of revenue written off from measured households	£m	3	N/C	N/C		0.000	A1
57a Amount of revenue written off from measured non-households	£m	3	N/C	0.815	0.170	0.340	A2
58 Amount of revenue written off from unmeasured households	£m	3	N/C	N/C		0.000	A1
58a Amount of revenue written off from unmeasured non-households	£m	3	N/C	0.005	0.000	0.013	A2
F CUSTOMER SERVICES OPERATING EXPENDITURE							
59 General customer services operating expenditure Total	£m	3	N/C	17.579	16.873	18.558	A2
i						3.621	A2
ii						13.474	A2
iii						1.376	A2
iv						0.087	A2
60 Outstanding revenue collection operating expenditure (households)	£m	3	N/C	N/C	N/C	N/C	
60a Outstanding revenue collection operating expenditure (non households)	£m	3					
61 Donations to charitable trusts assisting customers in debt (households)	£m	3	N/C	N/C	N/C	N/C	
62 Operating expenditure due to vulnerable household customers	£m	3	N/C	N/C	N/C	N/C	
63 Total customer services operating expenditure	£m	3	N/C	17.579	16.873	18.558	A2

Table 6a – Bad Debt

Overview

The company operates a partnership with an external service provider (Echo) 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.

The figures contained within the table are clarified below:

Box A – Revenue Outstanding – Measured Households

For the year ended 31 March 2010 NI Water had no actual revenue from households as this is received by way of a subsidy from Department for Regional Development (“DRD”). There was £0.262m due to DRD from NIW for subsidy at 31 March 2010.

Box B – Revenue Outstanding – Unmeasured Households

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

Box C – Revenue Outstanding – Measured Non-Households

Revenue outstanding from non-households is the amount of revenue relating to measured water, measured sewerage and trade effluent charges that had been billed in the year but not collected at 31 March 2010.

At 31 March 2010 the closing trade debtor balance was £12.721m. Trade Debtors increased this year due to:

- An increased tariff from 2008/09.
- Delay in issuing measured billing in 09/10, measured billing commenced in July 09.
- Aging of debt has improved in 2009/10 due to the continued monitoring of cash collected through the bad debt project.

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 £5.2m and is made up of the following:

- £2.7 m for debt over 1 year
- £1.7m for debt 180 – 365 days
- £0.2m for debt 151 – 180 days

- £0.2m for debt 121 – 150 days
- £0.4m for remainder of debt

There is one GL code for measured water and sewerage debtors. At year end the GL debtor balance (gross of credit balances) was approx. £0.87m more than the detailed debtors listing provided by Echo. This was due to the following:

- | | |
|------------------------------|----------|
| • Test meters to be billed | £0.75m |
| • Referred bills | (£0.09m) |
| • Non void vacant properties | £0.09m |
| • Victoria Square | £0.12m |

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 2009/10 outstanding from measured non households for less than 48 months. Balance as at 31 March 2010 was £12.721m.

Row 30 – Number of Measured Non-Households with Outstanding Revenue < 48 months: The number of measured non households at the end of 2009/10, with revenue outstanding for less than 48 months. Total at 31 March 2010 was 20,254. (Last years figure of number of measured non-households with revenue outstanding less than one year was incorrectly stated at 27,160 the correct number of measured non-households with revenue outstanding less than 48 months was 17,989. The figure reported included measured and unmeasured and was distorted as a result of non-households with revenue outstanding spanning over more than one age band. If non households with outstanding revenue fall into more than one age band then the non household should only appear in the oldest age band.

Row 31 – Revenue Outstanding < 3 months (Measured Non Households): The total amount of revenue at the end of 2009/10 that has been outstanding from measured non households for less than 3 months. Balance as at 31 March 2010 was £9.556m

Row 32 – Number of Measured Non-Households with Outstanding Revenue < 3 months: The number of measured non households at end of 2009/10, with revenue outstanding for less than 3 months. As at 31 March 2010 this totalled 12,754. (Last years figure of number of measured non-households with revenue outstanding less than 3 months was incorrectly stated at 13,002, the correct number of measured non-households with revenue outstanding less than 3 months was 9,039). The figure reported included measured and unmeasured and was distorted as a result of non-households with revenue outstanding spanning over more than one age band. If non households with outstanding revenue fall into more than one age band then the non household should only appear in the oldest age band.

Row 33 – Revenue Outstanding 3-12 months (Measured Non Households): The total amount of revenue at the end of 2009/10 that has been outstanding from measured non households for at least 3 months but less than 12 months. Balance as at 31 March 2010 was £3.165m.

Row 34 – Number of Measured Non-Households with Outstanding Revenue 3-12 months: The number of measured non households at end of 2009/10 with revenue that has been outstanding for at least 3 months but less than 12 months. At 31 March 2010 this totalled 7,500. (Last years figure was incorrectly stated at 14,158 the correct number of measured non-households with outstanding revenue between 3-12 months was 8,950). The figure reported included measured and unmeasured and was distorted as a result of non-households with revenue outstanding spanning over more than one age band. If non households with outstanding revenue fall into more than one age band then the non household should only appear in the oldest age band.

Row 35 – Total Revenue Outstanding 12-24 months (Measured Non Households): The total amount of revenue at the end of 2009/10 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 2010 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 2010.

- This income stream was introduced in 2008/09.
- At 31 March 2010 the closing trade debtor balance was £0.302m. (31 March 2009, £0.584m). Reason for the decrease is due to the continued monitoring of cash collected through the bad debt project.

The debtor balance reported figure is made up of unmeasured water and sewerage debtors less bad debt provision. The bad debt provision is £0.382m and is made up of the following:

- £0.19m for debt over 1 year
- £0.15m for debt 180 – 365 days
- £0.02m for debt 151 – 180 days
- £0.02m for remainder of debt

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 2009/10 outstanding from unmeasured non households for less than 48 months. Balance at 31 March 2010 was £0.302m

Row 44 – Numbers of Unmeasured Non-Households with Outstanding Revenue < 48 months: The number of unmeasured non households at the end of 2009/10 with revenue that has been outstanding for less than 48 months. Total at 31 March 2010 was 3,238.

Row 45 – Revenue Outstanding < 3 months - Unmeasured Non Households: The total amount of revenue at the end of 2009/10 outstanding from unmeasured non households for less than 3 months. Balance at 31 March 2010 was £0.042m.

Row 46 – Numbers of Unmeasured Non-Households with Outstanding Revenue < 3 months: The number of unmeasured non households at the end of 2009/10 with revenue outstanding for less than 3 months. Total at 31 March 2010 was 516.

Row 47 – Revenue Outstanding 3-12 months - Unmeasured Non Households: The total amount of revenue at the end of 2009/10 outstanding from unmeasured non households for at least 3 months but less than 12 months. Balance at 31 March 2010 was £0.260m.

Row 48 – Numbers of Unmeasured Non-Households with Outstanding Revenue 3-12 months: The number of unmeasured non households at end of 2009/10 with revenue outstanding for at least 3 months but less than 12 months. Total at 31 March 2010 was 2,722.

Row 49 – Revenue Outstanding 12-24 months - Unmeasured Non Households: The total amount of revenue at the end of 2009/10 outstanding from unmeasured 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 2010 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 £0.353m (2008/09, £0.17m). The movement in the year is predominately due to the work involved in the aged debt project, which has resulted in further investigation and NIWL approving write offs of £0.209m in February 2010.

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:

Value £	Authorised Person
Up to £5,000	Collection & Operational Manager (Echo) and NI Water Revenue Manager
£5,000 - £49,999	Head Of Operations (Echo) and NI Water Head of Billing and Revenue
> £50,000	Operations Director (Echo) and Director of Operations and Customer Services in conjunction with the Director of Finance and Regulation. 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 Echo 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.

Summary of all relevant rows for Section E

Row 57 – Measured Households: As NI Water receives no revenue from households, there was no revenue written off from measured households.

Row 57a – Measured Non-Households: Bad debts written off are calculated on a monthly basis and include trade effluent. The total for 2009/10 was £0.340 (2008/09, £0.170m). This income stream was only introduced in 2008/09, the increase in the year is due to an additional year of debtors aging and the bad debt project.

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 2009/10 was £0.013m and 2008/09 costs were nil as this income stream was only introduced in 2008/09.

Bad Debt provisioning

The methodology for calculating the bad debt provision is consistent with 2008/09. The company view this methodology as providing the best estimate

of the provisioning required. NI Water's bad debt provision is calculated as follows:

	Age of debt	Provision
General provision		
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 2010 and 31 March 2009:

	2010	2009
	£m	£m
Measured water & sewerage	5.084	4.667
Unmeasured water & sewerage	0.382	0.323
Trade effluent	0.104	0.165
Total	5.570	5.155

Subsidy

NI Water received £238.900m subsidy in relation to household customers and at 31 March 2010 an amount for £1.454m was outstanding from DRD. The total subsidy for household 31 March 2010 was £240.354m.

NI Water received £17.000m subsidy in relation to non-household customers and at 31 March 2010 an amount for £1.716m was due to DRD. The total subsidy for non-household 31 March 2010 was £15.284m.

At 31 March £0.262m was due to DRD from NIW, these figure were made up of £1.454m household subsidy and £1.716m for non-household subsidy.

Summary of all relevant rows for Section F

Row 59 – General customer services operating expenditure: the figures agree to the sum of line 13 in table 21 and line 12 in table 22. The total can be broken down as below:

		2009/2010
		<i>£m</i>
Private Septic Tank Desludging		1.211
Customer Services (Meter Read & Customer Queries)		0.565
Consumer Meters Repair And Maintenance		(0.043)
Customer Services Function Activity -	Employment costs	3.621
	Hired and contracted costs	13.474
	Other costs	1.376
		18.471
Total CS Opex		20.204
Less Unappointed Costs:		(1.211)
Less Unappointed Costs:		(0.435)
TOTAL CS OPEX PER AIR Table 6a Row 59		18.558

The total of £18.558m is a £1.7m increase over the costs in 2008/09. This arises from the extra costs arising from contractual arrangements with suppliers.

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 has 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.

Table 7

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

**ANNUAL INFORMATION RETURN - TABLE 7 NON FINANCIAL MEASURES
WATER PROPERTIES & POPULATION (TOTAL)**

DESCRIPTION	UNITS	DP	1		2		3		4		5	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	CURRENT YEAR 2010-11	CG
A PROPERTIES												
1	Household properties connected during the year	000	3	6.118		7.595		8.358	B3	4.457		B3
2	Non-household properties connected during the year	000	3	5.859		1.482		0.723	B3	0.272		B3
B BILLING												
3	Households billed unmeasured water	000	3	650.150		634.990		646.099	C3	654.625		C3
4	Households billed measured water (external meter)	000	3	30.890		30.398		0.000	C3	0.000		C3
5	Households billed measured water (not external meter)	000	3	0.000		0.000		0.000	C3	0.000		C3
6	Households billed water	000	3	681.040		665.388		646.099	C3	654.625		C3
7	Household properties (water supply area)	000	3	718.390		712.932		686.036	C3	693.005		C3
8	Non-households billed unmeasured water	000	3	48.690		31.341		30.519	C3	16.050		C3
9	Non-households billed measured water	000	3	50.420		42.823		78.416	C3	68.666		C3
10	Non-households billed water	000	3	99.110		74.164		108.935	C3	84.716		C3
11	Non-household properties (water supply area)	000	3	107.210		83.516		116.249	C3	102.636		C3
12	Void properties	000	3	45.455		56.896		49.698	C3	49.572		C3
C POPULATION												
13	Population - households billed unmeasured water	000	2	1644.36		1637.01		1672.51	B3	1685.97		B3
14	Population - households billed measured water	000	2	88.49		85.06		0.00	A1	0.00		A1
15	Population - non-households billed unmeasured water	000	2	0.00		8.10		6.67	B3	8.86		B3
16	Population - non-households billed measured water	000	2	0.00		18.36		95.93	B3	95.33		B3
17	Population - total	000	2	1732.85		1748.53		1775.11	B2	1790.16		B2

Table 7 – Non Financial Measures - Water Properties & 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 the Utility Regulator guidance, lines 6, 10 and 17 are calculated lines, being the sum of their equivalent lines within the table.

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 and is not planned to be implemented during 2010/11.

In April 2008, NI 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.

For clarity, where reference is made in table 7 to 'billed' household and 'billed' non-household, this is taken as the provision of water services to customers whether they are billed directly (non-domestic customers) or payment is made through subsidy by DRD (domestic customers).

Classification of Farms

As per Utility Regulator guidelines, farms were reclassified as billed non-households for AIR09 – this has remained for AIR10. Previously, in AIR08, farms had been classified and reported as 'billed' households on the principle of their status and allocation of 'domestic allowance'.

Data Sources 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 data quality programme (to confirm and cleanse data on voids, site meters and duplicates) or universal non-domestic metering programme.

There has been significant focus on customer numbers during 2009/10, primarily due to the PC10 draft and final determination process and NIW Undertakings. As a result, there will be data shifts from AIR09 especially in unmeasured non-domestic numbers as test meters have been omitted in AIR10.

In addition, the roll-out of the metering programme has continued. Overall the number of non-domestic unmeasured properties has decreased from circa 17400 to 14600. This shows a reduction of 2800 in year and circa 12500 since March 2008.

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 in April 2010, these customers can be activated as measured household if required.

Data on property counts and classifications continue to be reported monthly and reconciled (where possible) 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 from Northern Ireland.

For the purposes of the Annual Information Reporting, these have been subtracted manually and added to the non-households billed measured water category.

There are deemed to be 625 (gross) unmeasured – not charged properties which (based on sample taken) are mostly NI Water premises as per table below.

Description	Count
Sewage Disposal Works	607
Fire Authority For N I	11
Sewage Disposal Work (empty)	2
Doe (Roads)	1
Fire Authority For N I 18-22	1
Generator House	1
Stores Yard	1
Totals	625

Test Meters

NIW has a significant number of meters classified as 'test' from its legacy databases, which are being cleansed and reclassified as part of our data quality programme.

The survey and reclassification of test meters, initially identified through the Data Integrity Project, is still going. Of the 11,500 in total, circa 1900 still need to be surveyed and 2500 require further analysis.

Those that are found to be non-domestic billable should be attributed to the non-domestic measured category and billed retrospectively to April 2007. The Rapid Property Summary for 31st March 2010 indicates a reduction of 545 non-domestic test meters and 550 domestic test meters during 2009/10.

A contrasting approach has been adopted for the treatment of 'test' meters for household and non-household properties, whereby 'test' meter numbers have been included in household property numbers but excluded from non-household numbers.

Unlike last year, no allowance is being made for non-domestic test meter numbers until their status is confirmed and uploaded onto Rapid. As discussed with the Reporter in November 2009, these test meters have not been added to the unmeasured base being deemed to be water taken legally unbilled.

The Reporter queried the logic of this assumption and was advised that the non household 'test' meters have not been included as the status of these accounts is still uncertain and further work to ascertain whether these are actually 'billable' properties, needs to be undertaken. You could argue that by adopting this approach, NIW is understating the number of billable non-household properties included in the tariff model, as it would be reasonable to assume that a number of the test meters will prove to be billable non-household properties.

However, the Reporter believes that NI Water has adopted a prudent approach, and as we work to fully verify each test meter it is possible that the number of test meters assigned to the measured non-household customers

could reasonably be expected to increase over time as the status of more accounts of this nature are assessed and verified.

Site Metered Properties

As part of the ongoing data checks, NIW has been confirming the number of site metered properties (multiple properties being charged through a single meter, such as business parks and industrial estates).

To ensure that these meters are not double counted, they are no longer included in Table 7 non-domestic property counts (although NIW still retain this information for customer record and charging purposes). However, there are 386 domestic properties classified as site meters and there will be further investigations and analysis to be completed during 2010/11 to ensure these are classified correctly.

Overall, the number of non-domestic site meters has increased by 681 during 2009/10 and 3118 since March 2008, driven primarily as a result of charging.

Confidence Grades

We would expect the confidence grade for this table (C3) to improve throughout the year as the benefits of the data quality programme are realised.

The Reporter's recommendations are being addressed as part of the overall data quality project.

Lines 13 - 17 - Population

The population data used by NIW has been derived from 2008 based Population Projections obtained from NISRA (Northern Ireland Statistics & Research Agency) website⁴.

NISRA Population Projections figures are based on births, deaths and migration information gathered by NISRA between 1st July and 30th June for each year. Net migration is the overall difference between the in-migration and out-migration for Northern Ireland and is calculated using health card registration and deregistration data for Northern Ireland.

The population for unconnected properties has been calculated from NIHE Housing Condition Survey 2006⁵. The survey of 6,270 unconnected properties allowed an occupancy rate of 0.291 to be determined with a total population for unconnected properties of 6,270. This is the same methodology as per AIR09. The total supplied population for all connected properties is calculated as 1,790,158.

Non-household population has been calculated by adding the population in communal residence⁶ to the population of farms. The number of farms is provided by the Customer Services Directorate and the occupancy rate is

⁴ <http://www.nisra.gov.uk/archive/demography/population/projections/ni/wni08cc.xls>.

⁵ http://www.nihe.gov.uk/housing_conditions_survey_2006.pdf

⁶ http://www.nisra.gov.uk/archive/demography/population/household/NI06_House_Projs.pdf#6

obtained from NISRA⁷. NISRA have updated their communal population assessment. The communal population for 2009/10 was 30,390 compared to 26,455 as used in AIR09. The farm population is $29,637 \times 2.49 = 73,796$. Therefore non-household population is 104,186.

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 1,685,972 (Line 13)

The population for non-household measured/unmeasured was derived from the % split between measured (not including farms) and unmeasured non-household properties and applied against the NHH communal population. The total farm population (73,796) has been classed as measured. The communal population (30,390) is split based on 16,050 unmeasured customers (29.1%) and 39,029 measured customers which excludes farms (70.9%). This therefore provides a population for measured NHH of 95,330 (Line 16) and an unmeasured NHH population of 8,856 (Line 15).

Line 17 is calculated by summing Line 13 + Line 14 + Line 15 + Line 16. This gives a figure of 1,790,158 which is the total connected population.

For AIR10 Guest Houses and B&Bs are included under either measured or unmeasured non-household consumption and this is consistent with previous years. This follows the recommendation by the Reporter that NI Water investigate.

⁷ http://www.nisra.gov.uk/archive/demography/population/household/NI06_House_Projs.pdf.

Table 8

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1	2	3	4	CG	
			BASE SBP YEAR 2006-07	REPORTING YEAR 2007-08	REPORTING YEAR 2008-09	REPORTING YEAR 2009-10		
A HOUSEHOLD METER INSTALLATION								
1	Selective meters - installed	nr	0	0	0	3945	B3	
2	Meter optants installed	nr	0	0	0	0	A1	
3	Meters installed - external meter with existing boundary box	nr	0	0	11401	3945	B3	
4	Meters installed - external meter without boundary box	nr	0	3723	0	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	0	A1	
B NON HOUSEHOLD METER INSTALLATION								
7	Selective meters - installed	nr				907	B2	
7a	Number of non household meters renewed	nr				779	B2	
8	Meter optants installed	nr				26	B2	
9	Meters installed - external meter with existing boundary box	nr				375	B2	
10	Meters installed - external meter without boundary box	nr				71	B3	
11	Meters installed - internal meter	nr				228	B2	
12	No. of meter installation requests outstanding for greater than three months	nr				20	C3	
C WATER DEMAND AT RECENTLY METERED NON-HOUSEHOLD PROPERTIES								
13	Average water billed - selective metered properties	l/prop/d	2	N/C	N/C	N/C	442.28	B3
14	Average water billed - optionally metered properties	l/prop/d	2					

Table 8 – Non Financial Measures - Water Metering**Water Metering Activities****Lines 1- 8 - Household Meter Installation****Domestic Customers**

NIW installs meters on new domestic 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 is not metering Domestic Optants (including those over 60) given the deferral of 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.

Lines 7 - 12: Non Household Meter Installation**Non Domestic Customers - New Connections**

NIW installs water meters at newly connected non domestic premises as per the obligation associated with Article 81 of The Water and Sewerage Services (Northern Ireland) Order 2006.

We have installed and continue to install meters at non domestic premises providing it is technically possible to do so.

Optants

NIW will install meters at existing non domestic premises when the customer requests a meter, providing it is technically possible to do so. An optants process was developed in the reporting year and has been communicated across the company to include the customer relations centre. In essence if an unmeasured customer requests the option to have their premises billed as a measured (metered) property and it appears financially beneficial to them, then we will endeavour to install a water meter.

Unmeasured Non Households (UNHH) – Selective Metering

NIW gave a commitment to the Regulator in the later part of 2009 to increase the number of measured (metered) non domestic customers resulting in a reduction of unmeasured non domestic customer base. This commitment was for 100 properties and NIW were able to achieve 99 properties as forwarded to our billing centre for conversion to metered billing status. Premises metered under this programme of work are viewed as selective metered properties by NIW. Other selective meter installations include 'new finds' or premises previously unknown to the company and metered either by NIW or our metering contractor. As small number of selective meter installation requests was received during the reporting year from other parts of the organisation such as billing and leakage sections.

Meter Maintenance

NIW has a meter maintenance section within the metering team and reactively replaces and occasionally repairs meters. The maintenance

activities are driven by reports from field service and meter reading staff with all work requests being logged on a local database. Work requests are tracked from receipt through issue to maintenance contractor and completion and finally updating of our billing centre and asset records sections.

Line 13 - Average Water Billed - Selective Metered Properties

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.

The figure reported for line 13 is 442.28 l/prop/d. This is higher than the overall average consumption due to a number of high 1st reads.

Table 9

NORTHERN IRELAND WATER LIMITED COMPANY - ANNUAL INFORMATION RETURN 2010

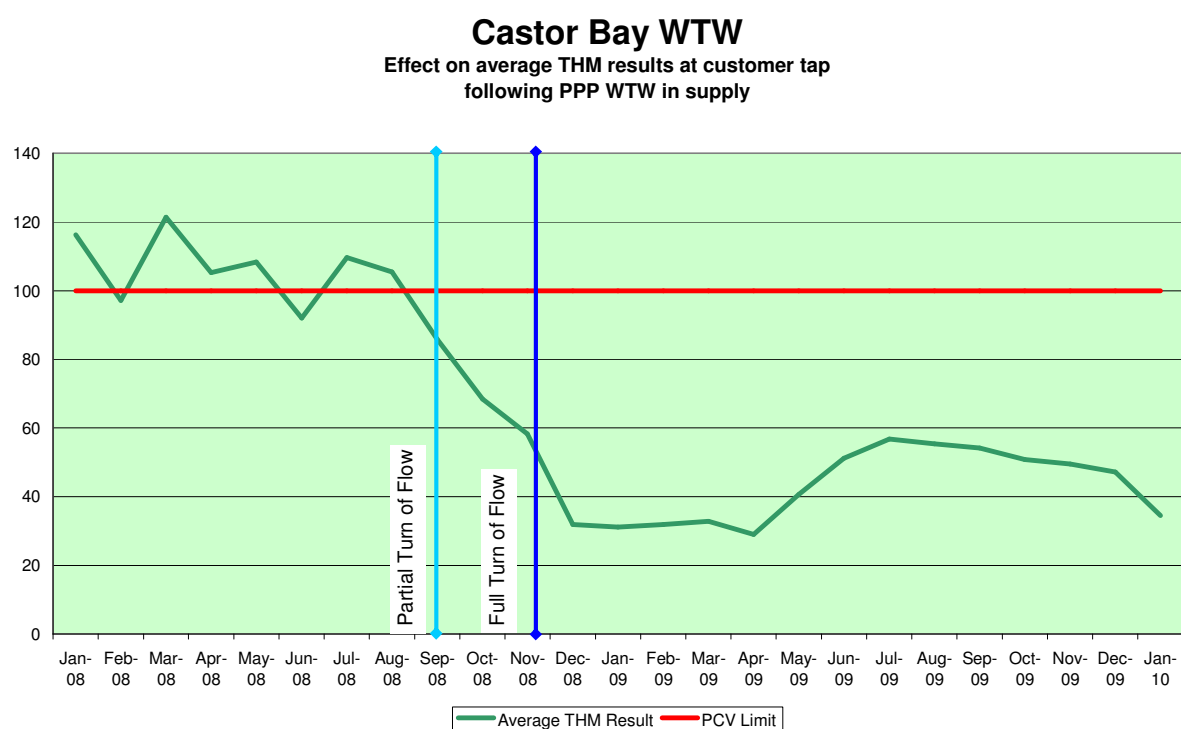
**ANNUAL INFORMATION RETURN - TABLE 9 NON FINANCIAL MEASURES
WATER QUALITY (TOTAL)**

DESCRIPTION	UNITS	DP	1		2		3		4		
			BASE YEAR SBP		REPORTING YEAR		REPORTING YEAR		REPORTING YEAR		
			2006-07	CG	2007-08	CG	2008-09	CG	2009-10	CG	
A WATER TREATMENT AND DISTRIBUTION											
1	Distribution input affected by Article 31 undertakings (or ADs)	MI/d	3	330.000	A2	236.311	A2	247.256	A2	8.319	A2
2	Distribution input affected by new Article 31 (or ADs) since start of report year.	MI/d	3	5.000	A2	9.862	A2	0.000	A1	0.000	A1
3	Percentage distribution input not affected by Article 31s (or ADs)	%	3	58.129	A2	61.924	A2	60.633	A2	98.665	A2
4	Percentage properties in WSZs affected by Article 31s in distribution	%	3	43.662	A2	38.020	A2	37.445	A2	2.068	A2
5	Percentage properties in WSZs affected by new Article 31s in distribution	%	3	0.450	A2	1.402	A2	0.000	A1	0.000	A1
B DISTRIBUTION INPUT COVERED BY WORK PROGRAMMES AGREED WITH DWI											
6	Raw water deterioration	MI/d	3	50.000	A2	42.457	A2	11.831	A2	0.000	A1
7	Conditioning water supplies to reduce plumbosolvency	MI/d	3	703.000	A2	606.817	A2	614.605	A2	617.029	A2
8	Reducing the risk from Cryptosporidium	MI/d	3	805.000	A2	617.772	A2	0.000	A1	0.000	A1
9	Other	MI/d	3	0.000	A2	0.000	A2	0.000	A1	0.000	A1

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

The quality of water supplied by NI Water to customers has improved between 2008 and 2009:

- Mean Zonal Compliance has increased from 99.49% in 2008 to 99.74% in 2009 (NI Water assessed waiting for confirmation from DWI)
 - The increase in water quality is to a large extent due to a decrease in exceedances of the Total Trihalomethane parameter as the new Public Private Partnership (PPP) sites came into service. See example graph for Castor Bay WTW below:



- The Operational Performance Index (for NI Water based on turbidity, iron and manganese as agreed with the Drinking Water Inspectorate (DWI)) decreased from 99.22% in 2008 to 98.90% in 2009 (NIW assessment on Turbidity, Iron and Manganese). This is largely due to a number of samples which engendered simultaneous exceedances in all 3 parameters.
- The percentage compliance measured at Water Treatment Works (WTWs) decreased from 99.95% in 2008 to 99.92% in 2009.
- The percentage compliance measured at Service Reservoir (SR) decreased slightly from 99.93% in 2008 to 99.92% in 2009.
- Overall out of 235,468 measurements (directive standards, national standards, indicator parameters and additional monitoring requirements)

made at customer tap, WTWs, SRs and Authorised Supply Points, 99.90% met the standards.

Please note a total re-zoning exercise was carried out for 2009 based on more accurate DMA data. The new 2009 Water Supply Zones are not contiguous with the previous zones, and as such have been given new codes and names, with the codes reflecting the leakage supply areas, and the names reflecting the supplying WTW / SR and the major conurbation in the zonal area.

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 2009.
- Authorised Departures – NI Water had a number of authorised departures in place during 2009 (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 (available if required) apart from 1 pesticide AD which was applied at the authorised supply point as this was the point of measurement. Further ADs may be applied for in the future if required by DWI. In the table below, those zones where the AD had expired by the 31st December 2009 are highlighted in yellow, with the remaining zones with active ADs highlighted in green.

2009 ADs by Water Supply Zone/Authorised Supply Point with AD End

Site Code	Site Name	Parameter	Units	AD Value	AD Start	AD End	Active at year end
ZN0501	Moyola	Total					
ZN0501	Magherafelt	Trihalomethanes	ug/l	150	01/01/2007	16/07/2009	No
ZN0503	Unagh	Total					
ZN0503	Cookstown	Trihalomethanes	ug/l	150	01/01/2007	16/07/2009	No
ZS0502	Forked Bridge	Total					
ZS0502	Dunmurry	Trihalomethanes	ug/l	150	01/01/2007	24/09/2009	No
ZS0503	Forked Bridge	Total					
ZS0503	Stoneyford	Trihalomethanes	ug/l	150	01/01/2007	24/09/2009	No
ZS0801	Castor Bay	Total					
ZS0801	Address	Trihalomethanes	ug/l	150	01/01/2007	24/09/2009	No
ZS0802	Castor Bay	Total					
ZS0802	Lurgan	Trihalomethanes	ug/l	150	01/01/2007	24/09/2009	No
ZS0803	Castor Bay	Total					
ZS0803	Portadown	Trihalomethanes	ug/l	150	01/01/2007	24/09/2009	No
ZN0303	Dunore Point	Total					
ZN0303	Ballymena	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZN0401	Dunore Point	Total					
ZN0401	Antrim	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0101	Belfast	Total					
ZS0101	Ballygomartin North	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0102	Belfast	Total					
ZS0102	Ballygomartin South	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0103	Belfast	Total					
ZS0103	Ballyhanwood	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0104	Belfast Breda	Total					
ZS0104	North	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0105	Belfast Breda	Total					
ZS0105	South	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0106	Belfast	Total					
ZS0106	Belfast North	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0107	Belfast	Total					
ZS0107	Oldpark	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0108	Belfast	Total					
ZS0108	Purdysburn	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
ZS0110	Dunore Point	Total					
ZS0110	Glengormley	Trihalomethanes	ug/l	150	01/01/2007	15/10/2009	No
W2501	Altmore	MCPA	ug/l	0.5	22/11/2007	24/12/2009	No
ZN0901	Altmore	Total					
ZN0901	Cabragh	Trihalomethanes	ug/l	150	01/01/2007	24/12/2009	No
ZN0902	Altmore	Total					
ZN0902	Donaghmore	Trihalomethanes	ug/l	150	01/01/2007	24/12/2009	No
ZN1102	Seagahan	Total					
ZN1102	Armagh	Trihalomethanes	ug/l	150	01/01/2007	24/12/2009	No
ZN0704	Lough Bradan	Total					
ZN0704	Drumquin	Trihalomethanes	ug/l	150	07/08/2007	06/08/2010	Yes
ZN0706	Lough Macrory	Total					
ZN0706	Killyclogher	Trihalomethanes	ug/l	150	07/08/2007	06/08/2010	Yes

- In line with the AIR09 Reporter's recommendation, 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 WTWs being assessed with 6 sites being excluded from the calculation as highlighted here – sites in yellow are excluded, and the site in green included.

2009 WTWs affected by Authorised Departures

Site Code	Water Treatment Works	MI/d	Out of service	AD Expiry	Included	Volume MI/d
W1301P	Moyola	14.51		16/07/2009	No	
W2308P	Castor Bay	80.74		24/09/2009	No	
W2501	Altmore	3.74		24/12/2009	No	
W2514	Seagahan	10.92		24/12/2009	No	
W3301P	Dunore Point	119.40		15/10/2009	No	
W3315P	Forked Bridge	21.18		15/10/2009	No	
W4513	Lough Braden	8.32		06/08/2010	Yes	8.32
Total affected DI						8.32

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

During 2009 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 "2009 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

As discussed previously, for 2009 the water supply zones for regulatory customer tap sampling were completely redrawn and recalculated. The new zones were derived from NI Water's DMA information and the new polygons created by joining the DMA boundaries. Property counts for 2009 were directly obtained from a GIS property count on the Pointer data set (licensed from OSNI) using the new boundaries. For the purpose of scheduling, the population for each of the zones was derived by multiplying the number of properties in the zone with a fixed factor of 2.77. The %age of properties affected is therefore identical to the %age of population.

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. Again zones whose ADs had expired prior to the 31st December 2009 are highlighted in yellow, whilst those with population affected are highlighted in green.

2009 ADS by Water Supply Zone showing population affected

Zone Code	Zone Name	Population	AD End	Affected by AD	Population Affected
ZN0303	Dunore Point Ballymena	28805	15/10/2009	No	0
ZN0401	Dunore Point Antrim	78060	15/10/2009	No	0
ZN0501	Moyola Magherafelt	55768	16/07/2009	No	0
ZN0503	Unagh Cookstown	15582	16/07/2009	No	0
ZN0704	Lough Bradan Drumquin Lough Macrory	25398	06/08/2010	Yes	25398
ZN0706	Killyclogher	21143	06/08/2010	Yes	21143
ZN0901	Altmore Cabragh	4636	24/12/2009	No	0
ZN0902	Altmore Donaghmore	8816	24/12/2009	No	0
ZN1102	Seagahan Armagh	39875	24/12/2009	No	0
ZS0101	North Belfast Ballygomartin	43929	15/10/2009	No	0
ZS0102	South	41279	15/10/2009	No	0
ZS0103	Belfast Ballyhanwood	62934	15/10/2009	No	0
ZS0104	Belfast Breda North	48620	15/10/2009	No	0
ZS0105	Belfast Breda South	64924	15/10/2009	No	0
ZS0106	Belfast North	39223	15/10/2009	No	0
ZS0107	Belfast Oldpark	75546	15/10/2009	No	0
ZS0108	Belfast Purdysburn Dunore Point	44937	15/10/2009	No	0
ZS0110	Glengormley	36184	15/10/2009	No	0
ZS0502	Forked Bridge Dunmurry	63234	24/09/2009	No	0
ZS0503	Forked Bridge Stoneyford	26494	24/09/2009	No	0
ZS0801	Castor Bay Ardress	32363	24/09/2009	No	0
ZS0802	Castor Bay Lurgan	70380	24/09/2009	No	0
ZS0803	Castor Bay Portadown	74273	24/09/2009	No	0
				Total	46541
				All population affected	2250260
				Percentage affected	2.068%
				Percentage not affected	97.932%

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

As referred in line 2 above, during 2009 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 Braden WTW, legal instruments in the form of Authorised Departures were put in place at these sites under the agreement of DWI. These ADs expired prior to or during 2009 and are not included in the calculations.

Site Code	Site Name	MI/d Raw Water	Comment
		Deterioration	
W2501	Altmore	3.74	PAC for Pesticide removal
W4513	Lough Bradan	8.32	Upgrade for pesticide removal
Total		12.06	

Following MCPA exceedances in 2006/2007, Dorisland and Camlough WTWs had PAC installed and have increased monitoring of this parameter but no Authorised Departures in place. DWI is content with this methodology and again the sites have not been included in the calculations.

Site Code	Site Name	MI/d Raw Water	Comment
		Deterioration	
W2706	Camlough	4.30	PAC for Pesticide removal
W3317	Dorisland	26.47	PAC for Pesticide removal
Total		30.77	

Overall, therefore the volume for Raw Water deterioration is 0.

Line 7 – Conditioning water supplies to reduce Plumbosolvency

NI Water, as required by DWI following discussion with the Health Authorities, has put in place orthophosphoric acid dosing to control plumbosolvency in the distribution system. The average initial dose rate was approximately 1 mg/l following propensity testing. The level of dosing is reviewed annually against compliance with existing and future lead standards, with DWI being informed as to the proposed dosing rates. DWI have the opportunity to query the proposed dose rates. Following the annual review, many of the dose rates for 2009 were reduced.

Site Code	Site Name	MI/d Dosed Water
W1301P	Moyola PPP	14.507
W1302	Lough Fea	11.839
W1303	Dungonnell	9.273
W1310	Glarryford Borehole	4.320
W1501	Killylane	10.815
W1701P	Ballinrees PPP	25.689
W1702	Altnahinch	8.333

Site Code	Site Name	MI/d Dosed Water
W2308P	Castor Bay PPP	80.743
W2501	Altmore	3.740
W2509	Clay Lake	4.132
W2514	Seagahan	10.923
W2706	Camlough	4.300
W2801	Fofanny (New Works)	38.723
W2802	Carron Hill (New works)	6.780
W3301P	Dunore Point PPP	119.397
W3315P	Forked Bridge PPP	21.180
W3317	Doriland	26.472
W3801	Drumaroad	112.674
W4301	Carmony	18.562
W4306	Caugh Hill	20.309
W4501	Derg	13.176
W4513	Lough Bradan	8.319
W4523	Lough Macrory	11.729
W4541	Glenhordial	4.427
W4701	Killyhevlin	25.014
W4722	Belleek	1.653
	Total	617.029

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.

Table 10

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

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

DESCRIPTION	UNITS	DP	1		2		3		4		5	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	REPORTING YEAR 2008-09	CG	REPORTING YEAR 2009-10	CG	CURRENT YEAR 2010-2011	
A WATER DELIVERED - VOLUMES												
1	Billed measured household	MI/d	2	14.52		14.76		0.00		0.00		0.00
2	Billed measured non-household	MI/d	2	129.32		124.68		134.05		127.02		
3	Billed measured	MI/d	2	143.84		139.44		134.05		127.02		
4	Billed unmeasured household	MI/d	2	296.15		306.61		311.07		310.06		312.49
5	Billed unmeasured non-household	MI/d	2	41.73		24.48		20.80		11.38		
6	Billed unmeasured	MI/d	2	337.88		331.09		331.87		321.44		
B WATER DELIVERED - COMPONENTS												
7	Estimated water delivered per unmeasured non-household	l/prop/d	2	840.98	B4	803.30	B4	784.61	B4	665.60	B4	
7a	Estimated water delivered per unmeasured household	l/prop/d	2	434.10		443.29	B4	481.59	B3	470.49	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	158.41	B3	
9	Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2	158.88		158.34		0.00		0.00		
10	Underground supply pipe leakage (unmeas'd households)	l/prop/d	2	67.19		63.58		65.97		62.02		
11	Underground supply pipe leakage (ext. metered households)	l/prop/d	2	0.00		0.00		32.98		31.01		
12	Underground supply pipe leakage (other metered h'holds)	l/prop/d	2	0.00		0.00		0.00		62.02		
13	Underground supply pipe leakage (void properties)	l/prop/d	2	67.19		63.58		65.97		62.02		
14	Meter under-registration (measured households)	MI/d	2	0.45		0.53		0.00		0.00		
15	Meter under-registration (measured non-households)	MI/d	2	5.78		5.53		9.84		9.62		
16	Distribution system operational use	MI/d	2	9.12		4.97		4.72		4.80		
17	Water taken legally unbilled	MI/d	2	8.76		25.09		29.37		25.89		
18	Water taken illegally unbilled	MI/d	2	0.97		2.48		1.21		3.54		
19	Water taken unbilled	MI/d	2	9.74		27.57		30.58		29.43		
20	Water delivered (potable)	MI/d	2	305.89		498.10		496.50		477.89		
21	Water delivered (non-potable)	MI/d	2	0.00		0.00		0.0		0.00		
22	Water delivered (non-standard rates: potable)	MI/d	2	491.46		4.20		13.90		0.00		
23	Water delivered (non-standard rates: non-potable)	MI/d	2	0.00		0.00		0.00		0.00		
24	Distribution losses	MI/d	2	118.74		111.38		131.49		140.55		
25	Total leakage	MI/d	2	168.75	B3	156.52	B3	180.93	B4	186.86	B4	
26	Distribution input	MI/d	2	619.32	B2	614.45	B2	632.71	B2	623.24	B2	
27	Bulk supply imports	MI/d	2	0.00		0.00		0.00		0.00		
28	Bulk supply exports	MI/d	2	0.00		0.22		0.34		0.34		
29	Water treated at own works to own customers	MI/d	2	619.32		614.45		632.37		622.90		
30	Overall water balance	cg			B2		B2		B3		B2	
C SECURITY OF SUPPLY												
31	Security of supply index - company's planned levels of service	nr	0	N/C		-26		42		88		
32	Security of supply index - reference levels of service	nr	0	N/C		-26		42		88		

Table 10 – Non Financial Measures - Water Delivered

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 2010. 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 202.57 MI/d for total leakage and the Minimum Night Flow Method has provided a figure of 178.12 MI/d. When the resulting imbalance between the two methods of 24.45 MI/d is compared to the Distribution Input figure of 625.41 MI/d (pre MLE), it provides a percentage discrepancy of 3.91%. 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 186.86 MI/d.

In comparison with AIR09 figures, the imbalance has decreased by 6.02 MI/d from 30.47 MI/d in AIR09. This has further decreased the percentage discrepancy below the 5% threshold to a figure of 3.91%. A rise has occurred in the reconciled leakage of 186.86 MI/d, from the previous year's value of 180.93 MI/d. The primary factor for the increase in leakage was as a result of the 2010 winter freeze/thaw as well as some adjustment as a result of the adoption of company specific data and better information.

NI Water has continued throughout 2009/10 with the ongoing work in relation to the Water Balance Action Plan. The reported level of leakage has increased but this can be attributed to two factors:

- The most significant issue was the adverse weather conditions encountered during the winter months and this is explained in greater detail.
- Implementation of phase 2 of the water balance action plan with specific reference to the adoption of company specific assessments for the hour to day factor and the household night use assessment.

Winter Weather

The weather conditions between December 2009 and March 2010 were significantly colder than previous years. According to the Met Office data the average minimum temperature for the 2010 winter period (December 2009 to February 2010 for Northern Ireland was -1.02°C which was the second coldest winter period in the last 100 years and the coldest since 1963⁸. During this same period there were 48.7 days of air frost which was the third highest in the last 100 years.

The severe weather conditions between 21 December 2009 and 21 January 2010 brought widespread disruption to the water distribution system. Temperatures fell as low as -13°C (recorded at Castlederg in County Tyrone on the night of the 8/9th January 2010) and it was one of the most protracted cold spells across Northern Ireland in a generation. The freezing conditions and subsequent thawing caused a very significant impact on the water network with abnormally high numbers of burst mains and frozen pipes. As a result there were very significant water supply problems and a category 1 incident was instigated within NI Water.

Storage at a number of service reservoirs was depleted by bursts on the system and water treatment works operated at peak capacity to compensate for the increased daily demand. Daily distribution input from water treatment works peaked at around 800 MI/d on 14 January 2010 which was over 200 MI/d of an increase from the average volume for November 2009. The average daily distribution input for January 2010 was 718 MI/d compared to 663 MI/d during January 2009. Water tankers were deployed in a major tankering operation to restore reservoir levels and bring back those affected to supply. There was a very significant impact on bottom-up leakage levels which increased between the months of December 2009 and January 2010 by approximately 50 MI/d.

The freezing conditions not only occurred at night but also during the day. During the period from the 2nd to the 10th January 2010 overnight temperatures in most locations frequently fell between -5°C and -10°C , whilst temperatures during this period by day struggled to rise above freezing. This was highlighted by the number of air frost days in December and January of 15 and 17 days respectively. The number of air frost days in February and March 2010 was 17 and 12 days respectively also having a significant impact.

The weather conditions were such, particularly in the latter part of December 2009 and January 2010, that widespread ice and snow caused treacherous conditions on roads and pavements. Rural roads were particularly badly affected. The overall conditions were such that it made driving vehicles difficult, in some areas leakage detection was impossible and where possible leakage detection was very difficult. There was a ground cover of snow and ice with fittings buried and when found they were frozen over.

⁸ www.metoffice.gov.uk/climate/uk/datasets/Tmin/ranked/Northern_Ireland.txt

Prior to the freeze/thaw NI Water were on target to achieve a reduction of 4.0 MI/d over the 2009/10 year. However the impact of the extreme weather conditions was such that leakage levels increased significantly in January 2010. Despite the ongoing poor winter weather immediate action was taken to recover the leakage situation during the months of February and March 2010 and substantive gains were made. However the overall impact meant that there was an additional 3175 MI of leakage, which equated to an additional 9.0 MI/d of leakage (averaged across the 2009/10 year), as a result of the extreme winter weather conditions. Due to the severity of the impact of the weather on the distribution system the leakage recovery situation will continue into the 2010/11 year and will impact on the leakage assessment for a period of least 12 months after recovery to pre-winter levels.

Water Balance Review – Phase 2

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. As a result a Water Balance Action Plan was undertaken over a two year period. The first phase of the action plan was included in AIR09 and the output of the second phase is now included within AIR10. The first phase of the review looked at the following:

- Configuration of distribution input meters was rationalised to reflect with greater accuracy the water entering the distribution system.
- Ongoing improvements made to customer data.
- Improvements to the PCC assessment which included a comprehensive survey of properties and population within the PCC sites.
- Interim assessments of meter under registration for PCC sites (household properties) and non household properties.
- An interim NI Water specific assessment for household night use.
- An interim NI Water specific assessment of the hour to day factor and average zonal night pressure.
- Assessment of trunk main and service reservoir leakage to tie in with common industry practice.
- Updated assessment of underground supply pipe leakage utilising NI Water data.
- The method by which non-household night use allowances are used within the minimum night flow analysis was amended as an interim measure to provide a more robust approach to this calculation.
- The introduction of a confidence limit to the distribution input.
- Amendments made to the bottom up leakage assessment.
- The Maximum Likelihood Estimation was changed from a linear to a squares method.

NI Water indicated that at the Water Balance Action Plan would take 2 years to complete. Work in relation to the second phase is outlined as follows:

- The introduction of company specific meter under registration figures to replace the interim figures used in AIR09.
- A non household night use model has been developed and company specific figures can be attributed to the various categories of customer. The non household night use assessment has not been included within AIR10 as it is considered more appropriate that the assessment is introduced in conjunction with the new leakage management software.
- An update has occurred of the company specific household night use allowance.
- A company specific hour to day factor has been calculated to replace the interim assessment used in AIR09.
- The supply pipe leakage assessment has been updated and incorporated into the water balance.

As a result of the work over the last two years there has been improvement in the assessment of the water delivered components. As highlighted in AIR09 the scale of the work being undertaken has been considerable as it has represented a review of every component of the water delivered. The completion of the work, to date, to improve the assessment of these components in such a short timescale has been very challenging. When compared to the England & Wales companies this type of work was completed over a number of years with improvements being made year on year.

Further Work

On conclusion of this two year programme of work we do recognise that there is the need to address some further issues. During 2009/10 NI Water released a tender for new leakage management software and the project is now ongoing to replace the existing legacy system. This will impact on the DMA nightline assessment and hence the leakage estimate, to some degree. At present the effect of this can not be determined. In addition, the non household night use model needs to be applied to specific types of customers within each DMA and this requires the new leakage management software to implement and this will also impact upon the bottom-up leakage assessment.

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

Line 1 – Billed Measured Household

There are no billed measured households and the value is therefore zero.

Line 2 – Billed Measured Non-Household

The reported value for water delivered to non-households has decreased from 134.05 in AIR09 MI/d to 127.02 MI/d in AIR10. The water delivered to non-households has therefore decreased by 7.03 MI/d.

For AIR10, NI Water has developed a report that is a more robust representation of the total volume of water delivered in year (1 April to 31 March) to all billed metered customers. The report utilises metering data from

the RAPID billing system. This volume does not include test meters that are not billed, trade effluent volumes, free supplies or NI Water supplies which are included under water taken unbilled.

A non-household meter under-registration (MUR) value of 8.33% has been added to billed measured non-household use. The company specific MUR figure of 8.33% has been determined by WRc which replaces the interim assessment of 8.1% used for AIR09.

No allowance for underground supply pipe leakage has been added to this value as the measured non-households are all externally metered and therefore the billed consumption already includes underground supply pipe leakage (however, the figure for underground supply pipe leakage for measured non-households has been estimated and is part of total leakage in other lines of the table).

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

Line 3 – Billed Measured

This is the summation of lines 1 and 2.

Lines 4 to 6 – Billed Unmeasured Household and Non-Household Volumes

Line 4 – Billed Unmeasured Household

The reported value for Billed Unmeasured Household volume for AIR10 is 310.06 Ml/d. This is similar to the figure in AIR09 of 311.07 Ml/d.

The Billed Unmeasured Household volumes have been calculated by multiplying the average PCC figure for NI Water by the unmeasured household population. The source of the PCC figure is the NI Water domestic consumption monitor. The household population figure is sourced from the Northern Ireland Statistics and Research Agency (NISRA). Adjustments are made to this household population figure to account for:

- Non-Household Population – Sourced from the recent NISRA 2008 based population projections which replaces the figure used in AIR09 from the 2001 census.
- Unconnected Properties Population – The number of unconnected properties is sourced from the Northern Ireland Housing Executive (NIHE) Housing Conditions Survey report. The population of unconnected properties is determined by multiplying the assessed average occupancy from the NIHE report by the number of unconnected properties.
- 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 7.39% has been applied to this total volume. This percentage has been provided by WRc, as a result of a project initiated by NI Water, and is specific to NI Water's domestic consumption monitor meters. In AIR09 an interim assessment of 6.52% was used.

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

- In 2008/09 a comprehensive survey was carried out of the Domestic Consumption Monitor Areas. This survey covered a total of 5371 properties to determine the property types and occupancy rates. In 2009/10 1,245 properties were surveyed covering 22 sites. The survey again involved actual counts of types of properties in each area, counts of vacant properties in each area and the completion of survey questionnaires to determine occupancy. The 2008/09 and 2009/10 surveys have provided the population and property numbers for the AIR10 consumption monitor assessment. The overall occupancy rate is 2.51 for AIR10. The occupancy rate for AIR09 was 2.49. The NISRA interpolated occupancy rate for Northern Ireland is 2.49 for 2009/10. Anecdotal evidence gathered from staff undertaking the recent survey indicates that customers are aware that their water usage is being permanently monitored and that it may be having an impact on their behaviour. As a result of the surveys, replacing meters and undertaking leakage detection reviews this has likely to have raised NI Water's visibility and awareness with customers. The impact of when participants within a study modify their behaviour as a result of being the focus of investigation is known as the "Hawthorne Effect." A bias is introduced into the measurement of water use in that the population in the survey may not be fully representative of the population as a whole. Professor Adrian McDonald of Leeds University has researched this and carried out work for other GB companies such as South West Water, Yorkshire Water, and Essex & Suffolk. For AIR10 a bias of 1.5% has been applied which is very much at the low end of the range applied by other water companies.
- Use of company specific MUR value as determined by WRc to replace the interim company assessment which complies with the AIR09 recommendation from the Reporter.
- Replacement of 13 of the domestic consumption monitor meters that were over 5 years old. In addition 14 areas were removed from the monitor and 11 new areas identified and set up.

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

At the time of the freeze/thaw in late December 2009 and January 2010 NI Water advised customers not to run taps. There was anecdotal evidence that this was occurring with domestic customers, but we have been unable to make any assessment, and no allowance for such has been made within the

water balance. However it is likely to have been a factor in relation to water usage.

Line 5 – Billed Unmeasured Non-Household

The reported value for Billed Unmeasured Non-Household for AIR10 is 11.38 MI/d. The value reported in AIR09 was 20.80 MI/d

The assessed unmeasured non-household figure for AIR10 is 223.57 m³/prop/yr which is a reduction compared to a figure of 263m³/prop/yr for AIR09. The phasing arrangement for the average volume of unmeasured non-households, as outlined in Appendix 19.1 of PC10, applies.

As these unmeasured non-households have an allowance that has been estimated from metered non-households then underground supply pipe leakage has not been included in this figure. A non-household company specific MUR value of 8.33% is applied for AIR10. The interim MUR figure for AIR09 was 8.1%.

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

Line 6 – Billed Unmeasured

This is the summation of lines 4 and 5.

Lines 7 to 30 – Water Delivered Components**Line 7 – Estimated Water Delivered Per Unmeasured Non-Household**

The post MLE figure for estimated water delivered per unmeasured non-household for AIR10 is 665.60 l/prop/d. The figure reported for AIR09 was 784.61 l/prop/d.

The allowance for unmeasured non-household properties for AIR10 is 223.57 m³/prop/yr. The figure used for AIR09 was 263 m³/prop/yr.

Line 7a – Estimated Water Delivered Per Unmeasured Household

The post MLE figure for estimated water delivered per unmeasured household for AIR10 is 470.86 l/prop/d. The figure reported for AIR09 was 481.59 l/prop/d.

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

The post MLE figure for PCC for AIR10 is 158.41 l/hd/d. The figure reported for AIR09 was 158.97 l/hd/d.

NI Water has 112 domestic consumption monitors set up specifically to monitor unmeasured household consumption. These sites are small (average size of 50 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 141.47 l/hd/d. This assessment is based on 12 months consumption data from 1 April 2009 to 31 March 2010. This compares to a pre MLE figure of 141.53 l/hd/d for AIR09.

A company specific MUR value of 7.39% has been used for unmeasured PCC. This figure has been provided by WRc as a result of a project commissioned by NI Water and is specific to NI Water's domestic consumption monitor meters. The figure used for AIR09 was 6.52%.

A total of 13 meters were replaced in 2009/10 primarily, in the latter half of the year. Meters older than 5 years were prioritised.

In 2008/09 a major review was undertaken of domestic consumption monitored areas by completing a property and population survey. A follow up survey was undertaken in 2009/10 which covered 1,245 properties. The information from both surveys 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 been incorporated into the AIR10 PCC Monitor.

Although significant work has been undertaken, NI Water does recognise that there is a need to carry out ongoing reviews of its domestic consumption monitor areas to ensure that they are in accordance with best practice. As stated in AIR09 it is our aim to survey the sites on a rolling five year basis.

Line 9 – Per Capita Consumption (Measured Household - Excluding Supply Pipe Leakage)

There are no measured household supplies in NI Water; therefore no value has been input against this line.

Lines 10 to 13 – Underground Supply Pipe Leakage

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 AIR10 as 46.31 MI/d. The figure for AIR09 was 49.44 MI/d. The unit values are 62.02 l/prop/d for unmeasured, other households and void properties, with a value of 31.01 l/prop/d being calculated for externally measured households.

Properties in Northern Ireland have much longer lengths of supply pipes, at twice the average length, when compared to England and Wales. The total value of 46.31 MI/d is approximately 25% 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 and is consistent with AIR09. 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 2009/10 (carried out by Crowder Consulting).

During the reporting year an update of the estimation of underground supply pipe leakage was undertaken which again followed the guidelines of the UKWIR report 'Towards Best Practice for the Assessment of Supply Pipe Leakage'.

Lines 14 to 15 – Meter Under-Registration

Company specific MUR figures have been assessed by WRc for AIR10 to replace the interim figures used in AIR09. For non-household consumption the interim MUR figure for AIR09 was 8.10% which has now been replaced with the company specific assessment of 8.33% for AIR10. For household consumption the interim MUR figure was 6.52% which has now been replaced with the company specific assessment of 7.39% for AIR10 as per the Reporter's AIR09 recommendation.

Line 16 – Distribution System Operational Use

The reported value of Distribution System Operational Use (DSOU) for AIR10 is 4.80 MI/d. The value reported for AIR09 was 4.72 MI/d.

A review of DSOU was undertaken for AIR08. The methodology adopted has again been used again for AIR10. This included a review of the components that make up DSOU, such as service reservoir cleaning; mains renewal; repair flushing; water and chlorine sampling.

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

Lines 17 to 19 – Water Taken Unbilled

The reported Water Taken Unbilled figure has reduced from 30.58 MI/d in AIR09 to 29.43 MI/d in AIR10.

NI Water has carried out the following work in relation to water taken unbilled:

- As per AIR09 the volume of water used by WTWs has been included in Water Taken Legally Unbilled.
- Data has again been obtained from the Northern Ireland Fire & Rescue Service. The same methodology has been used for 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.
- The method used for the assessment of water used at unmetered waste water treatment works is consistent with AIR09.
- Unmetered SPS consumptions have been assessed on the average consumption of metered SPSs.
- 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 non-household test meter consumption has been assessed as 5.43 MI/d, including MUR, pre MLE.

Line 20 – Water Delivered (Potable)

All potable water supplied by NI Water is calculated as the sum of lines 3, 6 and 19.

Line 21 – Water Delivered (Non-Potable)

There are no non-potable supplies to NI Water customers.

Line 22 – Water Delivered (Non-Standard Rates: Potable)**Line 23 – Water Delivered (Non-Standard Rates: Non-Potable)**

There are no non-standard rates for non-potable supplies to NI Water customers.

Line 24 – Distribution Losses

Distribution Losses for NI Water are calculated by subtracting Lines 16 (DSOU) and 20 (Water Delivered) from Line 26 (Distribution Input). Distribution Losses for AIR10 are estimated to be 140.55 MI/d. This is an increase on the AIR09 figure of 131.48 MI/d.

Line 25 – Total Leakage

Total leakage is the sum of distribution losses and underground supply pipe leakage. The reported figure for total leakage for AIR10 is 186.86 MI/d. The reported figure for AIR09 was 180.93MI/d.

Total leakage is also calculated using an MNF methodology. For AIR10 reported pre MLE MNF method leakage is 178.12 MI/d. The figure reported for AIR09 was 170.74 MI/d.

NI Water has an extensive DMA network (approx. 1070 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 02:00 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 20th percentile method. Minimum night flows are recorded on a daily basis. The 20th 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. The night use allowance for households has been updated by Crowder Consulting for AIR10 and the figure is 2.42 l/prop/h. The figure used in AIR09 was 2.48 l/prop/h. For non-household properties the figure used for AIR10 is 8 l/prop/h which is the same figure used for AIR09. The non-household night use figure is from the WRc Managing Leakage Suite of Reports. A non household night use model has been developed and company specific figures can be attributed to the various categories of customer. The non household night use assessment has not been included within AIR10 as it is considered more appropriate that the assessment is introduced in conjunction with the new leakage management software.

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.

For AIR09 an interim hour to day factor of 22.5 was used. A company specific figure has now been developed for AIR10 which is 22.8. This work has been undertaken by Crowder Consulting.

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.

The AIR10 service reservoir and trunk main leakage assessments are the same as those within AIR09. Service reservoir leakage estimated as 4.53 MI/d and trunk mains leakage estimated as 13.66 MI/d. As per the Reporter’s recommendations NI Water has commenced in 2009/10 a series of drop tests on service reservoirs. In addition NI Water are also developing a tile analysis model to determine a company specific trunk mains leakage assessment as advised by the Reporter.

The net effect to the changes the made to the calculation of MNF method leakage are:

- Update to the household night use coefficient = approximately +0.5 MI/d
- Adoption of company specific hour to day factor = approximately +1.5 MI/d

The net effect, due to the changes made, is therefore an additional +2.0 MI/d.

The effect of the severe winter contributed about +9.0 MI/d to the MNF leakage. The overall impact of both the severe winter and the adoption of the revised household night use assessment and the company specific hour to day factor contributed an additional 10 MI/d

NI Water feels that the use of a 15% confidence is still appropriate for the MNF Method Leakage in the MLE calculations. This is consistent with the figure used in AIR09. Crowder Consulting carried out an exercise for AIR09 to determine an appropriate confidence limit for MNF method leakage that supports this value.

Line 26 – Distribution Input

The distribution input figure for AIR10 has been calculated as a post MLE figure of 623.24 MI/d. The distribution figure for AIR09 was 632.71 ML/d. The company specific confidence interval for distribution input for AIR10 is 2.13%. This is the same as AIR09.

As identified in AIR09 a comprehensive review of the reporting of distribution input was undertaken in 2008/09. The best practice adopted during AIR09 has continued to be carried out in 2009/10. In addition during the reporting year the following work has been undertaken:

- NI Water's M&E function has continued with the annual calibration of all DI meters.
- A meter verification study was undertaken by an independent body to determine the suitability of flow meter installations of the DI meter stock in accordance with best practice guidelines published by the National Engineering Laboratory for the auditing of flow metering systems. NI Water is currently considering the recommendations of this report.

At the time of the freeze/thaw because of the serious demand issue at that time three additional sources were brought into operation. Two of these were Drumabest BH and Alcrossagh BH which are included in the distribution input figure. However the other source was Cabragh BH which is not included in the distribution input as it was not metered and was a direct supply into a service reservoir from the borehole. This is not material as we estimate that it may have been of the order of 10 MI over 15.5 days which is approximately 0.027 MI/d over the 2009/10 year.

Line 27 to 28 – Bulk Supply Imports / Exports

There are no bulk imports of water to NI Water. There is one small import from the Republic of Ireland which supplies 3 properties.

There are 71 small exports to the Republic of Ireland. These exports are predominately individually metered customers and these meters are read and billed through RAPID in a category known as cross border supplies. This figure is included in the metered non-household consumption category.

The post MLE volume amounts to 0.34 MI/d and includes an MUR adjustment of 8.33%.

Line 29 – Water Treated At Own Works to Own Customers

With the exception of the 71 small exports above, all water treated at its own works is used by NI Water's own customers. The post MLE distribution input volume amounts to 623.24 ML/d and deducting the cross border exports the volume of water treated at own works to own customers is 622.9 MI/d.

Overall Water Balance**Table 1 Water Balance Table**

<i>Water Balance April 2009 - Mar 2010</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	125.11	10%	156.53	7.8%	1.91	127.02
Billed Unmeasured HH	299.12	10%	894.73	44.8%	10.94	310.06
Billed Unmeasured NHH	11.35	15%	2.90	0.1%	0.04	11.38
SPL	46.31					46.31
DSOU	4.78	25%	1.43	0.1%	0.02	4.80
Water Taken Unbilled	28.79	25%	51.81	2.6%	0.63	29.43
Sum of components	600.97					623.24
Distribution Input	625.41	2%	177.46	8.9%	2.17	623.24
Top Down Leakage	202.57					
BU Leakage	178.12	15%	713.89	35.7%	8.73	186.86
Imbalance (mld)	24.45			100.0%		
% Imbalance	3.91%					482.70

There is an overall imbalance of 24.45 MI/d, 3.91% of the distribution input. The imbalance reported for AIR09 was 30.47 MI/d, 4.79% 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 2010, the confidence grade applied to the NI Water's water balance is B2. The confidence level for the overall water balance for AIR09 was B3.

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 the water balance are shown in Table 2 below.

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%.

Table 2 Water Delivered Components Confidence Grades

Component	Reliability Bands				Accuracy Bands						
	A	B	C	D	1 <1%	2 1-5%	3 5- 10%	4 10- 25%	5 25- 50%	6 50- 100%	X
Unmeasured Household Per Capita Consumption (l/head/d)											
Unmeasured Non-Household Water Delivered (l/prop/d)											
Total Leakage (Ml/d)											
Distribution Input (Ml/d)											
Overall Water Balance											

Lines 31 & 32 - Security of Supply

Security of Supply is discussed in Table 10a.

Table 10 a (i)

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN 2010

ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES

Security of Supply Index - Planned level of service (Total)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	WAFU (EA definition) (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 surplus/deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit ² x % population affected x 100)	Security of supply index
Northern	55.08	50.00	0.00	82.00	76.67	23.08	4.73	18.35	21.15%	245.57	0.00%	0.00	
Southern	70.17	147.00	0.00	156.45	146.02	60.72	13.44	47.28	27.83%	413.33	0.00%	0.00	
Eastern	146.51	187.00	0.00	330.63	309.16	2.88	20.09	-17.21	-4.91%	900.08	50.28%	0.12	
Western	79.44	0.00	0.00	71.36	66.70	8.08	4.86	3.22	4.23%	160.60	0.00%	0.00	
Central	11.86	19.00	0.00	28.72	26.85	2.14	1.99	0.15	0.50%	70.57	0.00%	0.00	
Total	363.06	403.00	0.00	669.15	625.40					1790.15		0.12	88

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

As indicated in AIR09 NI Water is currently developing a water resource management plan. The security of supply index has been calculated based on this Draft 2010-2035 Water Resource Management Plan (DWRMP).

The new plan has adopted the latest methodology for producing water resource management plans and there has been a significant step change in the reported SOSI since 2008/09, which was 42, to the reported 88 for 2009/10. This is due to a number of reasons;

- A new approach for headroom (UKWIR (2002), *An Improved methodology for assessing Headroom*. Report 02/WR/13/2) used in the ongoing DWRMP has been utilized to assess the level of uncertainty in the supply demand balance. This methodology is more comprehensive than the previous approach and has reduced the level of uncertainty with regard to headroom which in turn has resulted in a lower headroom requirement than previous calculations for SOSI by NI Water.
- Revised Water Resource Zone (WRZ) boundaries that accurately reflect the current water supply situation within Northern Ireland. The 2002 water resource strategy had allowed for 15 water resource zones but with various network improvements since 2002 the current plan has been able to identify a total of 5 independent water resource zones. Previous SOSI calculations have indicated an overall surplus of WAFU across Northern Ireland as a whole but the low SOSI score was more a reflection of the inherited system of many small individual water supply systems. Separate supply demand balances are constructed at WRZ level. Surpluses in one or more WRZs may then be available for transfer across WRZs boundaries to meet deficits. A number of changes have taken place since the 2002 WRS and the current review has enabled a detailed reassessment of the supply system and the 5 WRZs identified are an accurate reflection of the water supply system. As a result there are fewer isolated zones and the WAFU can be made available more easily across Northern Ireland.
- A Review of the outage allowance has resulted in a 1% reduction as compared to the 2002 WRS allowance. The assessment of outage for WRS 2002 was based on discussions with each of the four Water Service Divisions in existence at the time, but no historic outage data were available. A nominal outage allowance of 3% of distribution input was assumed. For WRMP 2010 a structured interview was held with key NI Water staff to develop an understanding of outage, identify sources most at risk from outage events, and where possible to quantify these risks. After these consultations the outage was revised to 2%, based on the latest information available and an element of expert judgement.

- Distribution Input has been reduced further 2008/09

Eastern WRZ has a projected deficit of 17.21Ml/d; this is partly explained by the increased flow due to the freeze/thaw that the province experienced during January 2009 and February 2010. In addition the WAFU on each side of the East and South WRZs boundary requires a more comprehensive review under the WRMP and this will be possible once the completed trunk main hydraulic model becomes available towards the end of June 2010.

The calculation for AIR10 is believed to be a reasonable reflection of the current NI Water SOSI but it is possible that further review of the DWRMP during 2010 may result in some minor changes to the balance of deployable outputs available to the individual WRZs.

The total population figure used within the SOSI calculation has been confirmed to correspond with the population figure used in AIR 10 Table 7.

Table 10 (ii)

NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN 2010

ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES

Security of Supply Index - Reference levels of service (Total)

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 surplus/ deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit ² x % population affected x 100)	Security of supply index
Northern	55.08	50.00	0.00	82.00	76.67	23.08	4.73	18.35	21.15%	245.57	0.00%	0.00	
Southern	70.17	147.00	0.00	156.45	146.02	60.72	13.44	47.28	27.83%	413.33	0.00%	0.00	
Eastern	146.51	187.00	0.00	330.63	309.16	2.88	20.09	-17.21	-4.91%	900.08	50.28%	0.12	
Western	79.44	0.00	0.00	71.36	66.70	8.08	4.86	3.22	4.23%	160.60	0.00%	0.00	
Central	11.86	19.00	0.00	28.72	26.85	2.14	1.99	0.15	0.50%	70.57	0.00%	0.00	
Total	363.06	403.00	0.00	669.15	625.40					1790.15		0.12	88

Table 10a (ii) – Non Financial Measures - Security of Supply – Reference levels of service

As indicated in AIR09 NI Water is currently developing a water resource management plan. The security of supply index has been calculated based on this Draft 2010-2035 Water Resource Management Plan (DWRMP).

The new plan has adopted the latest methodology for producing water resource management plans and there has been a significant step change in the reported SOSI since 2008/09, which was 42, to the reported 88 for 2009/10. This is due to a number of reasons;

- A new approach for headroom (UKWIR (2002), *An Improved methodology for assessing Headroom*. Report 02/WR/13/2) used in the ongoing DWRMP has been utilized to assess the level of uncertainty in the supply demand balance. This methodology is more comprehensive than the previous approach and has reduced the level of uncertainty with regard to headroom which in turn has resulted in a lower headroom requirement than previous calculations for SOSI by NI Water.
- Revised Water Resource Zone (WRZ) boundaries that accurately reflect the current water supply situation within Northern Ireland. The 2002 water resource strategy had allowed for 15 water resource zones but with various network improvements since 2002 the current plan has been able to identify a total of 5 independent water resource zones. Previous SOSI calculations have indicated an overall surplus of WAFU across Northern Ireland as a whole but the low SOSI score was more a reflection of the inherited system of many small individual water supply systems. Separate supply demand balances are constructed at WRZ level. Surpluses in one or more WRZs may then be available for transfer across WRZs boundaries to meet deficits. A number of changes have taken place since the 2002 WRS and the current review has enabled a detailed reassessment of the supply system and the 5 WRZs identified are an accurate reflection of the water supply system. As a result there are fewer isolated zones and the WAFU can be made available more easily across Northern Ireland.
- A Review of the outage allowance has resulted in a 1% reduction as compared to the 2002 WRS allowance. The assessment of outage for WRS 2002 was based on discussions with each of the four Water Service Divisions in existence at the time, but no historic outage data were available. A nominal outage allowance of 3% of distribution input was assumed. For WRMP 2010 a structured interview was held with key NI Water staff to develop an understanding of outage, identify sources most at risk from outage events, and where possible to quantify these risks. After these consultations the outage was revised to 2%, based on the latest information available and an element of expert judgement.

- Distribution Input has been reduced further 2008/09

Eastern WRZ has a projected deficit of 17.21MI/d, this is partly explained by the increased flow due to the freeze/thaw that the province experienced during January 2009 and February 2010. In addition the WAFU on each side of the East and South WRZs boundary requires a more comprehensive review under the WRMP and this will be possible once the completed trunk main hydraulic model becomes available towards the end of June 2010.

The calculation for AIR10 is believed to be a reasonable reflection of the current NI Water SOSI but it is possible that further review of the DWRMP during 2010 may result in some minor changes to the balance of deployable outputs available to the individual WRZs.

The total population figure used within the SOSI calculation has been confirmed to correspond with the population figure used in AIR 10 Table 7.

Table 10a (iii) – Non Financial Measures - Security of Supply - Critical period

As indicated in AIR09 NI Water is currently developing a water resource management plan. The security of supply index has been calculated based on this Draft 2010-2035 Water Resource Management Plan (DWRMP).

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

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

The supplies available to NI Water are dominated by abstractions from Lough Neagh, which can be considered an infinite hydrological storage resource. In addition, recent demand data does not suggest that there is a strong peak demand driver in Northern Ireland. For these reasons, it is not appropriate or necessary to consider the critical period scenario for Northern Ireland, because this is not the primary driver for investment to maintain the supply demand balance.

On this basis there has been no need for NI Water to develop a SOSI calculation for a critical period.