

# Public Domain Version Annual Information Return 2008





## Annual Information Return 2008

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## **Annual Information Return 2008**

### **Board Overview**



## 2008 Annual Information Return Board Overview

### Compliance with the Companies (Audit, Investigations and Community Enterprise) (NI) Order 2005

Company law requires NI Water's Directors to give undertakings in respect of:

#### **Preparation of Financial statements**

The NI Water Directors have elected to prepare the financial statements in accordance with UK Accounting Standards and applicable law (UK Generally Accepted Accounting Practice).

The financial statements are required by law to give a true and fair view of the state of affairs of the Company and of the profit or loss of the Company for that period. In preparing these financial statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgments and estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

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. They have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Company and to prevent and detect fraud and other irregularities.

#### **Provision of information to the Reporter / Auditor**

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

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

Chris Mellor  
Chairman /  
Acting Chief Executive

Ronan Larkin  
Director of Finance & Regulation

Phil Barker  
Director of Operations

# 2008 Annual Information Return

## Board Overview

### 1.0 Introduction

AIR08 is NI Water's first annual information return covering its first year of operation as a regulated business. Its compilation, review and submission represent a significant resource commitment from many areas of the organisation. Inevitably, there has been a major learning process for the organization in understanding the implications of meeting its Licence obligations. However, NI Water's understanding of all Licence deliverables has improved with delivery and will improve further as a consequence of constructive feedback and guidance from the Utility Regulator.

Compiling the information requirements for this first annual return has been a major undertaking for NI Water. We note that the information requirements of the Utility Regulator in respect of the annual information return now exceed those of Ofwat – we have been obliged to supplement the annual information return with a Service Target Report and revised Capital Investment Monitoring template. These additional requirements have proved particularly burdensome given the developing nature of NI Water's information systems- a situation compounded by the tight annual information return timescale – which is 2 months shorter than Ofwat.

Notwithstanding these difficulties, NI Water has endeavoured to produce as complete an annual information return as is possible.

### 2.0 Processes and Internal Systems of Control

The Board of NI Water has sought to satisfy itself in respect of the adequacy of NI Water's information collection processes and internal systems of control. The Board of NI Water has overall responsibility for NI Water's system of internal control and for reviewing its effectiveness. The Board reviews the effectiveness of the system of internal control, including financial, operational, compliance and risk management, at least annually in accordance with the requirements of the Combined Code. The system of internal control is reviewed for effectiveness and adequacy. Such systems can only provide reasonable and not absolute assurance against material misstatement or loss, as they are designed to manage rather than eliminate the risk of failure to achieve business objectives.

Given the small number of regulatory returns so far made by NI Water; the limited feedback on these returns and the developing nature of NI Water's information systems, the Board of NI Water can give only limited assurance in respect of NI Water's processes and internal systems of control to meet the Utility Regulator's developing information requirements.

NI Water is in the process of developing its systems to provide financial and non-financial information in the Annual Information Return. This process will take time. The improvements will be driven by the following activities:

- the development of our econometric models;

- undertaking projects within the Business Improvement Programme such as Management Information, ICT and Asset Management;
- implementation of recommendations arising from relevant reviews by internal audit, external audit and the Reporter; and
- monitoring and review by the Executive Team, Board and the Shareholder.

NI Water expects that given the improvements now underway in developing our information systems, we would expect to demonstrate substantive improvements in the quality of returns over the next few years.

## 2.1 Completion of AIR08

In terms of the process for compiling the Return, an AIR08 project board was formed in February 2008 which has met regularly until June 2008. While formal data tables and data requirements were being developed, the Utility Regulator advised NI Water to compile AIR08 tables and commentary using the Ofwat JR08 guidance.

To improve reporting consistency for AIR08 (and subsequent years), the NI Water AIR08 project board developed written methodologies for most of the lines of the data tables. The methodologies were written by those responsible for the information collection and were endorsed by the relevant Head of Function and NI Water Director. The proposed approach for the completion of AIR08 was approved by the NI Water Executive Team and Board in March 2008.

Audit plans were developed by the Reporter and Auditor. The former was developed as required by the Utility Regulator's Reporter Protocol (issued January 2007). The audit plans were agreed with NI Water and submitted to the Utility Regulator in April 2008.

The Utility Regulator issued AIR08 tables and guidance in May 2008. It was at that stage that NI Water was also asked to complete a Service Target Report and Capital Investment Monitoring template as part of its AIR08 submission.

Draft tables, commentaries and methodologies were submitted to the Reporter and Auditor for review in May and June. Audits were undertaken in May and June. Feedback from the Reporter and Auditor was used to redraft the tables and commentaries.

The NI Water internal audit function was used to review key parts of the AIR08 submission and consider data assurance issues.

Challenge, in respect of data assurance, was provided by further consideration at the Executive Team; Audit Committee and Board Meetings in June 2008.

Endorsement of AIR08 was obtained from the Executive Team and Board in July 2008.

AIR08, excluding the Capital Investment Monitoring template and related tables, were finally submitted to the Utility Regulator on 31 July 2008.

The Capital Investment Monitoring template and related tables were subject to further internal review prior to its submission to the Utility Regulator in August 2008.

In summary, the involvement of the NI Water Board in AIR08 has been as follows:

- Reviewing performance reports from the company
- Receiving a presentation from the Reporter and from the Auditor through the Audit Committee in June
- Receiving presentations from the Regulation Manager and Business Improvement Manager on progress in compiling AIR08
- Receiving assurance and audit reports relating to the information in AIR08
- Reviewing, commenting upon and approving the AIR08 Board Overview document while having access to the full return
- Reference back to NI Water's senior managers to verify information
- Finally, non-executive directors receive reports on performance; and review, challenge, comment and influence the content of the Board Overview.

## 2.2 Internal Audit & Audit Committee Process

The Board reviews risk management and the effectiveness of the system of internal control through the Audit Committee and the Risk and Reputation Committee. The Board also keeps under review ways in which to enhance the control and audit arrangements in the Company. The Audit Committee and Risk and Reputation Committee receive quarterly reports from the Executive Team on the significant financial and non financial risks faced by the Company, an assessment of the effectiveness of controls over each of those risks and an action plan to improve controls where this has been assessed as necessary. Any significant control weaknesses that have been identified as requiring remedy are also reported to the Audit Committee and Risk and Reputation Committee respectively.

The Internal Auditors report on significant control issues to these Committees and provide objective assurance and advice on risk management and control. The Board formally confirms that procedures providing an ongoing process for identifying, evaluating and managing the principal risks faced by the Company, have been in place for the year to 31 March 2008 and up to the date of the approval of the Annual Information Return.

Key elements of the Company's processes and procedures for managing risk are:

- an organization structure with clear lines of accountability;
- regular, structured reviews of business risk by senior management;
- a scheme of delegated authority;
- pre-approval of plans, budgets and significant investments;
- monthly reporting and monitoring of financial results, regulatory compliance and other key business measures;
- a corporate risk register, updated quarterly and
- annual assurance provided by Internal Auditors.

Work continues to review and improve the system of internal controls across the Company. Any controls weaknesses identified have action plans to remedy them and those plans are

monitored by the Audit Committee, Risk and Reputation Committee and the executive management

In addition to the internal control framework detailed above, the following activities were undertaken in respect of AIR08:

- Development of systems and controls to populate AIR08 and other regulatory reporting requirements. This includes the ongoing development of methodologies to report against regulatory measures in conjunction with NIAUR;
- Projects associated with the One Programme, such as the Management Information, Information Communications Technology (ICT) and Asset Management projects
- Establishment of a Regulation Group under the chairmanship of the acting chief executive to review regulatory matters across NI Water including the development of systems and controls to produce regulatory returns.
- The four year internal audit plan - covering a number of systems used to generate regulatory information. This includes reviews of the AIR tables. Recommendations arising from these reviews will improve the systems and controls. Further work should be considered in relation to gaining additional assurance around the systems used to generate the regulatory data
- Econometric model development with Frontier Economics - a firm of economic specialists, appointed in November 2007, to advise on the development of regulatory analysis techniques and the development of systems and processes to populate the AIR. A company wide awareness programme in respect of regulatory analysis techniques will take place early 2008/09.

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

Notwithstanding the governance arrangements described above, the risks associated with NI Water, at this early stage of its development, remain considerably higher than for a more mature company. NI Water notes NIAUR's support for this view in their IWRP Strand 1 submission (September 2007), where operational risks were identified as being significantly higher "owing to the rapid transformation of the company over the next few years". NI Water looks forward to discussing with NIAUR how regulatory mechanisms can be amended to recognize these higher levels of risk. NI Water also believes that discussion with NIAUR would be useful in developing appropriate risk buffers to protect against risks and uncertainties which are outside NI Water management's control.

### 2.3 Material Assumptions / Judgements in AIR08

The following measures help to ensure that AIR08 complies with the Utility Regulator's guidance and provides some assurance in respect of material assumptions and judgements included in the AIR08 commentaries:

- Clear accountability at Director Level for the ownership of all elements of AIR08. NI Water has established an accountability trail from the information providers to the line owners through to Heads of Function and Directors.
- Briefings on the importance of the AIR08 process which have been disseminated through the AIR08 project board to all staff involved in the data collection process.
- Every data point in AIR08 has a designated provider, owner and Head of Function.

- Every non-financial data point provider produces a written methodology documenting the method used for the derivation of the data reported
- Every financial data point is prepared and reviewed by separate individuals and reconciled to the chart of accounts
- Every financial data point is reviewed against the NIAUR guidance by a separate individual to the preparer and reviewer. This includes undertaking cross checks of tables to ensure consistency.
- Before each data point is submitted for AIR08 it is reviewed and approved by Heads of Function and Directors in the data provider's business area
- NI Water facilitates access to allow the Reporter and the Auditor access to all relevant information required to enable them to discharge their duties
- The Board receives regular presentations during the course of the year on key performance indicators; regulatory performance and key issues for the Annual Information Return.
- The Reporter makes a presentation to the Board near the conclusion of the AIR08 process. Both the Reporter and the Auditor present to the Audit Committee near the conclusion of the AIR08 process
- Directors directly challenge the production and content of AIR08 to satisfy themselves that their duties are fulfilled
- In any case of uncertainty regarding data, commentary or methodology, NI Water seeks advice and clarification from the Utility Regulator, the Reporter and the Auditor as appropriate.

Finally, it should be noted that NI Water has a disclosure (“Whistleblowing”) policy. This is important in maintaining a working environment within which individual employees and contractors feel able (without fear of criticism, discrimination or reprisal) to bring to the attention of the company legitimate concerns about any wrongdoing in relation to regulatory matters.

### 3.0 Conclusion

The Board of NI Water concludes that, despite appropriate governance arrangements, the lack of fully developed systems and controls is bound to impact on the accuracy, reliability and completeness of the data in this, the company's first annual information return (AIR08). Consequently certain data requirements cannot be met or can only be provided with limited assurance. The Board of NI Water wishes to highlight particular concerns associated with the following:

- Customer numbers – Although data, with caveats, has been provided in AIR08, NI Water are undertaking a data integrity review with a focus on customer numbers. The findings of this review are to be shared with key stakeholders shortly;
- Leakage – For AIR08, NI Water have maintained a reporting methodology for mains water Leakage which is consistent with previous years. Notwithstanding this, NI Water recognize and are addressing the uncertainty associated with a number of components of the Leakage calculation,
- DG2 / DG3 / DG5 – NI Water is expending considerable resources on the development of low pressure, supply interruption and sewer flooding registers. The

information included in AIR08 in relation to these registers should be viewed in the context of this development.

The degree of reliance which can be placed on the information sets is indicated to all users and stakeholders by the commentary and relevant confidence grades.

In accordance with the Utility Regulator's guidance, the following Board Overview of AIR08 is formally endorsed by the undersigned:

Chris Mellor  
Chairman, NI Water

John Ballard  
Non-Executive Director, NI Water

**Board Overview**  
**Chapter 1**  
**Key Outputs and Service Delivery**  
**Tables A and B**

Approximately 795,000 domestic, agricultural, commercial and business properties in Northern Ireland are connected to the public water supply and each day we supplied some 619 million litres of high quality drinking water to customers. NI Water operated approximately 50 sources which comprised upland impounding reservoirs, boreholes, rivers and loughs. NI Water, through its Water Resource Strategy, has planned to ensure that demand for drinking water is met for the period up to 2030. The strategy emphasises the need to rationalise existing uneconomic water sources and concentrate on the sources that can meet our needs cost effectively and reliably.

**Water Quality**

In 2004 the Water Supply (Water Quality) Regulations (NI) 2002 came into force. These regulations implement the EC Drinking Water Directive (Council Directive 98/83/EC on the quality of water intended for human consumption). They fully incorporate, and go beyond, the requirement of the Directive and introduce tighter quality standards, particularly for lead and other health related parameters. They allow a time limited, authorised departure from the regulatory limit or certain parameters, provided that there is a planned programme of work at the Water Treatment Works (“WTW”) to improve the water quality, and provided that there are no adverse health implications arising from the departure. Compliance against these standards is monitored during the year through an extensive water sampling and testing programme. During 2007 this involved over 112,000 tests. Levels of compliance details are provided in NI Water’s 2007-08 Annual Report.

NI Water continued to meet the obligations placed upon it to comply with regulatory standards and heightened demands due to increased customer expectation. Investing in the extension and upgrading of water treatment works remains a top priority. Further details about the quality of drinking water are available in our Drinking Water Quality Report, which is published annually.

District Councils are also provided with details of the quality of drinking water supplied in their local areas. A drinking Water Quality Register, which provides results for each water supply zone, is available for inspection at any one of our four main offices at Belfast, Ballymena, Craigavon and Londonderry, during normal office hours.

The completion of the Public Private Partnership (“PPP”) works in 2008 will improve our regulatory compliance at the customer’s tap. NI Water also have planned work to upgrade treatment at Seagahan water treatment works.

## **Wastewater treatment and collection**

Investment levels in wastewater treatment in Northern Ireland have lagged far behind those in the rest of the United Kingdom for many years and this has resulted in compliance with European Union Directives also being significantly lower. We have recently embarked on a major capital investment programme to improve wastewater treatment facilities and increase levels of compliance. Although this will take a number of years to implement, we are already seeing improvement in compliance with the Wastewater Treatment Works Water Order Consents as set by the EHS. The ongoing improvement in compliance levels in 2007 is due not only to the commissioning of new and upgraded treatment facilities at sites such as Larne, Tandragee, Londonderry and Carrickfergus but also to the implementation of interim solutions at a number of other Wastewater Treatment Works.

Completion of further new Wastewater Treatment Works in the ongoing capital investment programme will lead to increased compliance with Water Order Consents. In addition to investing in major Wastewater Treatment Works, NI Water will commence a programme to address the underinvestment in small rural Wastewater Treatment Works.

## **EC Bathing Waters**

During 2007 the EHS monitored 23 identified bathing waters (under the European Bathing Water Directive) throughout the bathing season. The sites were those at which bathing is traditionally practised by large numbers of bathers and each site was sampled on 20 occasions during the season, which runs from June to early September. The Directive contains two standards on the quality of bathing water: a mandatory standard; and a more stringent guideline standard. In 2007, 21 of the identified bathing waters in Northern Ireland met the mandatory standard, and 11 met the higher guideline standards. Two bathing water areas (Newcastle and Ballyholme) failed the Bathing Water Directive standard. Compliance with Directive standards in 2007 was impacted by periods of heavy rainfall which results in intermittent discharges from the sewerage system.

A £47.5m Wastewater Treatment Works on the North Coast to treat the wastewater from Coleraine, Portrush, Castlerock and Portstewart was completed in June 2007 and should lead to further improvements in bathing water quality.

## **Customer Billing and Contact**

All customer contacts activity is managed through the NI Water Customer Relations Centre. There was the requirement to consolidate the new Company processes during the first full year of operation in 2007/08 which included the following:

- implementation of a Customer Service Improvement Programme to improve response to queries and resolving customer issues;
- utilising an independent market research company to continue to carry out regular surveys on call handling satisfaction;
- development of the methodology to measure performance at the customer interface in line with the requirements of NIAUR; and
- The publication of Codes of Practice in February 2008.

The Customer Service Development Programme for 2008/09 will comprise:

- Development of customer service to meet or exceed regulatory standards and targets defined in the new customer Codes of Practice;
- Implementation of a service quality strategy to improve the speed and quality of written and telephone responses to customers;
- Close working between all areas of business in NI Water to maximise the benefit to customers from planned developments in infrastructure, technology and the phased introduction of the Mobile Work Management system;
- Continuous liaison with NIAUR and CCNI in the development of a GSS by April 2009;
- Extension of non-domestic charging from April 2008; and
- Ongoing review of revenue assurance procedures to ensure optimum generation of income, recovery of charges and data integrity.

### **New non domestic charges**

From April 2008, sewerage charges will be introduced for all non domestic customers in Northern Ireland who are connected to the public sewers. At the same time there will be changes to the charging scheme for non domestic water customers. The charges will be phased in for the first year at 50% of the full charge. The charges are published in the Company's Scheme of Charges.

### **Metering Programme**

NI Water has been progressing installation of meters on new properties and first time connections to the water supply system. This has been introduced alongside a rolling programme of survey and installation of meters on non-domestic premises.

NI Water undertook the following activities to develop its metering strategy during 2007/08:

- A review of meter reading activity;
- Optimisation of meter reading schedules; and
- First stage appraisal of options for the application of new technology.

In 2008/09, pending the outcome of the consultation on the Independent Water Panel Review Reports, NI Water will continue the metering of new build properties and first time connections, in accordance with existing legislation, even though meters installed on domestic premises will not generate a charge or bills. The metering of non-domestic premises will continue towards the objective of universal metering in this sector, alongside a review of the approach to be adopted on premises which share a common supply pipe.

The development of NI Water's metering strategy will continue, in support of revenue assurance, through:

- The implementation of efficiencies in meter reading;
- The targeted introduction of new 'smart reading' technology on a cost benefit basis; and
- The rationalisation of the meters in the customer database that are not currently billed for regulatory reporting purposes as well as maximisation of revenue bearing meters.

## **Codes of Practice**

The 6 Codes of Practice issued in 2007/08 were:

- Our Customer Charter
- What to do if you have a complaint
- Priority Services for Domestic Customers
- Sewerage Services for Domestic Customers
- Guidance on dealing with leaks
- Water Supply Services for Domestic Customers

Pending confirmation on the future of charging following consultation on the Independent Review of Water and Sewerage services, NI Water will produce additional Codes of Practice in 2008/09.

The codes will cover the following areas and may also be accompanied by guaranteed standards:

- Water Meters;
- Domestic Debt Management; and
- Domestic water and sewage bills explained.

## **Customer Water Supply Issues and Sewer Flooding**

Water supply and sewer flooding are key areas of focus. NI Water played a major role in responding to severe flooding which affected Belfast and other parts of Northern Ireland in June 2007. In line with its Major Incident Plan Procedures, NI Water initiated a major response to minimise supply interruptions in Omagh in January 2008 resulting from a burst on the outlet watermain from Killyclougher Service Reservoir.

NI Water has been developing three systems during 2007/08 to collect reliable data on inadequate water pressure, interruptions to water supply and sewer flooding:

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

The Company has substantially developed a DG2 Register using information from zonal studies and field studies. Further work will be carried out in 2008/09 in refining this process and identifying those areas where capital investment has already been carried out.

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

A DG3 Register has been in operation since April 2007. The performance against our 2007/08 KPI on the percentage of the population experiencing interruptions in excess of 6hrs is shown in figure 6. Development of the DG3 process will continue during 2008/09 with performance improvements in the areas of data collection, operating procedures and management control.

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

The Company is continuing to develop its DG5 Register using historical flooding information. The register is becoming embedded in the business and will be a key determinant for the focus of future capital expenditure. KPI targets for sewer flooding have not yet been set or measured as flooding records are currently being compiled.

**Customer contact**

NI Water dealt with an unprecedented number of customer calls in 2007/08 arising from a number of factors which included septic tank emptying requests and the severe flooding in June 2007.

Board Overview  
Chapter 2  
Financial Performance Measures  
Table C

The financial information has been prepared in accordance with UK Generally Accepted Accounting Practice (UK GAAP). It is planned to adopt International Financial Reporting Standards (IFRS) in 2010/11. 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 and key assumptions and sources of information are provided below:

**Retirement benefit obligations**

Determining the amount of the Company's retirement benefit obligations and the net costs of providing such benefits requires assumptions to be made concerning long term interest rates, inflation, salary and pension increases, investment returns and longevity of current and future pensioners. Changes in these assumptions could significantly impact the amount of the obligations or the cost of providing such benefits. The Company makes assumptions concerning these matters with the assistance of advice from independent qualified actuaries. Details of the assumptions made are set out in the notes accompanying the financial statements in NI Water's Annual Report 2007-08

**Tax provisions**

Assessing the Company's new tax position requires judgments to be made regarding the result of negotiations with and inquiries from tax authorities. The assessments made are based on advice from independent tax advisers and the status of ongoing discussions with the relevant tax authorities.

**Financial results**

Turnover was £297.7m for the year to 31 March 2008. Included in turnover was £253.8m in subsidies from the Department for Regional Development ("DRD") - the remainder being metered charges and miscellaneous income. The subsidy covered the full domestic charge and the Northern Ireland Executive has decided that this arrangement will also remain in place during 2008/09. The final decision on domestic charging for 2009/10 and beyond has not yet been taken by the NI Executive.

Profit on ordinary activities before interest for the year was £63.9m. Operating costs in 2007/08 of £233.8m were impacted by a number of factors including the formation of NI Water and the extensive Business Improvement Programme. There were a number of costs outside the initial funding envelope which the Company had to absorb such as increased environmental provisions.

The net interest charge was £7.1m after netting off interest received during the year of £2.6m. Profit on ordinary activities before tax for the year was £56.8m. The tax charge for the year was £15.8m. The effective tax rate for the year to 31 March 2008 was 27.7%. A dividend of £34m was declared and approved during the year.

Gross capital expenditure for the year was £256.4m compared to the Strategic Business Plan (“SBP”) target of £273.0m (a decrease of £16.6m (6.5%)). The shortfall is mainly attributable to the reprofiling of the Capital Works Programme to generate capital cost efficiencies.

The focus at NI Water is meeting compliance targets, the improvement of efficiency levels and driving down operating costs. Continuous improvement will be necessary to ensure the Company is successful in meeting the targets set by DRD in the Strategic Business Plan period.

Net assets increased by 3.3% to £693.7m. The main movements in the balance sheet items were increases in fixed assets of £204.3m relating to our commitment to investment in the capital works programme offset by increases in net debt. The Company commenced with borrowings of £150 million under the Unsecured Loan notes 2027 Instrument as at 1 April 2007. This increased to £307.6m by year end to assist in the funding of the capital programme. In addition there was £58m in cash and deposits giving rise to a net debt figure of £249.6m at 31 March 2008. Gearing increased from 18.3% to 30.7% 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 £143.4m. An outflow of £7.4m was utilised in the servicing of financing arrangements. Net investing activities used £234.8m which mainly included the continuing capital expenditure to meet our obligations under the capital programme. There were no dividends paid in the course of the 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 2008 was £249.6m (an increase of £98.8m from 1 April 2007). The increase in net debt was sourced through an increase in net financial liabilities due after one year to £307.6m (1 April 2007: £150.0m). This relates wholly to borrowings on the Fixed Coupon Unsecured Loan notes 2027 Instrument. This instrument contains financial covenants, breach of which can trigger early payment.

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 Offered Rates (“LIBOR”).

### **Treasury policies and objectives**

Funding and treasury risk management functions are managed within the Finance and Regulation Directorate of NI Water. A central Treasury Function was established during 2007/08. The main purpose of the Treasury Function is to manage cash management, funding and liquidity, interest rate, foreign exchange, financial counterparty and operational risks associated with running a treasury function. These risks are managed in accordance with the terms of the Shareholder Governance Letter and current financing agreements.

During 2007/08 the Treasury Function has established standard procedures for the management of treasury transactions and account balances. Under the terms of the current Governance arrangements, NI Water is only able to place funds available for investment in interest bearing accounts available from Northern Bank. NI Water is not permitted to use banking or other similar financial services provided by any third party without the Department's prior written approval.

A new policy document for investment of cash balances has been developed for consideration by the Board during 2008/09. This new policy document seeks flexibility from the Board to enable the Treasury Function to place short-term cash investments with other financial institutions in order to maximise the returns on cash balances held by NI Water as well as spreading the risk of holding all cash balances with only one financial institution.

The Treasury Function is not operated as a profit centre and debt and treasury positions are managed in a non-speculative manner. The Company's Governance Letter and its procedures prohibit the use of derivatives for speculation. The Company did not enter into financial derivative instruments for hedging purposes during 2007/08. There are no immediate plans to utilise financial derivatives to hedge financial risks.

#### **Cash Management, Funding and Liquidity Risk**

The Treasury function employs a continuous forecasting and monitoring process to manage cash management and funding and liquidity risks. The Treasury Function invests any short term funds available for deposit based on its forecasted liquidity requirements and in accordance with the Shareholder Governance arrangements.

#### **Interest Rate Risk**

Interest rates on 100% of borrowings at 31 March 2008 were at fixed rates. NI Water has committed borrowing facilities available but unused at the year end on which interest is charged at floating rates based on LIBOR. Interest rates on deposits are fixed for the period of investment. NI Water also maintains an instant access investment account on which interest is earned at rates based on LIBOR.

#### **Foreign Exchange Risk**

The Company is not exposed to significant foreign exchange transactions.

#### **Financial Counterparty Risk**

During 2007/08 the Company was not exposed to significant counterparty risk. In accordance with the Shareholder Governance Arrangements banking services were transacted through the Northern Ireland Civil Service contract. Following the deferment of domestic charging it was agreed that a credit rating would not be carried out in 2007/08. It is planned to carry out a credit rating during 2008/09.

#### **Pensions**

The Company set up a defined benefit pension scheme on 1 April 2007 providing benefits based on pensionable remuneration. Employees who transferred from the Northern Ireland

Water Service at 1 April 2007 have the option to transfer their existing pension rights under the Principal Civil Service Pension Scheme Northern Ireland (“PCSPS (NI)”) to the NI Water Pension Scheme. In the absence of information on how many employees wish to exercise this option an actuary has provided an estimate at year end of the likely impact of this transfer. Further details of the scheme are disclosed in the NI Water Annual Report 2007-08.

### **Capital Investment**

NI Water’s Capital Investment for 2007/08 is set out in the NI Water Annual Report 2007-08. The majority of the Capital Investment relates to the Capital Works Program. The Company has invested approximately £58m on water production and distribution with focus on improving levels of service to customers and upgrading our treatment works and distribution network. The Company has invested approximately £156m on sewerage services with a focus on repairing our ageing sewers and maintaining and upgrading our sewerage treatment works to meet higher compliance standards.

**Board Overview**  
**Chapter 3**  
**Key Supporting Information**  
**Tables D and E**

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 £214m of capital infrastructure projects were delivered during 2007/08. This included the continuation of projects previously started along with the commencement of new projects. 27% of this capital programme was targeted at water projects while 73% was targeted at sewerage projects.

Some major projects which were completed during 2007/08 include:

- The North Coast Wastewater Treatment Works;
- Ballybrakes / Glenstall (Ballymoney) WwTW;
- Irvinestown WwTW;
- North Down Strategic Trunk Main;
- Clay Lake Zonal Watermain Improvements;

25 projects were commenced at high priority WwTWs. This will continue the on-going work to ensure compliance with the appropriate EC Directives and meet the regulatory discharge consent standards.

Significant projects within this programme of work included the following WwTWs:

- Derrylin;
- Enniskillen;
- Portaferry;
- Limavady; and
- Annahilt.

Work also started on improving the wastewater treatment facilities at a number of locations on the Ards Peninsula, including Ballywalter, Cloghy and Ballywhiskin. Improvements to the water treatment works at Seagahan (Armagh area) also commenced in 2007/08. Improvements were made to the watermain infrastructure in a number of areas throughout Northern Ireland, including Lough Fea (Cookstown / Draperstown), Armagh City, Cargan (Ballymena), and Altnahinch (Ballymoney). This is part of a three year programme of work to reline or replace some 910km of watermains. Work continued on the improving the sewer network in Londonderry City as well as the Belfast Sewer Project. £229m of capital projects are scheduled for delivery during 2008/09. This includes the continuation of projects previously started along with the commencement of new projects. In total 24% of the capital programme is targeted at water projects while 76% is targeted at sewerage projects.

Major projects which are scheduled for completion during 2008/09 include:

- Major improvements to the wastewater treatment facilities at locations such as Warrenpoint, Hilltown, Killen, Belleek and Derrylin;
- Portballintrae Zonal Watermain Improvements;
- Castor Bay/Moira Zonal Watermain Improvements;
- Sewer network improvements at Newry and Rostrevor; and
- Victoria Market and Gransha Pumping Stations as part of the on-going improvements to the Londonderry sewer network system.

Work will continue to ensure compliance with the appropriate European Community Directives and meet the regulatory discharge consent standards. Major projects which commenced in 2007/08 will continue throughout 2008/09, these include Portaferry, Limavady and Enniskillen Wastewater Treatment Works. Also continuing throughout the year is the work to improve the wastewater treatment facilities at a number of locations on the Ards Peninsula. Significant projects scheduled to commence in 2008/09 include:

- Moygashel;
- Ballyhalbert;
- Clough; and
- Castlecaufield.

It is also planned to initiate work on improving the wastewater treatment facilities at Crossmaglen, Portballintrae and Bushmills. Improvements to the water treatment works at Seagahan (Armagh area) will continue throughout the year.

It is planned to target improvements to the watermain infrastructure in a number of areas throughout Northern Ireland. A total of 16 zones are programmed for work that will include Castlereagh, Castor Bay/Craigavon, Portballintrae, North Down and Bangor, Altmore, Cookstown and Ballynahone. This will continue the three year programme of work to reline or replace some 910km of watermains throughout Northern Ireland.

Improvements to the sewer network will be undertaken at a number of locations including Portrush, Portadown, Ballycastle and Newcastle. Work will continue on improving the sewer network in Londonderry City as well as the flagship £100m Belfast Sewer Project.

### **Operational Effectiveness**

NI Water recognises the critical importance of optimising the existing asset base through good operational management and investment in technology to support better infrastructure management. This will build on current good practice with current compliance figures achieved through sustained attention to works which are operating beyond the capacity for which they were designed. The main steps undertaken in 2007/08 were:

- investment in telemetry for sites such as sewerage pumping stations not currently covered by the system to enable better early warning of plant and other operational failures to reduce pollution and flooding incidents;
- the development and implementation of improved maintenance approaches to mechanical and electrical equipment and plant to reduce the risk of operational failures through proactive, risk-based maintenance;

- the introduction of mobile working technology and industry standard business processes which will deliver significant efficiency, service and asset management improvements; and
- through development of strategic and tactical asset management processes, better risk-based decision making to ‘sweat’ the asset base and target investment more effectively.

These activities will continue in 2008/09 with particular focus on investment in telemetry for sites such as sewerage pumping stations and wastewater treatment works not currently covered by the telemetry system to enable better early warning of plant and other operational failures to reduce pollution and flooding incidents and assist in early warning of performance problems at treatment works.

### **Asset Management**

The implementation of Asset Management systems and preparation of the third Northern Ireland Asset Management Plan (NIAMP3) are central part of the regulatory arrangements introduced from April 2007.

The following activities were undertaken in 2007/08:

- The OneAm consortium (asset management partners) commenced work in April 2007 to assist NI Water both in the delivery of NIAMP3 and to assist in the implementation of new asset management systems and procedures;
- NI Water has started the implementation of the new ‘Asset Management Model’ (“AMM”) which sets out the roles, responsibilities, team structure and resource requirements for applying good asset management practice in NI Water;
- Development of single Corporate Asset Register (“CAR”) for assets;
- Commencement of approach to track performance of the SBP capital investment and to develop the quality of management information in this area.

The following additional activities will be undertaken in 2008/09:

- Acquire and deploy a Strategic Capital Investment Model (“SCIM”) tool to prioritise and optimise capital investment;
- Establish and refine a NI Water growth model to estimate future loads on wastewater treatment works using Planning Service and District Council information to facilitate performance and development in relation to headroom; and
- Acquire and commence the population of a Unit Cost Database (“UCD”) to provide consistent cost information which will be used for building programme costs, benchmarking, contract negotiation and developing efficiencies.

### **Public Private Partnerships (PPP's)**

NI Water requires capital investment of more than £3bn over the next 20 years to upgrade both water and wastewater assets and infrastructure in Northern Ireland. This investment will enable NI Water to meet the required drinking water and wastewater quality standards, and improve levels of service to meet the current and future demands of its customers. Given the extent of the water assets and infrastructure upgrades required to improve standards, ensure environmental compliance and increase capacity in the timeframe needed, it was recognised that the necessary resources cannot be met from traditional public sector funding alone.

The major PPP Programme was launched in 2004. NI Water is using the PPP approach to upgrade water and wastewater facilities, and sludge disposal, through Design, Build, Finance and Operate (“DBFO”) contracts, where affordable value for money can be obtained to meet its compliance timeframe. The Programme is split into Water and Wastewater PPP Projects known as the Alpha and Omega Projects. The PPP Directorate also manages the existing Private Finance Initiative (“PFI”) contract at Kinnegar.

### **Alpha Project**

The Project will provide a bulk potable water supply to NI Water in excess of 396Ml/d. The water treatment facilities included in the Alpha Project are located at Ballinrees, Castor Bay, Dunore Point, Forked Bridge and Moyola as well as associated link mains. These five major works will be consolidated to four sites as part of the improvement process.

### **Omega Project**

The wastewater treatment works included in the Omega Project are Craigavon Area rationalization (including Ballynacor, Bullays Hill and Seagoe), Armagh, Richhill, Ballyrickard, North Down / Ards and the Sludge Disposal Solution. The treatment capacity for these Omega Works is between a population equivalent of 300,000 and 303,000 excluding sludge disposal. The Omega project represents approximately 20% of Northern Ireland’s current wastewater treatment capacity, and 100% of its sludge disposal capacity.

### **Sustainable Procurement**

NIW is in the early stages of formulating its strategy on Sustainable Procurement, which will be developed further over the next 6 months and implemented with effect from April 2009.

The term sustainable procurement encompasses all issues where procurement is seen as having a role in delivering economic, social and environmental policy objectives. It is about looking at the content of Goods and Services, what are their constituents, where they come from and who has made them. Fundamentally, the greatest impact in terms of benefit for the environment is looking at whether the purchase needs to be made at all. If we do not buy the good or service, the environmental impact is zero, the budgetary impact is positive and scarce external resources are released to be put to good use elsewhere.

NIW policy concentrates on the Environmental, Economic and Social impact of our Purchasing decisions.

### **Environmental**

NI Water is committed to achieving the challenging targets on environmental impact given to us by DRD and NIAUR.

We are constantly challenging our suppliers to suggest ways of achieving more with less: less chemicals, less energy, less labour: and to consider alternative methods to reduce the impact of our activities on the environment.

Our own technical experts are constantly looking for examples of best practice elsewhere that we can adopt, and are themselves developing leading edge processes in conjunction with our suppliers to reduce the inputs required to achieve our deliverables in terms of water and waste water.

### **Economic**

NI Water has very tough financial targets set by NIAUR and DRD and therefore we are very conscious of the necessity to derive the highest value for money from our spend. We have to ensure that we strike the balance between obtaining items at the lowest price, consistent with our short term economic targets, and lowest lifetime cost, where perhaps we spend more money on the short term for a long term gain. Our models on calculating the Net Present Value of our purchase decisions are still developing.

### **Social**

NIW is not an overt instrument of social policy, yet we spend around £300 million each year so our impact on the local economy is substantial. NIW always considers the local impact of our purchasing decisions and actively encourages local suppliers to compete in our open competitions for work with NIW. While we have an obligation to constantly strive for ever greater economic efficiency, NIW is a large expenditure of tax-payers money in the local economy and the social benefits of keeping the money in the local economy are substantial.

We also strive to ensure that there is a constant pressure on local suppliers to improve their own efficiency and technical expertise, which while obviously benefiting NIW, should also help our suppliers to win business outside the Province.

### **Sustainability**

In our commitment to sustainability, NI Water has an Environmental policy statement which outlines the environmental objectives to which we are committed as part of a wider commitment to sustainability. These objectives are executed, maintained and improved on a continual basis under the direction of an internal Environmental Advisory Group. This policy is communicated throughout the organisation and implemented by our employees and throughout our supply chain.

NI Water acknowledges that its activities are reliant on the environment and have a well established Environmental Management System (EMS). The team dedicated to EMS provide guidance and focus on the legislative requirements for the protection of the environment, environmental issues (such biodiversity and climate change) and to uphold our corporate social responsibility. All NIW's activities are monitored and audited quarterly (internal and external audits) to the environmental international standard ISO14001 to ensure that we are carrying out our activities in a sustainable manner to protect the environment for future generations. We have recently received re-accreditation to ISO 14001. In addition to this, training and general awareness are provided to all internal staff and to those in our supply chain.

NI Water is a member of Water UK and makes Sustainability Reports on a yearly basis. We report on the following indicators: Governance, Environment, Society, Employees, Assets and Financial. All water company reporting allows us to benchmark ourselves against other UK Water companies for sustainable processes including procurement.

NIW is also a member of the Northern Ireland Sustainability Construction Group which makes quarterly returns based on the following indicators: Recycling of aggregates, waste management, and energy efficiency.

NIW drives sustainability within the environmental management system and sets yearly targets in their business plan to increase sustainability. Such targets for 07/08 include:

- Reuse/recycle 70% of excavated material on above ground Capital Work Projects
- Install 90% of new watermains (those which are achievable by length) using trenchless technologies
- Install 90% of new sewers (those which are achievable by length) using trenchless technologies
- Continually improving NIW's Environmental Management System and maintaining ISO 14001 status
- Increase the use of green energy which already runs 10% of the total and looking at opportunities in the market for additional renewable sources of power
- Improvement in environmental compliance with Waste water treatment works discharge standards
- Reduction in pollution incidents and untreated discharges from the sewerage system
- Improvements to the constancy of water supply and reductions to leakage of treated water

In our quest to work sustainably on our projects, we actively sought assessment of environmental quality of our civil engineering projects. An awards scheme known as 'CEEQUAL' (Civil Engineering Environmental Quality Assessment) encourages the attainment of environmental excellence in civil engineering projects, to deliver improved environmental performance in project specification, design and construction. In recent times, NIW has been awarded 'excellent' for two of its capital projects: - Greyabbey & Kircubbin wastewater treatment works; and Carran Hill Water Treatment works. We will continue to seek assessment of future projects.

As one of Northern Ireland's largest energy users, we endeavour to be energy efficient through purchasing of green electricity. We currently exceed our target of sourcing 8% of green energy by 2008. We are now looking at the options available to us to produce more energy in house through use of hydro and wind turbines.

## Board Overview

### Chapter 4

### Efficiency

NI Water recognises that a major Business Improvement Programme (“BIP”) - known as the 'One Programme', is required to deliver a sustainable business delivering at those levels. The BIP consists of a series of major projects running up to 2010.

The Projects within the BIP are integrated within the business. Many of these projects are referred to under Customers, Cash, People and Compliance sub-sections within the 'Operational performance, management of resources and financial performance section.' However, we have provided further information on the BIP below.

There are five major challenges facing NI Water in the successful delivery of the BIP. These are:

1. Developing a **high quality performance culture** which delivers more efficient outputs from our core business processes in:
  - asset management;
  - capital works delivery;
  - operational management; and
  - delivery of customer and stakeholder requirements.
2. **Delivering efficiencies** – by 2009/10 NI Water must deliver very demanding efficiencies of:
  - £53.8m in capital cost expenditure; and
  - £52.1m of operating cost efficiencies (from a 2003/04 baseline).
3. **Developing our people and building our organizational capability.**  
In any major restructuring where a company is working in a new, more challenging environment, a substantial focus is required to ensure that the skills and capabilities of our people match the needs of the company.
4. We must improve our **information management and our systems.**  
Currently we do not collect, use or systemise data in a way that meets our own increasing needs or those of our regulators. This means that we are data rich but information poor. We are developing an information strategy, supported by IT systems, to meet our managerial requirements and the needs of the regulators and other stakeholders.
5. An additional key challenge for NI Water in 2008/09 is preparing to deliver of the first Price Control (PC10) with the Utility Regulator.

## **Progress to Date**

The One Programme has already successfully delivered significant change in the context of the first year of NI Water. In particular during 2007/08 the programme has delivered in difficult initial circumstances and under intense stakeholder scrutiny -

- the £29.8m operational and 2.1% capital efficiency savings targets for 2007/08;
- successful implementation of Phase 1 and Phase 2 of the Mobile Work Management project;
- investment of £5m in technology improving our telemetry installations and our regulatory compliance;
- the development of an asset management model that will introduce good asset management practices across NI Water;
- in-depth research on the way that we procure goods and services;
- the implementation of a measurably improved 'New Connections' process for our customers; and
- a series of successful leadership events to communicate the One Programme to our staff and to commence engagement on the changing culture in the Company.

## **Key deliverables for 2008/09**

Some of the key deliverables for 2008/09:

- Delivering the cumulative operational expenditure efficiencies of £38.6m and cumulative capital expenditure efficiencies of £23.1m;
- Phase 3 of Mobile Work Management to give our customers real time updates;
- Successfully migrating to a new HR and payroll system;
- Developing an integrated strategy that will replace the existing contractual framework used for the procurement of the capital works programme;
- Implementing our Procurement and Contract Management Strategy; and
- Implementing revised procedures and protocols for governance and delivery of the Programme.

## **Efficiency Targets**

The operational expenditure programme targets efficiencies of £53.8m (26.5%) by 2009/10. The cumulative efficiency target set for 2008/09 is £38.6m (18.7%). The capital programme targets efficiencies of £52.1m (17% of total capital expenditure) by 2009/10. The cumulative capital efficiency target set for 2008/09 is £23.1m (8.3% of total capital expenditure). These efficiencies will be delivered through a series of major business improvement projects. NI Water is in the process of developing the systems to measure and report against the efficiency targets in conjunction with the Utility Regulator.

The above efficiency targets are higher than the efficiency targets set within the Strategic Business Plan. The Company has committed to achieving additional operational expenditure efficiencies of £3.2m for 2008/09 and is working with the Shareholder on the delivery of £6.5m additional efficiencies for 2009/10.

## Board Overview

### Chapter 5

### Competition

As previously indicated and pending the outcome of the IWRP Strand 2 consultation, the Board of NI Water believes that it is inappropriate to comment on the development of competitive services for the delivery of water and sewerage services for Northern Ireland.

There are no significant developments to report in respect of inset appointments; common carriage or water supply licensing proposals.

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

**ANNUAL RETURN - BOARD'S OVERVIEW**

**TABLE A - WATER SERVICE - KEY OUTPUTS AND SERVICE DELIVERY**

DESCRIPTION		UNITS	DP	BASE YEAR SBP 2006-07	REPORT YEAR 2007-08
<b>A SERVICE AND PERFORMANCE</b>					
1	DG2 Percentage of properties receiving low water pressure	%	2	N/C	1 29
2	DG3 Overall performance score	nr	2	1.39	1.43
3	DG4 % population - hosepipe restrictions	%	1	0	0.0
4	DG4 % population - drought orders	%	1	0	0.0
5	DG6 Percentage dealt with within 5 working days	%	1	73.13	95.0
6	DG7 Percentage dealt with within 10 working days	%	1	91.48	90.5
7	DG8 Bills for metered customers – performance	%	1	83.16	71.8
8	DG9 Percentage of calls abandoned	%	1	9.1	1.0
9	DG9 Percentage of calls receiving the engaged tone	%	1	0.05	0.0
10	Water ESL (1) enter description (including units)				N/C
11	Water ESL (2) enter description (including units)				N/C
<b>B DRINKING WATER QUALITY OUTPUTS</b>					
12	% mean zonal compliance with drinking water Regulations	%	2	99.34	99.30
13	% mean zonal compliance with PCV for iron at the tap	%	2	N/C	98.29
14	Water treatment works improvements	nr	0	N/C	0
14A	Water treatment works improvements (PPP)	nr	0	N/C	0
15	Distribution mains renovated for quality	km	2	N/C	N/C
16	Distribution mains cleaned for quality	km	2	N/C	0
<b>C ENVIRONMENTAL WATER OUTPUTS</b>					
17	Environmental impact - number of investigations	nr	0	N/C	N/C
18	Environmental impact - number of options appraisals	nr	0	N/C	0
19	Other environmental improvements	nr	0	N/C	0
<b>D SERVICEABILITY</b>					
20	Mains bursts per 1,000 km	nr	0	195	139
21	Water treatment work coliform non-compliance	%	2	N/C	0.12
22	Water Infrastructure	text		N/C	These lines can not be usefully completed as NI Water are developing systems to accurately record historic servicability trends
23	Water non-infrastructure	text		N/C	
<b>E DEFINED OUTPUTS FOR MAINTAINING BASE SERVICES</b>					
24	Water infrastructure (1)			<b>Description</b> The SBP did not contain specific base maintenance outputs. As indicated in Table 32, IRE for 2007-08 was £24.4m net and MNI was £42.7m gross.	
25	Water infrastructure (2)				
26	Water non-infrastructure (1)				
27	Water non-infrastructure (2)				

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

**ANNUAL RETURN - BOARD'S OVERVIEW**

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

DESCRIPTION		UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08
<b>A SERVICE PERFORMANCE</b>					
<b>Sewer flooding- internal</b>					
1	2 in 10 risk at end of year	nr	0	N/C	80
2	1 in 10 risk at end of year	nr	0	N/C	0
3	1 in 20 risk at end of year	nr	0	N/C	0
4	Properties flooded in the year (overloaded sewers)	nr	0	N/C	195
5	Properties flooded in the year (other causes)	nr	0	N/C	366
<b>Sewer flooding- external</b>					
6	Areas flooded externally in the year (overloaded sewers)	nr	0	N/C	899
7	Areas flooded externally in the year (other causes)	nr	0	N/C	4,283
<b>B QUALITY &amp; ENVIRONMENTAL COMPLIANCE</b>					
8	% of sewage treatment works discharges non-compliant (WRA numeric consents)	%	1	N/C	12.4
9	% of sewage treatment works discharges non-compliant (UWWTD consents)	%	1	N/C	14.0
10	% of total p.e. served by sewage treatment works in breach of WRA consent (LUT)	%	1	N/C	18.5
11	% of total p.e. served by sewage treatment works in breach of UWWTD consent (LUT)	%	1	N/C	10.6
12	% of intermittent discharges satisfactory	%	2	61.99	67.97
13	Percentage unsatisfactory sludge disposal	%	2	0	0.00
<b>B1 QUALITY &amp; ENVIRONMENTAL COMPLIANCE - PPP</b>					
8a	% of sewage treatment works discharges non-compliant (WRA numeric consents)	%	1		These lines cannot usefully completed this year as only 1 PPP site is in operation for 2007/8
9a	% of sewage treatment works discharges non-compliant (UWWTD consents)	%	1		
10a	% of total p.e. served by sewage treatment works in breach of WRA consent (LUT)	%	1		
11a	% of total p.e. served by sewage treatment works in breach of UWWTD consent (LUT)	%	1		
12a	% of intermittent discharges satisfactory	%	2		
13a	Percentage unsatisfactory sludge disposal	%	2		
<b>C QUALITY AND ENVIRONMENTAL ACTIVITIES AND OUTPUTS</b>					
14	Unsatisfactory intermittent discharges dealt with	nr	0	N/C	N/C
15	First time sewerage schemes - properties	prop	0	N/C	N/C
16	Sewage treatment works improved	nr	0	N/C	16
17	Additional sewage sludge arising from new quality obligations since April 2005	ttds	1	3.1	1.5
18	Total sewage sludge produced (inc. PPP)	ttds	1	38	38.4
19	Number of investigations completed related to the quality programme	nr	0	N/C	N/C
<b>D SERVICEABILITY TO CUSTOMERS</b>					
20	Sewer collapses per 1,000 km	nr	1	86.4	47.3
21	Nr of pollution incidents at CSOs and foul sewers (categories 1, 2 and 3)	nr	0	N/C	230
22	Percentage of sewage treatment works discharges failing numeric consents	%	2	N/C	12.40
23	Sewerage infrastructure	text		N/C	These lines can not be usefully completed as NI Water are developing systems to accurately record historic servicability
24	Sewerage non- infrastructure	text		N/C	
<b>E DEFINED OUTPUTS FOR MAINTAINING BASE SERVICES</b>					
25	Sewerage infrastructure (1)			<b>Description</b> The SBP did not contain specific base maintenance outputs. As indicated in Table 32, RE for 2007-08 was £24.4m net and MNI was £42.7m gross.	
26	Sewerage infrastructure (2)				
27	Sewerage non-infrastructure (1)				
28	Sewerage non-infrastructure (2)				

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

**ANNUAL RETURN - BOARD'S OVERVIEW**

**TABLE C - EXPENDITURE & FINANCIAL PERFORMANCE MEASURES**

DESCRIPTION		UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08
<b>A TOTAL EXPENDITURE</b>					
1	Total operating expenditure - water service	£m	3	N/C	95.358
1a	Total operating expenditure (PPP) - water service	£m	3	N/C	N/C
2	Total capital expenditure (excl. adopted and nil cost assets)	£m	3	N/C	80.389
3	Total operating expenditure - sewerage service	£m	3	N/C	88.395
3a	Total operating expenditure (PPP) - sewerage service	£m	3	N/C	2.872
4	Total capital expenditure (excluding adopted and nil cost assets)	£m	3	N/C	173.896
<b>B CURRENT COST ACCOUNTS - PROFIT &amp; LOSS</b>					
5	Total Turnover	£m	3	N/C	294.057
6	Current cost operating costs (including CCD & IRC)	£m	3	N/C	-278.250
7	Current cost operating profit	£m	3	N/C	17.077
<b>C CAPITAL BASE &amp; POST TAX RETURN</b>					
8	Capital Value Year - End (outturn)	£m	3	N/C	9.000
9	Total net debt	£m	3	N/C	250.717
10	Post tax return on capital	%	2	N/C	1.88
<b>D KEY FINANCIAL INDICATORS</b>					
11	Cash interest cover (funds from operations; gross interest)	ratio	2	N/C	12.26
12	Adjusted cash interest cover (funds from operation less capital charges; gross interest)	ratio	2	N/C	2.17
13	Adjusted cash interest cover (funds from operation less capital maintenance; gross interest)	ratio	2	N/C	5.12
14	Funds from operations: debt	ratio	2	N/C	0.43
15	Retained cash flow: debt	ratio	2	N/C	0.54
16	Gearing: D/RCV	%	2	N/C	2785.74

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**ANNUAL RETURN - BOARD'S OVERVIEW**

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

DESCRIPTION		UNITS	DP	BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08
<b>A OPERATING EXPENDITURE/PROPERTY ANALYSIS</b>					
1	Base service - operating expenditure/property served	£/prop	2	N/C	128.35
2	Enhanced service - additional operating expenditure/property served	£/prop	2	N/C	0.00
3	Improving and maintaining supply demand balance – additional operating expenditure/property	£/prop	2	N/C	0.00
4	Quality enhancements - additional operating expenditure/property served	£/prop	2	N/C	0.07
5	New outputs/obligations – additional operating expenditure/property served	£/prop	2	N/C	0.00
6	Water service - total operating expenditure/property served	£/prop	2	N/C	128.42
<b>B CAPITAL EXPENDITURE/PROPERTY ANALYSIS</b>					
7	Base service - capital maintenance expenditure/property served (infra and non-infra)	£/prop	2	N/C	52.70
8	Enhanced service - additional capital expenditure/property served	£/prop	2	N/C	7.99
9	Improving and maintaining supply/demand balance - additional capital expenditure/property served	£/prop	2	N/C	21.04
10	Quality enhancements - additional capital expenditure/property served	£/prop	2	N/C	21.16
11	New outputs/obligations – additional capital expenditure/property served	£/prop	2	N/C	0.00
12	Water service - total capital expenditure/property served	£/prop	2	N/C	102.89
<b>C CAPITAL WORKS ACTIVITY</b>					
13	Number of existing water treatment works refurbished for maintenance	nr	0	26	0
13a	Number of existing water treatment works refurbished for maintenance (PPP)	nr	0		0
14	Capacity of refurbished water treatment works for maintenance	MI/d	3	0.000	0.000
14a	Capacity of refurbished water treatment works for maintenance (PPP)	MI/d	3		0.000
15	Mains relined	km	2	10 05	0.00
16	Mains renewed	km	2	239 87	136.00
17	Total mains relined & renewed	km	2	249 92	136.00
<b>D WATER BALANCE</b>					
18	Distribution input (inc. PPP)	MI/d	2	619 32	614.45
19	Total leakage	MI/d	2	168.75	156.52
20	Total water savings achieved/assumed	MI/d	2	N/C	0.00
21	Water delivered	MI/d	2	788 07	498.10
22	Security of supply index (planned levels of service)	nr	2	N/C	-26.00
23	Security of supply index (reference levels of service)	nr	2	N/C	-26.00
<b>E METERING</b>					
24	Number of household meters renewed	nr	0	0	0
25	Meter optants installed	nr	0	0	0
26	Selective meters - installed	nr	0	0	0
27	Percentage of households metered	%	1	4.5	4.6
<b>F OTHER KEY SUPPORTING INFORMATION</b>					
28	Statutory GSS - Total number of GSS events: water and sewerage service	nr	0		N/C
29	Customers on the special assistance register	nr	0	N/C	N/C
30	Total revenue outstanding < 48 months as % of annual forecast revenue	%	2	N/C	N/C
31	Average connected properties - water (excluding void properties)	000	0	780	743

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

**ANNUAL RETURN - BOARD'S OVERVIEW**

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

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



**Annual Information Return 2008**

**Non-Financial/Financial Tables & Commentary**



NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

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

DESCRIPTION	UNITS	DP	1		2	
			BASE YEAR SBP		REPORTING YEAR	
			2006-07	CG	2007-08	CG
<b>A HOUSEHOLD - LEAKAGE</b>						
1	Number of household supply pipes repaired	nr	0	DX	495	C5
2	Number of household supply pipes repaired free	nr	0	DX	0	
3	Number of household supply pipes repaired - subsidised	nr	0		0	
4	Number of household supply pipes replaced	nr	0	DX	0	
5	Number of household supply pipes replaced free	nr	0	DX	0	
6	Number of household supply pipes replaced - subsidised	nr	0	DX	0	
7	Total savings achieved/assumed	MI/d	0	DX	0	C5
8	Total cost of initiative	£000	0	DX	0.00	
<b>B HOUSEHOLD - WATER EFFICIENCY METHODS</b>						
9	Number of cistern devices distributed to households	nr	N/C		188	C5
10	Number of cistern devices installed	nr	N/C		0	A1
11	Total savings achieved/assumed	MI/d	N/C		0.00	A1
12	Total cost of initiative	£000	N/C		N/C	
13	Number of water butts distributed to households	nr	N/C		N/C	
14	Number of water butts installed	nr	N/C		N/C	
15	Total savings achieved/assumed	MI/d	N/C		N/C	
16	Total cost of initiative	£000	N/C		N/C	
17	Number of water audit packs distributed to households	nr	N/C		N/C	
18	Total savings achieved/assumed	MI/d	N/C		N/C	
19	Total cost of initiative	£000	N/C		N/C	
20	Number of water audits carried out by the company in households	nr	N/C		N/C	
21	Total savings achieved/assumed	MI/d	N/C		N/C	
22	Total cost of initiative	£000	N/C		N/C	
<b>C NON HOUSEHOLD - WATER EFFICIENCY METHODS</b>						
23	Self water audit packs distributed to commercial customers by co.	nr	N/C		N/C	
24	Total savings achieved/assumed	MI/d	N/C		N/C	
25	Total cost of initiative	£000	N/C		N/C	
26	Water audits at commercial premises completed by co. or agent	nr	N/C		N/C	
27	Total savings achieved/assumed	MI/d	N/C		N/C	
28	Total cost of initiative	£000	N/C		N/C	
<b>D TOTALS</b>						
29	Total savings achieved/assumed	MI/d	N/C		0	C5
30	Total cost of initiatives	£000	N/C		81.23	B4
<b>E OTHER WATER EFFICIENCY METHODS</b>						
31	Other efficiency methods - company choice (company to enter description and multiple lines if required)	Unit			N/C	
32	Total savings achieved/assumed	MI/d			N/C	
33	Total cost of initiative	£000			N/C	

## **Table 1 - Key Outputs - Water Service 1**

### **Introduction**

NIW (Northern Ireland Water) is committed to implementing demand management activities in order to reduce the requirements for additional water resources. The Water Resource Strategy was published in 2002. It presents NIW (then DRD Water Service) with a comprehensive strategic resource plan, enabling them to meet its statutory obligations with confidence up to 2030. The Water Resource Strategy 2002-2030 determined current and projected water demands and resource capacities, as well as setting out regulatory water quality requirements, identifying source development options and capital investment needs.

Although NIW have no major supply-demand pressures, it is recognised that water resources are a precious resource and sound management is required for long term planning.

NIW has adopted a twin track approach by seeking to reduce the water into distribution by leakage reduction and water efficiency measures, while taking forward the long term planning, which is needed for the development of new sources. NIW continue to place strong emphasis on maximising the use of existing supplies.

NIW is committed to the promotion of water efficiency. The company published a Water Efficiency Plan in 2004 (copy attached). This plan dealt with the following:

- planning for the future
- managing demand
- reducing leakage
- saving water in the home
- saving water in the garden
- water efficiency for business customers
- teaching water efficiency in schools
- water efficiency in NIW

A new plan is currently being developed for the company with the intention that it will be published in 2008. However this is subject to an early outcome in relation to the current review of domestic metering.

One of the roles of the NIW Key Account Managers is to offer water efficiency advice to key non domestic accounts and NIW also publishes leaflets on Water Audits for Non-Domestic Customers. The strategy for Key Account Management in 2007/8 was 'implementation and consolidation' of new systems, structures and policies which meant dealing mainly with billing problems, as a result no water efficiency advice was given during the year by Key Account Managers. Our strategy for 2008/9 does include providing water efficiency advice to major customers, but realistically target implementation will not be before Q3.

NIW has an active programme to continue to reduce leakage and manage it down to the Economic Level of Leakage (ELL). NIW has reduced leakage from 291 Mld in March 2002, to the current position and is now working to an ELL target of 135 Mld by March 2010. Leakage is therefore recognised as an important component in the overall reduction in water demand and the company is committed to achieving or bettering these targets.

### **Households - Leakage**

NIW operates a 28 day Leakage Notice Procedure in accordance with the Water & Sewage Services (Northern Ireland) Order 2006 whereby a customer with a supply pipe leak receives a 28 day notice, informing them of the presence of a leak and their responsibility for its repair. NIW repair the leak if the customer has not done so in the 28 day period and the cost of the repair is passed to the customer.

Formerly NIW had operated a further 7 day notice, after the 28 day notice. This 7 day additional notice was removed during 2007/08. Therefore the run time has been reduced by 7 days.

On the 1<sup>st</sup> April 2007 there was a change in the legislation regarding leakage notices in Northern Ireland. Up until 31 March 2007 waste notices were issued under the Water & Sewerage Regulations (NI) 1973. However on 1 April 2007 the Water & Sewerage Services (NI) Order 2006 came into operation which allowed leakage notices (formally waste notices) to be served.

However, during the period between April 2007 and Sept 2007, notification letters only were issued to customers with leaks on their property while legal clarification on the legislation was provided. The number of letters issued was not recorded on the Leakage Activities Database (LAD). However, paper copies were retained. The result is that from April 2007 to September 2007, the number of supply pipes repaired is uncertain. In October 2007, the formal Leakage Notice was established and formal notices were issued to customers. During 2007/08 there were 495 supply pipes repaired by customers.

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

Estimated savings as a result of the Leakage Notice procedure have been assessed based on an industry average figure for the volume of a supply pipe leak (450 l/hr- UKWIR “Towards Best Practice for the Assessment of Supply Pipe Leakage”) and the number of Supply Pipe Leaks in 2007/08. It has been estimated that total savings achieved for 2007/08, in relation to this activity, was 0.53 Mld. However no lines exist for reporting this figure as line 7 only relates to free/subsidised repair/replacement of supply pipes.

**Lines 1-6      Number of Household Supply Pipes Repaired and Replaced**

NIW do not currently operate a Supply Pipe free/subsidised repair/ replacement policy.

**Line 7            Total Savings Achieved/Assumed**

No savings can be identified in relation to this line as the guidance only refers to free or subsidised repairs/replacement supply pipes.

**Line 8            Total Cost of Initiative**

NIW does not operate a free/subsidised supply pipe repair/ replacement policy. Any customer side supply pipe repair/ replacements costs are covered by the customer. NIW, on occasions, in agreement with the customer, will arrange for external repairs on a rechargeable basis.

**Household - Water Efficiency Methods**

NIW has a commitment to providing education on water efficiency through presentations to schools; community groups; tourism providers; environmental organisations and youth clubs. To this end NIW engaged two full-time staff at the beginning of AIR08 to deliver presentations to groups and schools. Table 1 in the Appendix lists the presentations to groups and schools in 2007/2008.

The NIW Water Education Team attend Eco Fairs at schools and Green Living Fairs for the general public .The Spring House and Garden Show was attended in April 2007, The RUAS (Balmoral Show) in May 2007, and the Lifestyle Green show in September 2007, where leaflets were distributed on “Using Water Wisely”. A Heritage Day was held at Silent Valley in September for 200 children which included water conservation.

The NIW Water Education Team promotes water efficiency at their Education Centres, at the Silent Valley and Wastewater Heritage Centre, Duncrue where sessions take place weekly. They also organise educational visits to the Wastewater and Water Treatment Centres for both schools and the general public.

A variety of water efficiency promotional and educational materials are distributed at all types of presentations, these include:

- Book markers promoting water efficiency in the home
- Water-butt leaflets
- Drought resistant gardening leaflets and seeds to school/ adult groups
- Promotional and educational leaflets
- School water audits
- Conservation snakes and ladders
- Hippo bags
- Shower timers

- Pencils
- Fridge magnets

Table 2 in the Appendix lists the number of water efficiency promotions distributed by the NIW Water Education Team, in 2007/2008.

Table 3 in the Appendix lists the water conservation activities/ information delivered by the NIW Water Education Team during 2007/2008.

A significant number of leaflets existed in relation to water efficiency under DRD Water Service. During 2007/08 a number of these leaflets have been updated and revised to reflect the Company's new branding which include A Guide to Drought Resistant Gardening, Using Water Wisely, Guidance on Dealing with Leaks and Using Water Wisely Audit for Schools. It is estimated that there were 100,000 Hippo Bags distributed, over a number of years, while NI Water Service existed. The Hippo Bag is primarily used in larger volume cisterns. The installation rate and subsequent water saving rate from Hippo Bags is uncertain. The Company has not assumed any savings from these devices.

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

Cistern displacement devices are provided to customers, upon request through Customer Relations Centre (CRC). However though this route the figure was zero for 2007/08. These devices were distributed on request from organisations, Eco-schools groups and the general public. Each teacher was issued with a sample, as part of their visit from the Water Education Team, to the Waterbus or at our Educational sites. Table 4 lists the number of cistern devices distributed in 2007/2008.

Month	Number of Hippo Bags
September	
October	
November	36
December	17
January	
February	
March	135

**Table 4. Distribution of cistern devices 2007/2008**

#### **Lines 13-16 Water Butts**

Water butts are not currently provided by NIW.

#### **Lines 17-22 Water Audits- Households**

None of these have been issued this year to date.

## Non-Household - Water Efficiency Methods

In 2007/08 NIW employed Key Account Managers. They are responsible for those customers using more than 10,000m<sup>3</sup> of water per annum and they are the primary contact with these customers.

NIW offer a large user tariff discount scheme ([www.niwater.com/largeusertariff](http://www.niwater.com/largeusertariff)) which is dependent on the commitment of the customer to water efficiency. This is likely to include the installation of water saving devices, recycling plants and a review of water efficiency by an independent industry expert.

### Lines 23-28 Water Audits - Commercial Customers

None of these have been issued this year to date...

### Totals

#### Lines 29-30 Totals

#### Water Efficiency Costs

Activity	Cost (£)
Education Officers	34,322
Waterbus	29,598
Hippo bags	160
Shower Timers	225
Pencils	2,040
Magnets	1,997
Bookmarks	668
Games	218
Use Water Wisely Leaflet	3,000
Drought Resistant Gardening Leaflet	3,000
Leakage Code of Practice Leaflet	3,000
Using Water Wisely Audit for Schools Leaflet	3,000
<b>Total</b>	<b>81,228</b>

#### Other-Water Efficiency Methods

NIW has during 2007/08 has undertaken development of its website and it now includes an educational element, ([www.niwater.com](http://www.niwater.com)) promoting a variety of water efficiency initiatives; quizzes and games for children as well as explanations of the water cycle and advice on using water wisely.

NIW has a dedicated Water Education team consisting of 2 full time employees who deliver presentations to a variety of groups. They work with the Eco schools award system as a provider on water conservation. Classroom presentations are given throughout the year. This team also run the "Waterbus"- a double-decker bus, which has been transformed into a

mobile education unit. This exhibition aims to make children aware of a range of water issues such as the water cycle, water for health, water sources, water/wastewater cleaning and water efficiency. The Waterbus uses a number of educational tools such as; displays, quiz, models, experiments, DVDs and computer facilities. The Waterbus attends presentations and demonstrations, twice weekly, to primary schools. . The programmes have been written for Key Stage One (P1-P4) and Key Stage 2 (P5-P7) and Key Stage 3. The subject of Water Efficiency is included in presentations under “Conservation in the home” and includes advice on: turning off leaking taps, fixing washers, using shorter washing machine programmes, smaller cisterns, using a shower instead of a bath, water butts in the garden, grey water usage, watering cans vs. a hose, leaks in the home, controlling toilet flushing in school and home. Shower timers are now being distributed to Eco clubs at Eco Fairs or on request

NIW has highlighted throughout the year the issue of water efficiency and during the Christmas and New Year period highlighted the potential for frozen pipes. Just before Christmas 2007 leaflets were inserted in the Irish News and Belfast Telegraph making customers aware of the impact of cold weather that could ultimately result in burst pipes within their homes.

NIW promotes water efficiency on all Company vehicles through the ‘Water is precious’ logo.

NIW has a free “Leakline” telephone number (0800 0282011). 4,688 contacts were made, through this number, by customers in 2007/08. The Ellipse system indicates that as a result of customer response, through Leakline, there were 2,160 jobs created. The further utilisation of MWM through the use of Toughbooks to operatives should greatly assist with the identification of the actual number of leaks.

On 18<sup>th</sup> May 2007 the Minister for Regional Development opened a visitor centre at the Silent Valley. The centre includes graphics; historical artefacts; audio visual displays and interactive material where visitors can learn about water conservation and wildlife.

NIW also has a well established Wastewater Heritage Centre at Duncrue, Belfast. The heritage centre explains the history, importance and techniques of waste water and sewage management. The wildlife area takes the form of a freshwater pond, fringed with associated habitats designed to be attractive to bird life and to make a contribution to nature conservation within the Belfast Lough Area. The issue of water efficiency and conservation is an integral part of the centre with an emphasis on the linkage with wastewater treatment and the environment.

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

The Company recognises, that as a result of the water efficiency work undertaken through the NIW's Education Team, utilisation of the Water Bus, use of NIW sites such as the Silent Valley Visitor's Centre and Heritage Centre, distribution of shower timers and pro-active PR (leaflets and press notices) there is likely to be water efficiency savings. However, at this time, NIW are unable to quantify the savings that may have been achieved.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

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

DESCRIPTION	UNITS	DP	1		2		
			BASE YEAR SBP		REPORTING YEAR		
			2006-07	CG	2007-08	CG	
<b>A DG2 PROPERTIES RECEIVING PRESSURE/FLOW BELOW REFERENCE LEVEL</b>							
1	Total connected properties at year end	000	1	794.7	A2	800.018	A2
2	Properties below reference level at start of year	nr	0	N/C		N/C	
3	Properties below reference level at end of year	nr	0	N/C		10,321	B4
4	Properties receiving low pressure but excluded from DG2	nr	0	N/C		N/C	
<b>B DG3 PROPERTIES AFFECTED BY SUPPLY INTERRUPTIONS</b>							
<b>(i) UNPLANNED INTERRUPTIONS</b>							
5	More than 3 hours	nr	0	41241	B4	60,662	B3
6	More than 6 hours	nr	0	10285	B4	9,483	B3
7	More than 12 hours	nr	0	767	B4	1,839	B3
8	More than 24 hours	nr	0	9	B4	72	B3
<b>(ii) PLANNED AND WARNED INTERRUPTIONS</b>							
9	More than 3 hours	nr	0	77958	B4	39,237	B3
10	More than 6 hours	nr	0	41803	B4	20,273	B3
11	More than 12 hours	nr	0	265	B4	62	B3
12	More than 24 hours	nr	0	25	B4	0	B3
<b>(iii) INTERRUPTIONS CAUSED BY THIRD PARTIES</b>							
13	More than 3 hours	nr	0	6258	B4	1,472	B3
14	More than 6 hours	nr	0	854	B4	510	B3
15	More than 12 hours	nr	0	185	B4	22	B3
16	More than 24 hours	nr	0	175	B4	6	B3
<b>(iv) UNPLANNED INTERRUPTIONS (OVERRUNS OF PLANNED INTERRUPTIONS)</b>							
17	More than 6 hours	nr	0	404	B4	835	B3
18	More than 12 hours	nr	0	40	B4	99	B3
19	More than 24 hours	nr	0	0	B4	0	B3
<b>C POPULATION</b>							
20	Population (winter)	000	2	1743.46	B2	1,771.11	B2
<b>D DG4 RESTRICTIONS ON USE OF WATER</b>							
21	% population - hosepipe restrictions	%	1	0	A1	0	A1
22	% population - drought orders	%	1	0	A1	0	A1
23	% population - sprinkler/unattended hosepipe restrictions	%	1	0	A1	0	A1

## **Table 2 - Key Outputs - Water Service 2**

This information was derived from information supplied by the Customer Billing and Contact centre actual record counts at 01 April 08 (CBC; Crystal Alliance) for table 7 from the Rapid system.

It should be noted that data regarding connections to unmetered properties (especially domestic properties) is potentially not up to date as it is derived from Land and Property Services (LPS). NIW last received a LPS update in March 08; that said we are aware that the information may potentially be 2-3 years out of date in places. Notwithstanding this it is considered to be the best source of information available to NIW and commensurate with information held by the former Rates Collection Agency (RCA). Had the launch of customer billing not been postponed in April 07 the company would have been in possession of more accurate data given customer communications associated with billing issues.

### **Confidence Grades**

As this data is derived from the Rapid system and has been the subject of a recent data checking project it has been assigned a confidence grade of "A2"

### **A: DG2 PROPERTIES RECEIVING PRESSURE/FLOW BELOW REFERENCE LEVEL**

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

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

#### **Lines 2 Properties below reference level at start of year**

NIW has compiled this DG2 register during 2007/2008. The figure at the start of the year was therefore unknown.

#### **Lines 3 Properties below reference level at end of year**

The number of properties receiving pressure below the reference level for AIR 2008 is 10,321. NIW have used a surrogate pressure of 15m in the adjacent main to measure the number of properties below the reference level.

#### **Lines 4 Properties receiving low pressure but excluded from DG2**

There are currently no exclusions based on the methodology set out in Ofwat's Chapter 2 guidance. NIW plan to identify properties falling under the exclusion process during 2008/09 for AIR 2009.

## **Data collection and methodology.**

NIW has over the past 5 years, through WS Atkins Consultants, been undertaking a review of its water network by carrying out Detailed Zonal Studies (DZS). NIW has utilised the data from the DZS to determine those properties that are deemed to be below the DG2 reference level.

The properties receiving below the level of service were identified using the following methodology:

- A Detailed Zonal Study (DZS) on an 'all mains hydraulic model' is constructed for the zone under investigation. This is based on the field test logged pressures and flows, and calibrated to the tolerances set out in the Detailed Zonal Studies Specification based on the WRC Water Mains Hydraulic Modelling Manual and industry best practice. The demand in the model is calculated from the flow into the zone on the calibration day, the number of domestic properties from Pointer, metered consumers, leakage etc. This demand is then peaked to represent the ADD (average daily demand) and ADPW (average day - peak week) demand scenarios. These represent the typical operation of the system (ADD) and a typical peak flow in the system (ADPW).
- During model construction the Pointer data is reviewed to resolve issues with multiple properties on one location (incorrectly located properties), properties missing from the model (new housing sites) and remove abandoned or no demand properties (electricity sub stations used to be shown as a "Property" in pointer) amongst other issues with the data. Once the data is cleansed, Model Manager (the model construction software) will allocate the property to the nearest main perpendicular to that property. The main has to be in the same DMA and has to be defined as allowing properties to connect to it (not a trunk main or some pumped mains for example). The modeller then reviews the property allocation to ensure there are no situations where properties have been assigned to the wrong main. This might be rural properties with long services to a distant main rather than crossing a stream to a closer main, or properties in urban areas where there are several water mains. Model Manager then allocates this demand to the nearest node to allow the hydraulic modelling software (Aquis) to calculate flows and pressures in the system.
- Once the model is constructed, calibrated and peaked the results are available for the DG2 information. The minimum pressure at each node in the ADPW model is extracted into MapInfo. The Pointer data used for the model construction is extracted from Model Manager into MapInfo and the two files are sent to the NIW AIC (Asset Information Centre) for analysis and to identify those properties falling below the surrogate pressure of 15m.

The Detailed Zonal Studies data covered 66% of Northern Ireland up to the 31<sup>st</sup> March 2008. NIW engaged Halcrow to cover the remainder of Northern Ireland. The remaining 34% was covered using the following methodology:

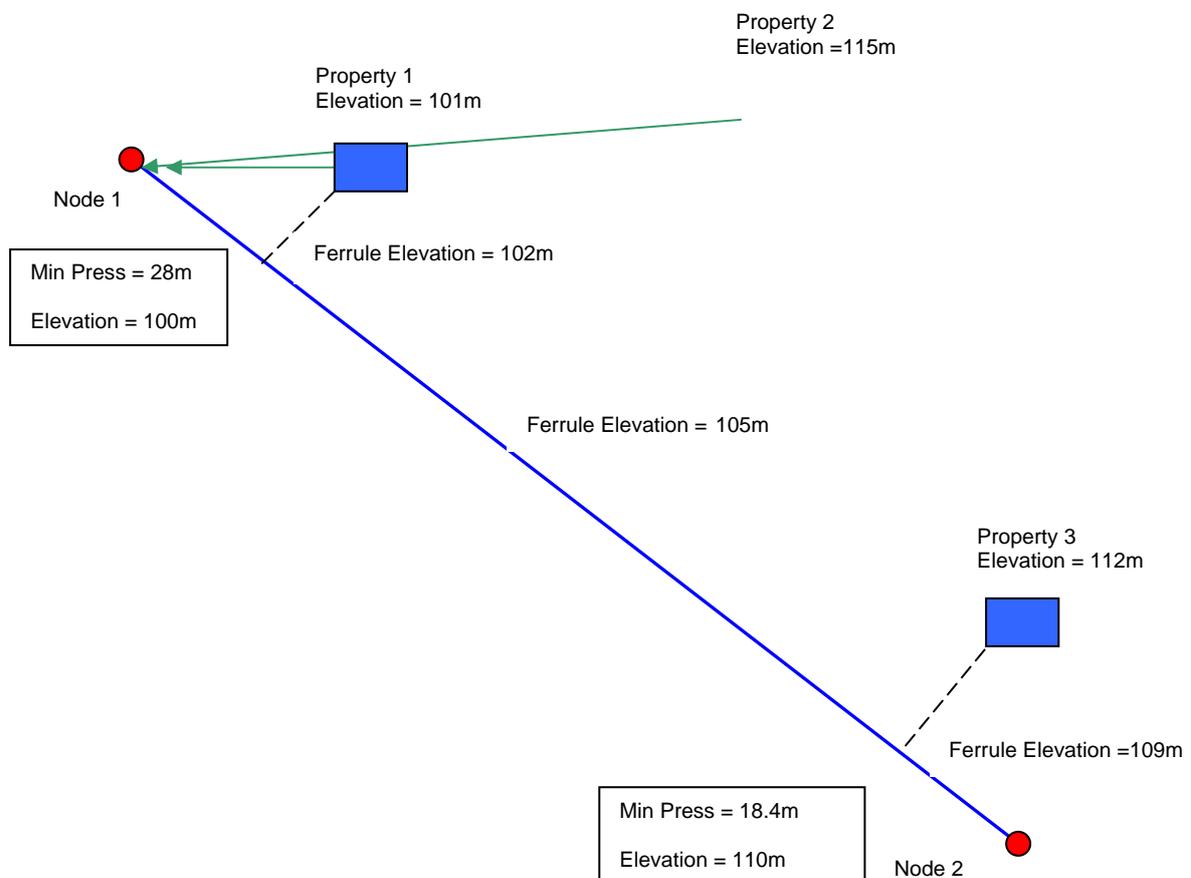
- The number of properties at risk was calculated using Map Info and a comprehensive pressure logging programme. Map Info was used to identify the critical points of all the DMA's not covered by DZS. The Service Reservoir (SR) feeding each DMA was identified and the TWL (Top Water Level) used to predict the minimum pressure available at each critical point. All DMAs where the critical points had pressures below 18m were investigated and logged. Logged pressure for those critical points was analysed and used to assess the number of properties falling below the surrogate pressure of 15m.

### Data Processing by NIW

Properties at risk data were supplied to NIW AIC from both the DZS Consultant and the Map Info/ Pressure Logging exercise undertaken by Halcrow. NIW AIC analysed and processed this data to create a 'properties at risk' register. An example of this process is shown in Figure 1 below.

- 1) The DZS data provides demands; nodes and ferrules. Using the key data and the interpolation method below, ferrule pressures are calculated.

*Figure 1: Schematic of interpolation*



In Figure 1 the minimum pressure at the assumed ferrule for property 1 is 26m ( $28\text{m}+100\text{m}-102\text{m} = 26\text{m}$ ). For property 2 it is 23m and for property 3 it is 19.4m.

In order to extract a list of properties and their pressure at the ferrule, ferrule pressures were assigned back to demands. This was done using the coordinates given for the ferrule locations in the demands table. Demands are then matched to OSNI Pointer properties. Low Pressure Properties were then extracted for the DG2 Register. All properties below 15 meters were extracted and entered into the DG2 Register. The data was checked prior to populating the DG2 register to ensure that there were no duplicate property entries.

- 2) Properties at risk identified by the Map Info/ Pressure logging programme are supplied to NIW AIC in an excel spreadsheet (containing property addresses; coordinates and the minimum pressure at each property). The excel spreadsheets were opened in MapInfo and saved as a Native MapInfo table for read/write in order to geo-code the properties. Checks were carried out to ensure there were no duplicates (i.e. properties already processed by DZS). Any properties with a minimum pressure equal to or above 15 meters were removed to leave only those properties receiving a minimum pressure of < 15 meters. The DG2 database was updated with the remaining Halcrow properties using append and update queries in Microsoft Access.

The number of properties reported is a reference point. Work has already been completed through the upgrade of the water distribution network undertaken by Rehab schemes (through NIW's Capital Works Programme). These have not been taken into consideration. The next phase will be to review the rehab schemes completed and carry out a robust logging process to ensure that the work undertaken provides properties with adequate pressure.

The primary process adopted, for identifying DG2 properties, was through the use of Zonal Studies which have provided data covering 66% of NI. The Zonal Studies are based on network modelling. The models have been a valuable source in helping to identify DG2 properties. Where there were differences between the Zonal Study and NIW GIS data the properties affected, which totalled approximately 100,000, were entered on a separate database for further investigation during 2008/09. NIW has taken a conservative approach and is aware that the data alignment issues are primarily a result of updates on the NIW GIS system which have taken place since the original Zonal Studies were undertaken. Further investigation will consist of desk top work, data compatibility alignment and the use of network logging. It is recognised in carrying out further detailed analysis that there may be the potential for further DG2 properties to be identified.

NIW have limited information on the number of common supplies within the company. This information has not been taken into account in the production of the DG2 register.

## **Properties at risk AIR 2009**

For AIR 2009 information will be used from customer contact (through the Customer Services Directorate) and MWM (Mobile Work Management) to further develop the DG2 register.

## **B: DG3 PROPERTIES AFFECTED BY SUPPLY INTERRUPTIONS**

### **Calculation Process**

The recording, calculation and checking of interruption to supply figures is explained in the Methodology Statement for Table 2: Lines 5 to 19. This procedure was established and implemented for the first time in April 2007. (See Filename: "T2 L5-19 Methodology Statement") See also DG3 Methodology Flowchart.

### **Significant Year on Year Changes in Reported Figures**

The current method for obtaining interruption to supply data is a significant departure from the methodology used in previous years. The current method involves field staff completing predetermined proformas designed specifically for the capture of interruption information. This information is captured during the course of a repair to an interruption or immediately afterwards. The differences in the year end figures are noted below:

- There is a 46% increase in Unplanned Interruptions of more that 3 hours.
- There is a 49% decrease in Planned and Warned Interruptions for more that 3 hours.
- There is a 76% decrease in Interruptions caused by Third Parties for more than 3 hours and
- There is a 100% increase in the number of Overruns for more that 6 hours.

Because of the different methodologies used for collecting this information it is not possible to account for the large differences in these records, suffice to say that the current method for capturing this data is more accurate than in previous years. However, there is some reservation about the capture of individual items of data e.g. house numbers and addresses.

There are other sources of interruption to supply information that exist within NIW but auditing processes to compare the records captured using the current methodology and these alternative sources has not been carried out during 2007/08. It is proposed to implement a robust auditing process during the course of 2008/09.

### **Additional Information on Performance against Alternative Standards**

Company's Own Key Performance Indicator for Interruptions to Supply  
These are:

- Unplanned Interruptions > 6hrs
- Unplanned Interruptions > 12hrs
- Unplanned Interruptions > 24hrs

During the period April 2007 to March 2008, 1.36% of the total number of properties connected to the company's water supply was subject to unplanned interruptions of more than 6 hours duration (including third party interruptions and overruns of planned warned interruptions). The Key Performance Indicator target for the year was set at 2.00%.

During the period April 2007 to March 2008, 0.249% of the total number of properties connected to the company's water supply was subject to unplanned interruptions of more than 12 hours duration (including third party interruptions and overruns of planned warned interruptions). The Key Performance Indicator target for the year was set at 0.25%.

During the period April 2007 to March 2008, 0.01% of the total number of properties connected to the company's water supply was subject to unplanned interruptions of more than 24 hours duration (including third party interruptions and overruns of planned warned interruptions). The Key Performance Indicator target for the year was set at 0.03%.

During the period April 2008 to March 2009, NIW will again measure its own performance in relation to unplanned interruptions of more than 6hrs, 12hrs and 24hrs and these will be subject to different targets that are currently under review.

#### **Properties Which Suffered an Interruption to Supply where Loss of Service was Unnoticed**

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

There were 17 No. interruptions throughout the year, totalling 9,325 properties, which commenced after midnight with supply being restored before 7am.

#### **Properties Which Suffered an Interruption to Supply where Loss of Service was due to electricity failure.**

There were 6 No. interruptions throughout the year, totalling 340 properties, which suffered an interruption to supply as a result of an electricity failure.

#### **Properties which suffered an Overrun of a Planned and Warned Interruption lasting between 3hrs and 6hrs.**

There were 32 Overruns of a Planned and Warned Interruption of which 4 were between 3hrs and 6hrs. This amounted to 191 properties.

#### **Major Incidents Believed to have Adversely Affected DG3 Performance**

There were 0 Category 1 and 3 Category 2 major incidents during the year which had a significant impact to the overall number of properties subject to unplanned interruptions.

NIW has kept a record of any major disruption to the public water supply in the form of Upward Reports. A selection of these incidents are summarised below although they were not reconciled with the DG3 interruption records during the AIR08 reporting period:-

<b>Date of Incident</b>	<b>Cause of Incident</b>	<b>Category</b>
3 <sup>rd</sup> Apr 07	Burst Main – Creevagh Road Cookstown	3
14 <sup>th</sup> Apr 07	Burst Main – Moveagh Road Cookstown	3
11 <sup>th</sup> May 07	Burst Main – Dorisland SR	Precaution
15 <sup>th</sup> May 07	Closed PRV – North and Central Belfast	3
16 <sup>th</sup> May 07	Burst Main – Foffany to Newry Trunk Main	3
16 <sup>th</sup> May 07	Burst Main – Killesher P S Cabragh	3
17 <sup>th</sup> May 07	Burst Main – North Down Trunk Main	3
22 <sup>nd</sup> May 07	Damaged Sl V – Cross town Trunk Main, Belfast	3
27 <sup>th</sup> May 07	Burst Main – Ardnarive, Limavady	3
28 <sup>th</sup> May 07	Burst Main – Belvoir Estate, Belfast.	3
8 <sup>th</sup> Jun 07	Burst Main – Barnish Road Antrim	3
14 <sup>th</sup> Jun 07	Burst Main – Drumahoe Londonderry	3
16 <sup>th</sup> Jun 07	Burst Main – North Down Trunk Main, Ballygowan	3
20 <sup>th</sup> Jun 07	Burst Main – Kiltonga industrial Estate Newtownards	3
25 <sup>th</sup> Jul 07	Burst Main – Radox Road Antrim	3
24 <sup>th</sup> Jul 07	Burst Main – Shearwater Way L’Derry	3
18 <sup>th</sup> Aug 07	Burst Main – Portstewart SR	3
20 <sup>th</sup> Aug 07	Burst Main – Corvanaghan SR Cookstown	3
24 <sup>th</sup> Aug 07	Burst Main – Forest Park SR Ballycastle	3
11 <sup>th</sup> Sep 07	Burst Main – Carnaman SR Trunk Main	3
20 <sup>th</sup> Sep 07	Burst Main – Ballinlea Road Ballycastle	3
24 <sup>th</sup> Sep 07	Burst Main – Ballyknock SR Trunk Main	3
26 <sup>th</sup> Sep 07	Burst Main – Ballymena Road Antrim	3
8 <sup>th</sup> Oct 07	Burst Main – Craigavon Area Hospital	3
8 <sup>th</sup> Oct 07	Burst Main – Lenamore SR	3
12 <sup>th</sup> Oct 07	Burst Main – Moyolla Trunk Main	3
16 <sup>th</sup> Oct 07	Burst Main – Ballywonard Pumping Main	3
30 <sup>th</sup> Oct 07	Burst Main – Donaghmore Road Dungannon	3
11 <sup>th</sup> Nov 07	Burst Main – Dungannon	3
12 <sup>th</sup> Nov 07	Loss of supply – Kilmore Rd Moira	3
13 <sup>th</sup> Nov 07	Burst Main – Ballycullen Trunk Main Newtownards	3
11 <sup>th</sup> Nov 07	Burst Main – Cappagh Road Dungannon	3
21 <sup>st</sup> Nov 07	Burst Main – Ballyneese Rd Bellaghy	2
21 <sup>st</sup> Nov 07	Loss of supply – Ballyneese Rd Bellaghy	3
22 <sup>nd</sup> Nov 07	Burst Main – Killykane	3
7 <sup>th</sup> Dec 07	Burst Main – Hospital Grounds, Downpatrick	3
18 <sup>th</sup> Dec 07	Burst Main – Morgan’s Hill Cooktown	3
10 <sup>th</sup> Dec 07	Burst Main – Middle Road Carrick	3
11 <sup>th</sup> Dec 07	Burst Main – Cyprus Avenue Belfast	3

### Major Incidents Believed to have Adversely Affected DG3 Performance

Date of Incident	Cause of Incident	Category
12 <sup>th</sup> Dec 07	Burst Main – Upper Newtownards Road Belfast	3
7 <sup>th</sup> Dec 07	Burst Main – Hospital Grounds, Downpatrick	3
18 <sup>th</sup> Dec 07	Burst Main – Morgan’s Hill Cooktown	3
10 <sup>th</sup> Dec 07	Burst Main – Middle Road Carrick	3
11 <sup>th</sup> Dec 07	Burst Main – Cyprus Avenue Belfast	3
12 <sup>th</sup> Dec 07	Burst Main – Upper Newtownards Road Belfast	3
3 <sup>rd</sup> Jan 08	Burst Main – Outlet main at Lough Fea	3
4 <sup>th</sup> Jan 08	Burst Main – Downland Road Limavady	3
26 <sup>th</sup> Jan 08	Burst Main – Omagh Town Centre	2
4 <sup>th</sup> Feb 08	Burst Main – East Bridge Street Belfast	3
9 <sup>th</sup> Feb 08	Burst Main – Hightown Road Belfast	3
18 <sup>th</sup> Feb 08	Burst Main – Hartford Link Newtownards	2
26 <sup>th</sup> Feb 08	Burst Main – Windy hill Coleraine	3
28 <sup>th</sup> Feb 08	Burst Main – Park Road, Belfast	3
2 <sup>nd</sup> Mar 08	Burst Main – Main Street Bangor	3
2 <sup>nd</sup> Mar 08	Burst Main – Moira Road Lisburn	3
6 <sup>th</sup> Mar 08	Burst Main – Ballygown and Comber	3
6 <sup>th</sup> Mar 08	Burst Main – Armagh Road Fivemiletown	3
13 <sup>th</sup> Mar 08	Burst Main – Clogher Valley	3
18 <sup>th</sup> Mar 08	Burst Main – Bangor Road Groomsport	3
20 <sup>th</sup> Mar 08	Burst Main – Dunamanagh	3

*For full details of these incidents, please refer to the corresponding Upward Reports.*

### Justification of Assigned Confidence Grades

The JR07 Return gave a confidence grade of B4 for Table 2: Lines 5 to 19. Upon reflection it is considered that this confidence grade should have been a C4. The methodology used in the AIR08 reporting period has significantly improved upon that which was employed for JR07 however despite sound textual records, procedures and documentation there are shortcomings in the reliability of these, in particular the number of actual interruptions being recorded and there is some reliance on unconfirmed reports, notably house counts.

The Accuracy Band for AIR08 is estimated to be: Band 3. Therefore the Confidence Grade for Table 2: Lines 5 to 19 is: B3

The confidence grades of the interruptions reflect the following:-

- Addresses of properties that experienced interruption to supply were not consistently recorded against each interruption record. The DG3 Procedures indicate two procedures for recording addresses:
  - House count on Site
  - GIS

The interruption records that contained addresses used the “house count on site” method and were inconsistent in the way in which the information was recorded. E & P North West recorded addresses against all their interruption records using the GIS method.

It should be noted that the recording of house addresses is for GSS purposes and these are not likely to be introduced into NIW until later in 2008/09.

- Auditing the interruption records using DG3 procedures were not checked against other sources on interruption data. These are:
  - Ellipse
  - Upward Reports
  - In brief

There are management/ operational problems with the Ellipse system and these should be rectified by the end of quarter 1 of 2008/09. However there is a significant difference in the number of water complaints currently held on Ellipse with the number on interruption records recorded for DG3.

NIW intend to address these issues during the course of the AIR09 reporting period to improve the Confidence Grades.

### **How Northern Ireland Water Expects to Improve the Confidence Grading of its Regulatory Reporting on DG3 Properties Affected by Supply Interruptions**

In the AIR09 reporting year, NIW will continue to collect DG3 data by the same method used in the AIR08 reporting year. However, the following enhancements to the data collection will be employed:

- Establish and implement auditing using alternative sources of information that relates to interruptions of supply.
- Employ a more consistent approach to recording house addresses and reconciliation with number of properties affected by an interruption.
- Enhance training for management and Field Staff.
- Development of DG3 process with possible transfer to database with GIS capabilities.

## C: POPULATION

### Line 20      Population (winter)

#### Calculation Process

*(Source: NI Tourist Board website)*

1. Monthly Hotel Occupancy Reports were obtained from the NITB website for 2007.
2. The number of bed-spaces sold across all hotel establishments in Northern Ireland was extracted from each report and tabulated on an MS Excel spreadsheet.
3. Monthly Guesthouse and Bed and Breakfast Occupancy Reports were obtained from the NITB website for 2007.
4. The number of bed-spaces sold across all guesthouse and bed and breakfast establishments in Northern Ireland was extracted from each report and tabulated on an MS Excel spreadsheet.
5. The monthly bed-spaces for hotel, guesthouse and bed and breakfast establishments were summated to give total numbers of bed-spaces.
6. The monthly total numbers of bed-spaces were expressed as percentages of the total number of bed-spaces sold in 2007 (3,031,400).
7. 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.

$$5.31\% + 5.51\% + 7.52\% + 8.34\% + 8.20\% + 6.26\% = 41.14\%$$

8. The number of non-resident visitor nights for Northern Ireland in 2007 was obtained from the "Preliminary Visitor Tourism Forecast for Jan-Dec 07" (9,935,000).
9. The percentage bed-spaces sold during the winter (41.14%) was applied to the number of non-resident visitor nights to give the number of non-resident winter visitor nights:-

$$41.14\% \times 9,935,000 = 4,087,259$$

10. The number of non-resident winter visitor nights was divided by the number of winter nights to give the average number of non-resident winter visitors per night.

$$4,087,259 / (31 + 28 + 31 + 30 + 30 + 31) = 22,582$$

11. The baseline resident population (Table 7: Line 17) was obtained from the Northern Ireland Statistics and Research Agency (NISRA) 2007-2008 statistics projections (1,748,533).
12. The Population (winter) was calculated by summating the baseline resident population (1,748,533) and the average number of non-resident winter visitors per night (22,582).

Table 2: Line 20: Population (winter) = 1,748,533 + 22,582 = **1,771,115**

**Please note that the calculation of this figure appears to have been erroneous in previous returns as the number of non-resident winter visitor nights was divided by 365 and not by the number of winter nights to give the average number of non-resident visitors per night.**

### **Confidence Grade**

A confidence grade of **B2** has been assigned.

The “B” is awarded on the following basis:-

- In a deviation from the previous return, monthly occupancy breakdowns for hotel, guesthouse and bed and breakfast establishments were sought from NI Tourist Board. This replaces the earlier assumption that all holiday/leisure/recreation visits occur during the summer as opposed to all year round and should have provided a better method of assessment.
- However, the number of non-resident visitor nights for Northern Ireland in 2007 was obtained from the “Preliminary Visitor Tourism Forecast for Jan-Dec 07”. This preliminary forecast of visitor tourism is based on January to August data from both the Northern Ireland Passenger Survey (NITB) and the Survey of Overseas Travellers (Fáilte Ireland). Estimates for residents of the Republic of Ireland visiting Northern Ireland are based on January to June 2007 data provided by the Central Statistics Office.

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

$$\begin{aligned} &9,935,000 / (31 + 28 + 31 + 30 + 30 + 31) = 54,890 \\ &1,763,987 + 54,890 = 1,818,877 \\ &1 - (1,786,569 / 1,818,877) = 1.78\% \end{aligned}$$

### **Supporting Documentation from NI Tourist Board Website**

#### **Monthly Hotel Occupancy Reports January to December 2007**

- (*Filename: “NITB HOTEL OCC JAN 07”*)
- (*Filename: “NITB HOTEL OCC FEB 07”*)
- (*Filename: “NITB HOTEL OCC MAR 07”*)
- (*Filename: “NITB HOTEL OCC APR 07”*)
- (*Filename: “NITB HOTEL OCC MAY 07”*)
- (*Filename: “NITB HOTEL OCC JUN 07”*)
- (*Filename: “NITB HOTEL OCC JUL 07”*)
- (*Filename: “NITB HOTEL OCC AUG 07”*)

- (Filename: "NITB HOTEL OCC SEP 07")
- (Filename: "NITB HOTEL OCC OCT 07")
- (Filename: "NITB HOTEL OCC NOV 07")
- (Filename: "NITB HOTEL OCC DEC 07")

### **Monthly Guesthouse & Bed & Breakfast Occupancy Reports January to December 2007**

- (Filename: "NITB B&B OCC JAN 07")
- (Filename: "NITB B&B OCC FEB 07")
- (Filename: "NITB B&B OCC MAR 07")
- (Filename: "NITB B&B OCC APR 07")
- (Filename: "NITB B&B OCC MAY 07")
- (Filename: "NITB B&B OCC JUN 07")
- (Filename: "NITB B&B OCC JUL 07")
- (Filename: "NITB B&B OCC AUG 07")
- (Filename: "NITB B&B OCC SEP 07")
- (Filename: "NITB B&B OCC OCT 07")
- (Filename: "NITB B&B OCC NOV 07")
- (Filename: "NITB B&B OCC DEC 07")

### **Preliminary Visitor Tourism Forecast January – December 2007**

- (Filename: "Prelim Visitor Tourism Forecast Jan to Dec 07")

### **Other Supporting Documentation**

- (Filename: "Monthly Occupancy Jan to Dec 07")

### **D: DG4 RESTRICTIONS ON USE OF WATER**

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

Drought orders are not applicable in 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. It is thought that the register will be updated and maintained by the Asset Management Directorate.

NORTHERN IRELAND WATER LIMITED -ANNUAL INFORMATION RETURN

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

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

### **Table 3 - Sewerage Service – Internal flooding**

Table 13 (OFWAT) definition states- Domestic includes drainage of factories, offices, commercial premises and households; and excludes trade effluent. Based on this NIW has previously included all domestic and non domestic properties in this calculation. The regulatory framework for charging is clear and unambiguous in defining what is domestic and what is non-domestic, based on this NIW had obtained information from the CBC that 588,600 domestic properties are connected to the sewage network. However for consistency based on previous years reporting NIW has taken the total connected properties for water and multiplied this by 87% to obtain the total properties connected to the sewage system.

For the purposes of this return NIW will be making the assumption that 13% of properties are connected to Septic Tanks with the result that a total of 696,915 properties are connected to the NIW sewer system.

#### **Confidence Grades**

As this data is derived from LPS systems it has been assigned a confidence grade of “C2”

#### **A: DG5 ANNUAL FLOODING SUMMARY (Lines 2 to 11)**

##### **Calculation Process**

Data gathering and calculation is as described in the Line-Specific Methodology Statements for Table 3: Lines 2 to 11. See also DG5 Methodology Flowcharts.

Filenames:-

*“T3 L2 & 6 Methodology Statement”*

*“T3 L3 8 9 & 10 Methodology Statement”*

*“T3 L4 Methodology Statement”*

*“T3 L5 & 11 Methodology Statement”*

*“T3 L7 Methodology Statement”*

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

Table 3: Lines 2 to 11 were not completed in the JR07 reporting period.

The methodology for the collection, calculation and presentation of DG5 Annual Flooding Summary data, as described in the Levels of Service DG5 Methodology, had not been implemented during the AIR08 reporting period.

Consequently, data obtained from the Ellipse system was used to populate these lines. It is therefore not possible to interrogate the figures shown in Table 3 to satisfy the comments requested in the OFWAT guidance notes for Table 3.

## **Confidence Grading for DG5**

There are management/ operational problems with the Ellipse system and these should be rectified by the end of quarter 1 of 2008/09. However, there is a significantly large number of internal flooding, external flooding and blockage complaints recorded on Ellipse that will have to be reconciled to the flooding proformas.

The confidence grade for all DG5 Annual Flooding Summary figures in Table 3 is D4. "D" is assigned on the basis that:-

1. The raw data is representative of customer complaints only. There is an element of uncertainty over customer complaints as customers have been known to make complaints of internal flooding instead of external flooding if they think it will hasten a response from the company.
2. The call handlers who logged the complaints were not briefed in the correct questions to ask customers to establish the precise nature of flooding.
3. Customers may not necessarily have been complaining about flooding to their own properties but their personal address details would have been logged on the system and not the actual flooding locations.
4. 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 JR07 averages for England and Wales.

The methodology used for AIR08 is best described as a cursory analysis of the Ellipse data supported by some unconfirmed verbal reports. Therefore, the Reliability Band for Table 3: Lines 2 to 11 is Band "D".

Given the degree of inaccuracy and duplication in the raw data and the use of material assumptions throughout the calculation process, an Accuracy Band of "6" has been assigned.

## **Future Reporting**

There are currently **1,995** undetermined records on the Internal Database. (LoS DG5 Methodology refers). NIW proposes to continue to investigate and determine these so that the DG5 Internal Registers can be suitably populated. Target date to have all internal flooding records investigated and determined is October 2010.

NIW proposes to introduce protocols to recover completed Flooding Proformas so that current flooding events can be investigated and determined.

## **Supporting Documentation**

- 
- (Filename: “Internal Flooding Complaints April 2007 – March 2008”)
- (Filename: “Met Office Monthly Summary Reports for NI”)
- (Filename: “Internal Flooding Complaints & Heavy Rain Days”)
- (Filename: “Int and Ext Historical Records from Flooding DBs”)
- (Filename: “Table 3 & 3a Calculation Sheets”)

## **B: DG5 PROPERTIES ON THE AT RISK REGISTER**

### **(i) At risk summary (Lines 12 to 15)**

#### **Calculation Process**

Data gathering and calculation is as described in the Line-Specific Methodology Statements for Table 3: Lines 12 to 15. (Filename: “T3 L12 13 14 & 15 Methodology Statement”) See also DG5 Methodology Flowcharts.

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

Table 3: Lines 12 to 15 were not completed in the JR07 reporting period. The methodology for the collection, calculation and presentation of DG5 Properties on the “At Risk” Register data as described in the Levels of Service DG5 Methodology had not been implemented during AIR08 reporting period.

The methodology for the determination of DG5 reportable records is as described in the DG5 Levels of Service methodology statement. This methodology was first implemented in Q4 of the AIR08 reporting period. Consequently, only **80** records have been determined as DG5 Reportable.

Because so few flooding records have been determined, there would be no value in addressing the requests for comments contained in the OFWAT guidelines.

#### **Confidence Grading for DG5**

As the DG5 “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 Reliability Band of “D” has been assigned to these figures with an Accuracy Band of “X”.

## **Supporting Documentation**

- (Filename: “Internal Flooding Register 18\_03\_08”)
- (Filename: “Properties At Risk”)

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

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

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

## **Table 3a - Sewerage Service- External Flooding**

### **A: ANNUAL FLOODING SUMMARY (Lines 1 to 11)**

#### **Calculation Process**

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

Filenames:-

*“T3a L1 & 7 Methodology Statement”*

*“T3a L2 3 4 & 5 Methodology Statement”*

*“T3a L6 Methodology Statement”*

*“T3a L8 Methodology Statement”*

*“T3a L9 10 & 11 Methodology Statement”*

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

Table 3a: Lines 1 to 11 were not completed in the JR07 reporting period.

The methodology for the collection, calculation and presentation of Annual Flooding Summary data, as described in the Levels of Service DG5 Methodology, had not been implemented during the AIR08 reporting period.

Consequently, data obtained from the Ellipse system was used to populate these lines. It is therefore not possible to interrogate the figures shown in Table 3a to satisfy the comments requested in the OFWAT guidance notes for Table 3a.

#### **Confidence Grading for DG5**

There are management/ operational problems with the Ellipse system and these should be rectified by the end of quarter 1 of 2008/09. However, there is a significantly large number of internal flooding, external flooding and blockage complaints recorded on Ellipse that will have to be reconciled to the flooding proformas.

The confidence grade for all Annual Flooding Summary figures in Table 3a is D4. “D” is assigned on the basis that:-

1. The raw data is representative of customer complaints only. There is an element of uncertainty over customer complaints as customers have been known to make complaints of internal flooding instead of external flooding if they think it will hasten a response from the company.
2. The call handlers who logged the complaints were not briefed in the correct questions to ask customers to establish the precise nature of flooding.

3. Customers may not necessarily have been complaining about flooding to their own properties but their personal address details would have been logged on the system and not the actual flooding locations.
4. 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 JR07 averages for England and Wales.

The methodology used for AIR08 is best described as a cursory analysis of the Ellipse data supported by some unconfirmed verbal reports. Therefore, the Reliability Band for Table 3a: Lines 1 to 11 is Band “D”.

Given the degree of inaccuracy and duplication in the raw data and the use of material assumptions throughout the calculation process, an Accuracy Band of “6” has been assigned.

### **Future Reporting**

There are currently **24,008** undetermined records on the External Database. (LoS DG5 Methodology refers). NIW proposes to continue to investigate and determine these so that the DG5 External Registers can be suitably populated. Target date to have all external flooding records investigated and determined is October 2010.

NIW proposes to introduce protocols to recover completed Flooding Proformas so that current flooding events can be investigated and determined.

### **Supporting Documentation**

- (Filename: “External Flooding Complaints April 2007 – March 2008”)
- (Filename: “Met Office Monthly Summary Reports for NI”)
- (Filename: “External Flooding Complaints & Heavy Rain Days”)
- (Filename: “Int and Ext Historical Records from Flooding DBs”)
- (Filename: “Table 3 & 3a Calculation Sheets”)

### **B: AREAS ON THE 1:10, 2:10, 1:20 AT RISK REGISTER**

#### **(i) At risk summary (Lines 12 to 15)**

#### **Calculation Process**

Data gathering and calculation is as described in the Line-Specific Methodology Statements for Table 3a: Lines 12 to 15. (Filename: “T3a L12 13 14 & 15 Methodology Statement”) See also DG5 Methodology Flowcharts.

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

Table 3a: Lines 12 to 15 were not completed in the JR07 reporting period. The methodology for the collection, calculation and presentation of Areas on the “At Risk” Register data as described in the Levels of Service DG5 Methodology had not been implemented during AIR08 reporting period.

The methodology for the determination of reportable records is as described in the DG5 Levels of Service methodology statement. This methodology was first implemented in Q4 of the AIR08 reporting period. Consequently, only **8** records have been determined as Reportable.

Because so few flooding records have been determined, there would be no value in addressing the requests for comments contained in the OFWAT guidelines.

## **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 Reliability Band of “D” has been assigned to these figures with an Accuracy Band of “X”.

## **Supporting Documentation**

- (*Filename: “External Flooding Database”*)
- (*Filename: “Properties At Risk”*)

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN**

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

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

## **Table 4 - Customer Service - 1**

### **Lines 1-5      DG6**

DG6 volumes were higher than NIW expected from April 2007 to August 2007. During May 2007 approximately 9000 contacts were closed. The high levels of queries received reduced and levelled off from October onwards with an average for the remaining months of approx. 3000 contacts closed.

In October 2006, NIW moved all customer billing, collection and contact activities to a third party service provider. As part of this change, a new billing system was used. As a result of the age and quality of the data in the legacy billing system, as well as differences between the data held in our legacy billing system and the way the new billing system uses the customer data to generate bills, there was an increase in billing errors immediately after the system was introduced in October 2006. The higher than expected level of billing queries in April to August were partially due to these billing errors.

In addition to this issue, the following changes were also made that impacted on levels of billing queries:

- The bill format was changed in April 2007 leading to additional queries regarding the bills.
- Water service offered a 4% discount for payment within 30 days. This was removed from 1 April 2007 leading to an increase in billing queries regarding bill amounts and the missing discount.
- The collection process changed significantly with customers receiving reminders, final notices and disconnection notices more frequently than in previous years. This led to an increase in customer interest in billed amounts and a higher level of billing queries.

Significant efforts were made by NIW to take corrective action with regard to billing data quality, processes of investigation into billing queries, processes around issuing refunds and in the quality of responses to customers in order to improve customer service and attempt to achieve the regulatory target.

The performance of NIW in closing billing queries within the required timeframe was greatly improved from July onwards and for the second half of the year NIW achieved a monthly performance well above our forecast and above regulatory requirements. Unfortunately, due to the high volumes of billing queries in the first few months of the reporting year, the annual DG6 target of 96% was narrowly missed.

Northern Ireland Water has identified significant risks associated with the introduction of domestic charging in April 2009. Uncertainty around the timetable for public consultation on the proposals and delay in clarification of requirements by DRD will condense timescales for implementation of the new domestic charges. NIW has made clear that delay beyond the end of August in confirming the details of the new domestic charges will adversely impact on effective delivery of April '09.

In any event, if the domestic billing database which is built on data shared with LPS in early 2007, cannot be updated using data provided by LPS, then there will inevitably be a degree of inaccuracy in billing which will attract public criticism and generate a significant spike in query volumes.

DG6 Closure is recorded when the contact is closed, in line with other UK Water companies.

Contacts that request copy bills are issued to the customer on the date of the DG6 closure, and are sent directly from Capital House. Mail is left in the collection tray and collected at intervals throughout the day by the payment processing department. By 4.00pm daily, the mail collection tray is empty.

*The date of dispatch is recorded at the point of closure on the system. For contacts that require printing and distribution of bills and other stationery, the following daily process occurs:*

1. **Items generated in Rapid.** An action takes place which triggers the system to create an item of stationery. This could be caused by, but not limited to the following:
  - a. meter reading being loaded
  - b. a customer reading
  - c. customer move
  - d. Direct Debit set-up
2. **Items sent to DSTi.** Following the overnight processes, the BSA team reconciles and sends all items of stationery created the previous day through to DSTi for printing. These are signed-off, printed, enclosed and prepared for pick-up by Royal Mail.
3. **Items despatched to customer.** Royal Mail collects the items for posting the following morning.

NIW intends to formalise the procedures around mailing bills and stationery items as part of DG6 billing queries in order to be comfortable with a date of dispatch assumption based on a Service Level Agreement with the outsourced printing function.

All information relating to DG6 reporting is derived from the CBC business review pack issued on the 5<sup>th</sup> working day of every month, Schedule 8.4 shows KPIs / DGs, MTD and YTD and is validated by NIW contract office.

### **Confidence Grades**

As this data is derived from Rapid systems it has been assigned a confidence grade of “B2”

### **Lines 6-8 Connected Properties**

This information was derived from information supplied by the Customer Billing and Contact centre actual record counts at 01 April 08 (CBC; Crystal Alliance) for table 7 from the Rapid system.

It should be noted that data regarding connections is potentially not up to date as it is derived from Land and Property Services (LPS). NIW last received a LPS update in March 08; that said we are aware that the information may potentially be 2-3 years out of date in places. Notwithstanding this it is considered to be the best source of information available to NIW and commensurate with information held by the former Rates Collection Agency (RCA). Had the launch of customer billing not been postponed in April 07 the company would have been in possession of more accurate data given customer communications associated with billing issues.

### **Confidence Grades**

As this data is derived from LPS systems it has been assigned a confidence grade of “B3”.

NI Water Annual Information Return 2008 (Information collected by NIWS - subject to different methodology)

AIR - TABLE 5 KEY OUTPUTS

CUSTOMER SERVICE - 2

Resubmitted cells				NIWS		NIWS				NI Water		NI Water	
DESCRIPTION	UNITS	DP	BASE YEAR		REPORTING YEAR -2		REPORTING YEAR -1		REPORTING YEAR		REPORTING YEAR		
			2002-03	CG	2005-06	CG	2006-07	CG	2007-08	CG			
<b>A DG7 RESPONSE TO WRITTEN COMPLAINTS</b>													
1	Total written complaints (closed only)	nr	0	1,008	A1	891	B2	1,220	B2	2,644	B2		
2	Number dealt with within 10 working days	nr	0			820	B2	1,116	B2	2,394	B2		
3	Percentage dealt with within 10 working days	%	1			0.9	B2	91.5%	B2	90.54	B2		
4	Number dealt with in more than 20 working days	nr	0			29	B2	30	B2	10	B2		
5	Percentage dealt with in more than 20 working days	%	1			3.3	B2	2.46	B2	0.42	B2		
<b>B DG8 BILLS FOR METERED CUSTOMERS</b>													
6	Total metered accounts	nr	0	73,111	A1	N/C		77,534	B2	78,444	A2		
7	Metered accounts excluded from indicator	nr	0	13,364	A1	N/C		869	B2	1,126	A2		
<b>(i) NO. OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING AT LEAST ONE BILL DURING YEAR BASED ON METER READING</b>													
8	Company readings	nr	0	56,194	A1	N/C		63,580	B2	55,401	A2		
9	Company or customer readings (or both)	nr	0	56,194	A1	N/C		63,753	B2	55,517	A2		
<b>(ii) NUMBER OF CUSTOMERS WITH METERED ACCOUNTS RECEIVING</b>													
10	Estimated bills only	nr	0	2,154	A1	N/C		1,949	B2	2,836	A2		
11	No bills received during the report year	nr	0	1,399	A1	N/C		10,963	B2	18,965	A2		
12	Unread by company for 2 years	nr	0	0	A1	N/C		9,148	B2	9,930	A2		
<b>C DG9 TELEPHONE CONTACT</b>													
13	Total calls received on customer contact lines	nr	0	230,617	A1	228,497	B2	259,046	B2	322,318	B2		
14	All lines busy	nr	0			N/C		142	B2	0	B2		
15	Total of abandoned calls	nr	0	13,800	A1	27,468	B2	23,575	B2	3,374	B2		
16	Call handling satisfaction	nr	2			N/C			B2		B2		
17	Total telephone complaints	nr	0			N/C		13,788	B2				
<b>D SPECIAL ASSISTANCE REGISTER</b>													
18	Customers on the special assistance register	nr	0			N/C		N/C					

## Table 5 - Customer Service -2

### Lines 1-5 DG7

In October 2006, NIW moved all customer billing, collection and contact activities to a third party service provider. This was in preparation for the planned introduction of domestic billing in April 07. All customers were contacted in Q4 of 06/07 to check the quality of the customer data we had on system.

The unpopularity of the planned domestic billing and the general political climate undoubtedly affected the level of complaints even though billing was postponed at the last minute. As it is now expected that domestic billing will go ahead in April 09 and further increase in complaints is expected for 09/10

Also in Q4 of 06/07 customers with Septic tanks were informed that the free septic tank emptying service was to be withdrawn. This led to an extremely high level of requests for septic tank emptying which also coincided with a change in contractor. The volumes of requests exceeded capacity and additional resources and extended hours arrangements were required for Q1 to Q3 of 07/08 until the backlog was cleared. These delays led to an increase in the level of septic tank complaints.

In June 07 significant flooding occurred in Belfast and Omagh which led to a higher than normal level of complaints from CCNI.

For Q1 to Q3 Chief Executive complaints were not included in our figures as they were handled off system by Secretariat. The figures for Chief executive complaints are as follows

### BREAKDOWN OF COMPLAINTS TO CHIEF EXECUTIVE 1 APRIL 2007 to 2 DECEMBER 2007

MONTH	COMPLAINTS RECEIVED BY CHIEF EXECUTIVE	COMPLAINTS ANSWERED WITHIN 10 WORKING DAYS	% ANSWERED WITHIN 10 WORKING DAYS
<i>APRIL 2007</i>	26	5	19
<i>MAY 2007</i>	35	14	40
<i>JUNE 2007</i>	33	11	33
<i>JULY 2007</i>	49	17	35
<i>AUGUST 2007</i>	29	14	48
<i>SEPTEMBER 2007</i>	36	19	53
<i>OCTOBER 2007</i>	32	22	69
<i>NOVEMBER 2007</i>	36	22	61
<b>TOTALS</b>	484	235	49

**NOTE:** Holding replies which are not substantive but simply extend the date for responding are not counted as having met the target in the above statistics.

This was remedied in Dec 07 when the figures for chief executive mail were included; however this had a detrimental effect on DG7 compliance as the different processes in use by secretariat led to a high proportion of fails.

This too has now been remedied and Chief executive mail is following the standard process from June 08.

It was also discovered during the year that a high no of complaints were being classified under the wrong CMS type. This was due to a training issue. This has been addressed and a manual reclassification exercise took place from December to remedy this

Due to system set up it has not been possible to report complaints broken down to stage 1 and stage 2. This is being remedied for 08/09.

From October 2006 a new billing system was used. As a result of the age and quality of the data in the legacy billing system, as well as differences between the data held in our legacy billing system and the way the new billing system uses the customer data to generate bills, there was an increase in billing errors immediately after the system was introduced in October 2006. The higher than expected level of billing complaints were partially due to these billing errors.

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Northern Ireland Water has identified significant risks associated with the introduction of domestic charging in April 2009. Uncertainty around the timetable for public consultation on the proposals and delay in clarification of requirements by DRD will condense timescales for implementation of the new domestic charges. NIW has made clear that delay beyond the

end of August in confirming the details of the new domestic charges will adversely impact on effective delivery of April '09.

In any event, if the domestic billing database which is built on data shared with LPS in early 2007, cannot be updated using data provided by LPS, then there will inevitably be a degree of inaccuracy in billing which will attract public criticism and generate a significant spike in query volumes.

DG7 Closure is recorded when the contact is closed, in line with other UK Water companies.

### **Confidence Grades**

As this data is derived from Rapid systems it has been assigned a confidence grade of “B2”

This information was derived from information supplied by the Customer Billing and Contact centre from the Rapid system.

It should be noted that data regarding connections is potentially not up to date as it is derived from Land and Property Services (LPS). NIW last received a LPS update in March 08; that said we are aware that the information may potentially be 2-3 years out of date in places. Notwithstanding this it is considered to be the best source of information available to NIW and commensurate with information held by the former Rates Collection Agency (RCA). Had the launch of customer billing not been postponed in April 07 the company would have been in possession of more accurate data given customer communications associated with billing and operational issues.

### Quality Development Plan

- Purpose – To improve and review the quality of customer service provided by Northern Ireland Water. Provide a measurable quality review in all areas of customer services, and feed these results back into the business for future improvement.
- Quality Checks – A matrix of quality checks is being developed in partnership with CRC and in consultation with CCNI. These checks will be carried out across all customer service departments, to ensure a high standard of quality and consistency to our customers.
- Correspondence checks for issued responses – (30 per week escalation team)
- Rapid Data Checks - name, address, domestic, commercial etc (50 per week Escalation Team)
- Call centre – Check CMS codes and call detail logged after listening to call (total 100 per week Escalation Team)
  - Operations
  - Debt/recovery
  - Billing
  - Septic Tanks

- New connections
  - Payment processing
- End to End reviews for
  - Customer Complaints (12 per month Escalation Team)
  - Operational contact (10 per week Escalation Team)
  - New connection request (10 per week NIW new connections team)
  - Meter query (10 per week Meter Admin Team)
  - Septic tank requests (10 per week – septic tank team)
- Scanning and Indexing- correct CMS and logging. (50 per week Escalation Team)
- Line manager call listening checks – salutation, skills and knowledge and soft skills  
10 per person per week -CRC line manager
- % of Drafts from CRC which need to be reworked (All drafts – escalation team)
- NIW operations -adequate background information within SLA. (10 per week Escalation Team)
- NIW metering - adequate background information within SLA. (10 per week Escalation Team)
- Outbound surveys – initially warm voice but considering using enhancement to our Blue Pumpkin software to carry out automated surveys (10 per week Escalation Team)
- Mystery Shopper - various
- DG9 new quarterly survey
- Customer Experience Ofwat Survey (starts Q1 08/09)
- NIW annual survey (Q1 08/09)

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

**ANNUAL INFORMATION RETURN - TABLE 5A KEY OUTPUTS**

Customer complaints data for Consumer Council for Northern Ireland

DESCRIPTION	UNITS	DP	1		2	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG
<b>A TOTAL WRITTEN COMPLAINTS</b>						
1 Total written complaints	nr	0	1220	B2	2364	B2
2 Number dealt with within 10 working days	nr	0	1116	B2	2268	B2
3 Number dealt with in more than 20 working days	nr	0	30	B2	10	B2
<b>B CATEGORY OF WRITTEN COMPLAINTS</b>						
<b>(i) Charges and Bills</b>						
4 Total written complaints about charging and billing issues	nr	0	N/C		820	
5 Total written complaints about charging and billing issues escalated to second stage review	nr	0	N/C		N/C	
<b>(ii) Water Service</b>						
6 Total written complaints about water service issues	nr	0	N/C		366	
7 Total written complaints about water service issues escalated to second stage review	nr	0	N/C		N/C	
<b>(iii) Sewerage Service</b>						
8 Total written complaints about sewerage service issues	nr	0	N/C		771	
9 Total written complaints about sewerage service issues escalated to second stage review	nr	0	N/C		N/C	
<b>(iv) Metering</b>						
10 Total written complaints about metering issues	nr	0	N/C		32	
11 Total written complaints about metering issues escalated to second stage review	nr	0	N/C		N/C	
<b>(v) Other activities</b>						
12 Total written complaints about other service issues	nr	0	N/C		375	
13 Total written complaints about other service issues	nr	0	N/C		N/C	

## Table 5a - Customer Service - 2

### Lines 4-13 DG7

In October 2006, NIW moved all customer billing, collection and contact activities to a third party service provider. This was in preparation for the planned introduction of domestic billing in April 07. All customers were contacted in Q4 of 06/07 to check the quality of the customer data we had on system.

The unpopularity of the planned domestic billing and the general political climate undoubtedly affected the level of complaints even though billing was postponed at the last minute. As it is now expected that domestic billing will go ahead in April 09 and further increase in complaints is expected for 09/10

Also in Q4 of 06/07 customers with Septic tanks were informed that the free septic tank emptying service was to be withdrawn. This led to an extremely high level of requests for septic tank emptying which also coincided with a change in contractor. The volumes of requests exceeded capacity and additional resources and extended hours arrangements were required for Q1 to Q3 of 07/08 until the backlog was cleared. These delays led to an increase in the level of septic tank complaints.

In June 07 significant flooding occurred in Belfast and Omagh which led to a higher than normal level of complaints from CCNI.

For Q1 to Q3 Chief Executive complaints were not included in our figures as they were handled off system by Secretariat. The figures for Chief executive complaints are as follows

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<i>JUNE 2007</i>	33	11	33
<i>JULY 2007</i>	49	17	35
<i>AUGUST 2007</i>	29	14	48
<i>SEPTEMBER 2007</i>	36	19	53
<i>OCTOBER 2007</i>	32	22	69
<i>NOVEMBER 2007</i>	36	22	61
<b>TOTALS</b>	276	124	44

**NOTE:** Holding replies which are not substantive but simply extend the date for responding are not counted as having met the target in the above statistics.

This was remedied in Dec 07 when the figures for chief executive mail were included; however this had a detrimental effect on DG7 compliance as the different processes in use by secretariat led to a high proportion of fails.

This too has now been remedied and Chief executive mail is following the standard process from June 08.

It was also discovered during the year that a high no of complaints were being classified under the wrong CMS type. This was due to a training issue. This has been addressed and a manual reclassification exercise took place from December to remedy this

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In any event, if the domestic billing database which is built on data shared with LPS in early 2007, cannot be updated using data provided by LPS, then there will inevitably be a degree of inaccuracy in billing which will attract public criticism and generate a significant spike in query volumes.

DG7 Closure is recorded when the contact is closed, in line with other UK Water companies.

### **Confidence Grades**

As this data is derived from Rapid systems it has been assigned a confidence grade of "B2"

This information was derived from information supplied by the Customer Billing and Contact centre from the Rapid system.

It should be noted that data regarding connections is potentially not up to date as it is derived from Land and Property Services (LPS). NIW last received a LPS update in March 08; that said we are aware that the information may potentially be 2-3 years out of date in places. Notwithstanding this it is considered to be the best source of information available to NIW and commensurate with information held by the former Rates Collection Agency (RCA). Had the launch of customer billing not been postponed in April 07 the company would have been in possession of more accurate data given customer communications associated with billing and operational issues.

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- Rapid Data Checks - name, address, domestic, commercial etc (50 per week Escalation Team)

- Call centre – Check CMS codes and call detail logged after listening to call (total 100 per week Escalation Team)
    - Operations
    - Debt/recovery
    - Billing
    - Septic Tanks
    - New connections
    - Payment processing
  - End to End reviews for
    - Customer Complaints (12 per month Escalation Team)
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  - Scanning and Indexing- correct CMS and logging. (50 per week Escalation Team)
  - Line manager call listening checks – salutation, skills and knowledge and soft skills 10 per person per week -CRC line manager
  - % of Drafts from CRC which need to be reworked (All drafts – escalation team)
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  - DG9 new quarterly survey
  - Customer Experience Ofwat Survey (starts Q1 08/09)
- NIW annual survey (Q1 08/09)

## ANNUAL INFORMATION RETURN - TABLE 6A BAD DEBT

## OUTSTANDING REVENUE AND BREAKDOWN OF CUSTOMER SERVICES OPERATING EXPENDITURE

DESCRIPTION	UNITS	DP	1	2	
			BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08	
<b>A REVENUE OUTSTANDING - MEASURED HOUSEHOLDS</b>					
1	Total revenue outstanding < 48 months (measured households)	£m	3	N/C	N/C
2	Number of measured households with outstanding revenue < 48 months	nr	0	N/C	N/C
3	Revenue outstanding < 3 months (measured households)	£m	3	N/C	N/C
4	Number of measured households with outstanding revenue < 3 months	nr	0	N/C	N/C
5	Revenue outstanding 3 - 12 months (measured households)	£m	3	N/C	N/C
6	Number of measured households with outstanding revenue 3 - 12 months	nr	0	N/C	N/C
7	Revenue outstanding 12 - 24 months (measured households)	£m	3	N/C	N/C
8	Number of measured households with outstanding revenue 12 - 24 months	nr	0	N/C	N/C
9	Revenue outstanding 24 - 36 months (measured households)	£m	3	N/C	N/C
10	Number of measured households with outstanding revenue 24 - 36 months	nr	0	N/C	N/C
11	Revenue outstanding 36 - 48 months (measured households)	£m	3	N/C	N/C
12	Number of measured households with outstanding revenue 36 - 48 months	nr	0	N/C	N/C
13	Revenue outstanding > 48 months (measured households)	£m	3	N/C	N/C
14	Number of measured households with outstanding revenue > 48 months	nr	0	N/C	N/C
<b>B REVENUE OUTSTANDING - UNMEASURED HOUSEHOLDS</b>					
15	Total revenue outstanding < 48 months (unmeasured households)	£m	3	N/C	N/C
16	Number of unmeasured households with outstanding revenue < 48 months	nr	0	N/C	N/C
17	Revenue outstanding <3 months (unmeasured households)	£m	3	N/C	N/C
18	Number of unmeasured households with outstanding revenue < 3 months	nr	0	N/C	N/C
19	Revenue outstanding 3-12 months (unmeasured households)	£m	3	N/C	N/C
20	Number of unmeasured households with outstanding revenue 3 - 12 months	nr	0	N/C	N/C
21	Revenue outstanding 12-24 months (unmeasured households)	£m	3	N/C	N/C
22	Number unmeasured households with outstanding revenue 12 - 24 months	nr	0	N/C	N/C
23	Revenue outstanding 24-36 months (unmeasured households)	£m	3	N/C	N/C
24	Number of unmeasured households with outstanding revenue 24 - 36 months	nr	0	N/C	N/C
25	Revenue outstanding 36 -48 months (unmeasured households)	£m	3	N/C	N/C
26	Number of unmeasured households with outstanding revenue 36 - 48 months	nr	0	N/C	N/C
27	Revenue outstanding >48 months (unmeasured households)	£m	3	N/C	N/C
28	Number of unmeasured households with outstanding revenue > 48 months	nr	0	N/C	N/C
<b>C REVENUE OUTSTANDING - NON-HOUSEHOLDS</b>					
29	Revenue outstanding non-households	£m	3	9.58	7.029
<b>D REVENUE WRITTEN OFF</b>					
30	Amount of revenue written off from measured households	£m	3	N/C	N/C
30a	Amount of revenue written off from measured non-households	£m	3	N/C	0.815
31	Amount of revenue written off from unmeasured households	£m	3		N/C
31a	Amount of revenue written off from unmeasured non-households	£m	3		0.005
<b>E CUSTOMER SERVICES OPERATING EXPENDITURE</b>					
32	General customer services operating expenditure	£m	3	N/C	17.579
33	Outstanding revenue collection operating expenditure (households)	£m	3	N/C	N/C
34	Donations to charitable trusts assisting customers in debt (households)	£m	3	N/C	N/C
35	Operating expenditure due to vulnerable household customers	£m	3	N/C	N/C
36	Total customer services operating expenditure	£m	3	N/C	17.579

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

**ANNUAL INFORMATION RETURN - TABLE 6B VULNERABLE CUSTOMERS  
APPLICATIONS FOR VULNERABLE CUSTOMER STATUS**

				1	2
DESCRIPTION				BASE YEAR SBP 2006-07	REPORTING YEAR 2007-08
	UNITS	DP			
1	Applications - large families	nr	0	N/C	N/C
2	Successful applications - large families	nr	0	N/C	N/C
3	Applications - medical conditions	nr	0	N/C	N/C
4	Successful applications - medical conditions	nr	0	N/C	N/C
5	Total number of applications	nr	0	N/C	N/C
6	Total number of successful applications	nr	0	N/C	N/C

## **Table 6a – Bad Debt**

### **Overview**

The company operates a partnership with an external service provider (Crystal Alliance) for customer contact and billing. Customer Services Directorate works closely with the supplier on all billing matters including debt recovery, designations of customers for write off of debt and estimation of the level of bad debt provisioning to be put in place for potential future write-offs.

The service provider furnishes monthly information for non-domestic measured water and trade effluent income, cash, write-offs, VAT and closing debtor balances to the company from the billing system (RapidXtra). This information is used to produce the monthly management accounts.

The figures in Table 6a are derived from this information.

The figures contained within the table are clarified below:

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

For the year ended 31 March 2008 NI Water had no actual revenue from households as this is received by way of a subsidy from Department of Regional Development (“DRD”). There was no outstanding revenue from DRD at 31 March 2008.

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

As above, income is received by way of a subsidy from DRD and there was no revenue outstanding at 31 March 2008.

### **Box C line 29 – Revenue Outstanding – Non-Households**

Revenue outstanding from non-households is the amount of revenue relating to water and sewerage (trade effluent) charges that had been billed in the year but not collected at 31 March 2008.

At 31 March 2008 the closing trade debtor balance was £7.029m (measured water £6.692m, trade effluent £0.394m). The return made in 2006-2007 showed a balance of £0.192m. This figure was the actual debt write-off for 2006-2007 and was thus reported in Box C line 29 in error. The correct figure for the closing debtor balance for 2006-2007 was £9.580m (measured water £8.762m, trade effluent £0.818m). Thus a decrease in trade debtors of 26.6% was experienced over the two years. This is primarily as a result of improved cash collection during 2007-2008. Customer Services has worked closely in this area with the

service provider since the billing was outsourced in October 2006 and this focus has had a significant impact on year end debtor balances.

The debtor balance reported figure is made up of 3 GL codes and is calculated as Measured water debtor less Unreconciled receipts plus Trade effluent debtor. The measured water year end GL debtor balance is approx. £20k less than the detailed debtors listing provided by Crystal Alliance. This is due to an adjustment made for referred bills where a degree of uncertainty as to the final agreed bill exists.

The yr. end debtor balance is comprised of:

36.1% of debtors are aged between 0-30 days, 12.5% between 30-60 days and 5.3% between 60-90 days. Therefore a total of 53.9% of debtors are less than three months old. 8.4% are aged between 3-6 months, 17.1% between 6 months and 1 year and 20.6% over 1 year.

Of the total revenue outstanding 95.2% relates to measured water and 4.8% to trade effluent.

### **Box D – Revenue Written Off**

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

Bad debts are written off in line with the policy detailed below. As with all other customer data the company receives monthly figures for bad debt write-offs. However for the first 6 months of 2007-2008 to September 2007 (incl.) the data received on write-offs was unclear and consequently misinterpreted. The GL balance on the write-off account for measured water at 31.3.08 was approx. £0.815m but the level write-offs shown on the system report for year end from Crystal Alliance was approx. £0.448m. The GL figure of £0.815m is shown in the table row 30a. There is no overall impact on the financial position of the company as the error represents a debit to costs as opposed to a debit to turnover.

The company is liaising with the service provider to fully understand all the information being produced to ensure errors of this nature do not reoccur.

Trade effluent write-offs are shown in the table at line 31a as £0.005m.

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

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

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

Revenue written off is revenue relating to non-household water charges and trade effluent charges that have been written off in the year. As this is the first year's accounts for NI Water there was no revenue collected during the year that had previously been written off.

Revenue written off only includes water and trade effluent charges and no court costs or other items are included.

NI Water uses a third party contractor to manage their debtors and a Debt Management Strategy was drawn up for Crystal Alliance use to guide their actions and decisions. The strategy states that write offs will only be made on terminated accounts where the debt has been finalised. As well as this, additional year-end write offs were made following a review of the collectability and commercial viability of future collection methods relating to the older portion of debts.

**Summary of all relevant rows for Section E:**

**Row 30 – Measured Households:** As NI Water receives no revenue from households, there was no revenue written off from measured households.

**Row 30a – Measured Non-Households:** Bad debts written off are calculated on a monthly basis. The total for 2007-2008 was £0.448m.

**Row 31 – Unmeasured Households:** As NI Water receives no revenue from households, there was no revenue written off from unmeasured households.

**Row 31a – Unmeasured Non-Households:** This is made up of trade effluent revenue written off. Bad debts written off are calculated on a monthly basis. The total for 2007-2008 was 0.005m.

### ***Bad Debt provisioning***

The methodology for calculating the bad debt provision was revised for the year end 2007-2008. An analysis was carried out on historical collection patterns for older debt and based on this information the % applied to the aged groupings was refined. The company view the revised methodology as providing a better estimate of the provisioning required.

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

	Age of debt	Provision
<u>General provision</u>		
Measured Water and Trade Effluent	> 365 days	90%
	181-365 days	65%
	151-180 days	35%
	121-150 days	20%
	0-120 days	2%
Repayment Plan	>151 days	25%
<u>Specific provision</u>		
Uncollectables	All	100%

The following is a summary of the bad debt provision at 31 March 2008 and 31 March 2007 (under Water Service):

	2008	2007
	£m	£m
Measured water	2.176	3.500
Trade effluent	0.033	0.087
Total	2.209	3.587

The significant decrease in this from last year is driven both by the revised methodology adopted as described above and the increased write-off of debts in 2007-2008 of £0.815m (2006-2007 £0.192m) that took these debts out of the ledger.

### **Box E – Customer Services Operating Expenditure**

The overall approach and allocation process for table 6a has been significantly refined and improved in 2008. As a result of this, the customer services section of table 6a has been completed this year, whereas previously this had not been possible.

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

**Row 32 – General customer services operating expenditure:** Total CS operating expenditure is made up of Meter reading & customer queries, Meter repair and maintenance, CS function activity (wages and salaries, outsourced billing and contractor costs, materials,

other direct costs and general & support expenditure) and other miscellaneous customer services operating expenditure.

**Row 33 – 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 34 – Donations to charitable trusts assisting customers in debt:** There were no donations to charitable trusts assisting customers in debt in the year.

**Row 35 – Operating expenditure due to vulnerable household customers:** Household customers in Northern Ireland currently do not pay for water and sewerage services therefore NI Water have no ‘vulnerable customers’.

**Row 36 – Total customer services operating expenditure:** This is the total of rows 32 to 35 and agrees to the total of table 21, line 13 and table 22, line 12.

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

**ANNUAL INFORMATION RETURN - TABLE 7 NON FINANCIAL MEASURES**

**WATER PROPERTIES & POPULATION**

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

## Table 7 - Water Properties and Population

### Lines 13 – 17 Population

The population data used by NIW has been derived from 2006 based Population Projections obtained from NISRA (Northern Ireland Statistics & Research Agency) website ([www.nisra.gov.uk/archive/demography/population/projections/ni/wni06cc.xls](http://www.nisra.gov.uk/archive/demography/population/projections/ni/wni06cc.xls)). See summary in Table 1 below.

NISRA Population Projections figures are based on births, deaths and migration information gathered by NISRA between 1<sup>st</sup> July and 30<sup>th</sup> 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.

Population projections by the Office for National Statistics, Northern Ireland			
PERSONS, thousands	2006-based		Principal projection
Components of change (mid-year to mid-year), total fertility rate and expectation of life at birth based on the mortality rates for the year			
	2006- 2007	2007- 2008	2008- 2009
Population at start	1741.619	1760.753	1773.619
Births	23.820	23.967	24.260
Deaths	14.686	14.007	13.958
Natural change	9.134	9.960	10.302
Net migration	10.000	2.906	3.000
Total change	19.134	12.866	13.302
Population at end	1760.753	1773.619	1786.921
Population @ 30th June 2007 = 1,760,753		Population @ 30th June 2008 = 1,773,619	
Population @ 30th Sept 2007 = 1,760,753 + (1,773,619 - 1,760,753) x (92/366)			
Population @ 30th Sept 2007 = 1,763,987			

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

There are 5,944 domestic properties (source: CorVu) that are not connected to the water supply network. Based on an average occupancy of 2.6 across NIW, the equivalent non-supplied population would be 15,454. The occupancy rate for such properties may need revised if specific data can be obtained.

The total supplied population is therefore calculated to be 1,748,533.

The split between the household and non-household populations has been calculated using 2001 Census data obtained from the NISRA website at

[www.nisranew.nisra.gov.uk/census/pdf/standard\\_tables\\_section1.pdf](http://www.nisranew.nisra.gov.uk/census/pdf/standard_tables_section1.pdf) . See summary as per Table 2 below. The population of Communal Establishments was recorded as 26,455. This was used as the NHH population. The household population being the difference between the total population and the NHH population

The population for billed measured households (line 14) has been calculated by multiplying the number of farms (from CorVu) by the occupancy rate for detached properties (calculated as part of the PCC analysis).

The population for non-household measured/ unmeasured was calculated by the % split between measured/ unmeasured non-household properties (Source: CorVu) against the NHH population (Source: Census data). The split is based on 64,363 measured customers and 28,365 unmeasured customers.

**Table S001: Age By Sex And Whether Living In A Household Or Communal Establishment**

**Table population: All persons**

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

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

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

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

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

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

## **Table 8 - Water Metering**

### **A HOUSEHOLD METER INSTALLATION**

#### **Line 1-6 exc Line 4**

Following the restoration of devolved government in Northern Ireland in May 2007, the installation of meters at household properties was deferred by the Northern Ireland Executive pending the outcome of an Independent Review of the existing arrangements for the delivery of water and sewerage services in NI.

#### **Line 4 Meters installed – external meter without boundary box**

The number of external household meters installed during the report year without an existing boundary box. Include both optional and selective meters.

Meter installations are completed in compliance with Article 81 of the Water and Sewerage Services (NI) Order 2006.

New connection details closed on Ellipse by Networks Ops uploaded to Rapid and exported to contractor from CA.

Completed meter installation details returned to CA for update to Rapid within 3 weeks of notification.

**NORTHERN IRELAND WATER LIMITED COMPANY - ANNUAL INFORMATION RETURN**

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

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

## Table 9 - Water Quality

The quality of water supplied by Water Service/NIW to customers has fallen slightly between 2006 and 2007:

- a) Mean Zonal Compliance improved from 99.02% in 2005 to 99.34% in 2006 but fell slightly to 99.30% in 2007 (NIW assessment)
  - b) The fall in water quality is largely due to an increase in exceedances of the Total Trihalomethane parameter – this is in itself mainly due to a decrease in quality of raw water (THMs Report26Nov07.doc refers)
  - c) Operational Performance Index (based on turbidity, iron and manganese) has improved from 98.85% in 2005 to 98.98% in 2007 (NIW assessment)
  - d) The overall %age compliance at customer tap or authorised supply point (not including authorised departures) increased from 99.19% in 2005 to 99.42% in 2006 but fell to 99.33% in 2007 – see points above.
- The %age compliance measured at Water Treatment Works (WTWs) increased from 99.89% in 2005 to 99.92% in 2007.
  - The %age compliance measured at Service Reservoir increased from 99.71% in 2005 to 99.86% in 2007.
  - Of 111,994 measurements (directive standards, national standards and additional monitoring requirements) made at customer tap, WTWs, SRs and Authorised Supply Points, 99.60% met the standards.

During the reporting year, the percentage distribution input not affected by authorised departures rose from 22.9% in 2005 to 58.1% in 2006 and to 62.0% in 2007. This was due to the expiration of some authorised departures after their planned programmes of work had been successfully completed.

The data used for the estimation of average flow at WTWs in Table 9 lines 1-3 was supplied from operations leakage metering (see attached spreadsheet) apart from Rathlin Borehole for which this information does not exist – supply data was used for this site. 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 for 2007, an estimate of expected daily throughput by works was received from operational scientists in order to populate the LIMS system.

The data used for the estimation of %age properties in Table 9 lines 4-5 was derived from the property count in the zone in late 2006. This was obtained from a GIS property count on the Pointer data set (licensed from OSNI).

#### S19 Undertakings or Authorised Departures

- a) S19 Undertakings - Water Service/NIW did not use S19 undertakings (or equivalent under NI legislation) during 2007.
- b) Authorised Departures – Water Service/NIW had a number of authorised departures in place during 2007 (details below).
- c) The reference numbers, parameters and individual volumes affected by Authorised Departures during 2007 both completed and ongoing (see 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 (attached) apart from 2 pesticides AD which are applied at the authorised supply point. Further ADs may be applied for during 2008 if required by DWI.

The data for lines 6-8 is derived from the following:

- a) Line 6 - Following MCPA exceedances, Dorisland and Camlough WTWs have had PAC installed and are undergoing increased monitoring of this parameter. Following MCPA exceedances at Altmore WTW and MCPP exceedances at Lough Braden WTW, Authorised Departures are in place at these sites under the agreement of DWI.
- b) Line 7 - Water Service/NIW, as required by DWI following discussion with Health Authorities, has put in place orthophosphoric acid dosing to control plumbosolvency in the distribution system. The average initial dose rate was approximately 1 mg/l following propensity testing. The level of dosing was reviewed with DWI during 2007, with the dose rates for many of the works that supply non lead resistant zones were reduced. The dosing programme has resulted in %age lead compliance increasing from 97.03% in 2005 to 98.71% in 2006 and 99.14% in 2007.
- c) Line 8 - DWI approved *Cryptosporidia* risk assessments were carried out on all sources and showed effective barriers existed at all treatment works.

There were no late delivery quality enhancement reports during the year. All quality enhancement outputs such as monthly reports etc were produced on target and to meet both internal and regulatory time scales.

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

<b>Site Code</b>	<b>Zone/Supply Point Name</b>	<b>DWI Ref</b>	<b>Parameter</b>	<b>AD Value</b>	<b>AD Start</b>	<b>AD End</b>
W2501	Altmore	P054	MCPA	0.5	22-Nov-07	24-Dec-09
W3505	Lough Cowey	P053	MCPA(Mecoprop)	0.3	01-Jan-07	24-Dec-09
Z104	Ballymena Borough	D011	Trihalomethanes	150	01-Jan-07	15-Oct-09
Z109	Dunore North	D011	Trihalomethanes	150	01-Jan-07	15-Oct-09
Z112	Mormeal	D011	Trihalomethanes	150	01-Jan-07	16-Jul-09
Z113	Moyola	D011	Trihalomethanes	150	01-Jan-07	16-Jul-09
Z116	Unagh	D011	Trihalomethanes	150	01-Jan-07	16-Jul-09
Z201	Altmore	D011	Trihalomethanes	150	01-Jan-07	24-Dec-09
Z202	Altmore-Gortlenaghan	D011	Trihalomethanes	150	01-Jan-07	24-Dec-09
Z209	Castor Bay-Shanmoy	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z210	Clay Lake	D011	Trihalomethanes	150	08-Sep-06	30-Nov-07
Z219	Seagahan	D011	Trihalomethanes	150	01-Jan-07	24-Dec-09
Z221	Banbridge-Babylon Hill	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z222	Ballydougan-Ballyhannon	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z223	Lurgan-Magheraliskmisk	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z225	Newry-Ballintemple	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z227	Castor Bay-Richill	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z309	Dunmurry	D011	Trihalomethanes	150	01-Jan-07	15-Oct-09
Z310	Dunore East	D011	Trihalomethanes	150	01-Jan-07	31-Oct-08
Z311	Holywood	D011	Trihalomethanes	150	01-Jan-07	24-Sep-09
Z314	Lisburn North	D011	Trihalomethanes	150	01-Jan-07	24-Dec-09
Z316	Lough Cowey	D011	Total	150	01-Jan-07	24-Dec-09

			Trihalomethanes		07	09
			Total		01-Jan-	15-Oct-
Z318	Oldpark	D011	Trihalomethanes	150	07	09
			Total		01-Jan-	24-Sep-
Z320	Stoneyford	D011	Trihalomethanes	150	07	09
			Total		01-Jan-	15-Oct-
Z321	Woodvale	D011	Trihalomethanes	150	07	09
			Total		07-Aug-	06-Aug-
Z410	Lough Braden	D011	Trihalomethanes	150	07	10

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 10 NON FINANCIAL MEASURES  
WATER DELIVERED

DESCRIPTION	UNITS	DP	1		2		3
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	CURRENT YEAR 2008-09
<b>A WATER DELIVERED - VOLUMES</b>							
1 Billed measured household	MI/d	2	14.52		14.76		14.70
2 Billed measured non-household	MI/d	2	129.32		124.68		
3 Billed measured	MI/d	2	143.84		139.44		
4 Billed unmeasured household	MI/d	2	296.15		306.61		308.90
5 Billed unmeasured non-household	MI/d	2	41.73		24.48		
6 Billed unmeasured	MI/d	2	337.88		331.09		
<b>B WATER DELIVERED - COMPONENTS</b>							
7 Estimated water delivered per unmeasured non-household	l/prop/d	2	840.98	B4	803.30	B4	
7a Estimated water delivered per unmeasured household	l/prop/d	2	434.10		443.29	B4	
8 Per capita consumption (unmeas'd h'hold - excl s/pipe leakage)	l/h/d	2	145.07	B3	145.18	B3	
9 Per capita consumption (meas'd h'hold - excl s/pipe leakage)	l/h/d	2	158.88		158.34		
10 Underground supply pipe leakage (unmeas'd households)	l/prop/d	2	67.19		63.58		
11 Underground supply pipe leakage (ext. metered households)	l/prop/d	2	0		0.00		
12 Underground supply pipe leakage (other metered h'holds)	l/prop/d	2	0		0.00		
13 Underground supply pipe leakage (void properties)	l/prop/d	2	67.19		63.58		
14 Meter under-registration (measured households)	MI/d	2	0.45		0.53		
15 Meter under-registration (measured non-households)	MI/d	2	5.78		5.53		
16 Distribution system operational use	MI/d	2	9.12		4.97		
17 Water taken legally unbilled	MI/d	2	8.76		25.09		
18 Water taken illegally unbilled	MI/d	2	0.97		2.48		
19 Water taken unbilled	MI/d	2	9.74		27.57		
20 Water delivered (potable)	MI/d	2	305.89		498.10		
21 Water delivered (non-potable)	MI/d	2	0		0.00		
22 Water delivered (non-standard rates: potable)	MI/d	2	491.46		4.20		
23 Water delivered (non-standard rates: non-potable)	MI/d	2	0		0.00		
24 Distribution losses	MI/d	2	118.74		111.38		
25 Total leakage	MI/d	2	168.75	B3	156.52	B3	
26 Distribution input	MI/d	2	619.32	B2	614.45	B2	
27 Bulk supply imports	MI/d	2	0		0.00		
28 Bulk supply exports	MI/d	2	0		0.22		
29 Water treated at own works to own customers	MI/d	2	619.32		614.45		
30 Overall water balance	cg			B2		B2	
<b>C SECURITY OF SUPPLY</b>							
31 Security of supply index - company's planned levels of service	nr	2	N/C		-26.00		
32 Security of supply index - reference levels of service	nr	2	N/C		-26.00		

## **Table - 10 Water Delivered**

### **Introduction**

Leakage levels for NIW have been assessed using the methodology described in Table 10 of the Ofwat reporting required for the England and Wales Water Companies.

NIW continues to strive to improve the accuracy and robustness of the components of the 'Top Down' and 'Bottom Up' leakage calculations. This is achieved by reviewing the calculation of the various components of leakage and, if appropriate, updating or improving the methodology.

The UKWIR NERA Demand Forecasting Methodology has been used for estimating the different components of distribution input (post MLE).

During the Reporting year there have been changes in both property numbers and measured consumption information. NIW recognised that it had issues in both areas and work has been undertaken to improve the accuracy of the data. However it is also acknowledged that the review of such data will continue during 2008/09.

Changes have occurred in relation to metered consumption and property numbers. In addition there is uncertainty in respect of some of the components within the top down leakage estimate in the water balance with some improving reconciliation and others potentially having an adverse effect on reconciliation. The Company fully recognises the need to improve its data and the subsequent estimates contained within the water balance. This work has already commenced.

The bottom up leakage assessment is based on excellent DMA coverage. Over 80% of the DMAs are monitored with electromagnetic meters with a direct link to the Company's telemetry system. The remaining DMAs are monitored through mechanical meters and GSM/standard loggers. There is also daily monitoring of flows. The bottom up leakage calculation is considered to be more robust than the top down leakage assessment.

The imbalance between top down and bottom up leakage figures has changed from 13.39 MI/d (2.16%) in AIR07 to 31.74 MI/d (5.17%) in AIR08. The imbalance is just in excess of the 5% discrepancy as per the Utility Regulator's guidance. The top down leakage is 184.19 MI/d, the bottom up leakage is 152.45 MI/d and with the MLE method applied the bottom up MLE adjusted leakage figure is 156.52 MI/d.

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

The only domestic metered properties in Northern Ireland are those associated with farms. To be consistent with previous water balances, Billed Measured Household volumes have been estimated using the PCC and occupancy rates for detached properties (Source: Halcrow's PCC Analysis Report) and the number of farms (Source: CorVu). A meter under-

registration factor of 3.9% (Average for GB- Source: Ofwat Security of Supply Report 06/07) has been applied to this volume. No allowance for underground supply pipe leakage has been included.

Work has been ongoing within NIW, through the Data Integrity Group, in reviewing metered consumption reports and property data. As a result of this work, the metered volume of water used now reflects the ongoing output of the Data Integrity Group in relation to Billed Measured Non-Households.

Billed Measured Non-Household volumes are calculated by subtracting the estimate for billed measured household from total meter consumption (Source: CorVu). A meter under-registration factor of 4.9% (Average for GB- Source: Ofwat Security of Supply Report 06/07) has been applied to this volume. No allowance for underground supply pipe leakage has been included.

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

Billed Unmeasured Household volumes have been calculated by multiplying an average PCC figure for Northern Ireland (Source: Halcrow's PCC Analysis Report) by the domestic population (Source: NISRA). A meter under-registration factor of 3.9% (Average for GB- Source: Ofwat Security of Supply Report 06/07) has been applied to this volume. Underground supply pipe leakage has been applied to this component.

Billed Unmeasured Non-Household volumes have been calculated using an allowance for unmeasured non-households (270 m<sup>3</sup>/p/yr) multiplied by the total number of unmeasured non-households (Source: CorVu). Underground supply pipe leakage has been applied to this component.

In April 2008, NIW Customer Services Directorate carried out a study of test meters in NIW and their composition (i.e. whether they were household or non-household). At this point in time, NIW had 10,930 test meters with a consumption figure for 2007/08 of 10.21 Mld (Note: CorVu now has 10,800 test meters). These 2007/08 volumes (3.04 Mld for household properties and 7.17 Mld for non-households) were added to 'Billed Unmeasured HH' and 'Water Taken Legally Unbilled' respectively. The test meter consumption was removed from the total metered consumption figure used in the calculation of Line 2. This approach differs from that taken in AIR 2007 whereby the consumption of test meters was included in the overall metered consumption figure.

There are 4804 domestic properties that have been fitted, over a number of years, with test meters. These properties have been identified, in the past, as being significant users of water and hence why test meters were fitted. In overall terms they are a relatively small number but would have a usage in excess of the current PCC figure of 145.18 l/hd/day. Hence why they have been included in Billed Unmeasured HH.

The split of test meters between domestic and non-domestic was the Company's most reasonable assessment at the time. It is recognised that there is a degree of uncertainty with this assessment. Further analysis may find that a revised assessment may have an adverse effect on the imbalance. The Data Integrity Group will review test meters during 2008/09. The analysis will assess whether the properties are domestic or non-domestic. This may require a site visit to each test meter property. Where appropriate non-domestic test meters will become revenue meters and domestic meters will be reviewed.

## **Lines 7 – 30 Water Delivered Components**

### **Estimated water delivered per unmeasured non-household**

The allowance for unmeasured non-household properties has been calculated as 270 m<sup>3</sup>/p/yr. The unmeasured non-households were split into various property types and aligned to a breakdown of the measured non-households property types. Metered consumption data (Source: CorVu) for the various property types, for the period from the 1<sup>st</sup> April 2007 to 31<sup>st</sup> March 2008, was then used to determine an average allowance for the unmeasured properties in each category.

The top 10% of measured customers, representing high volumetric users, were removed and the bottom 10% (which included zero readings) were also removed. Therefore based on the 80/20 process an average consumption figure was calculated for each category to give an overall allowance of 270 m<sup>3</sup>/p/yr for unmeasured NHH properties.

This figure compares favourably with the 2006/07 industry average for England and Wales which is 291.5 m<sup>3</sup>/p/yr (798.6 l/p/d) (Source: Ofwat Security of Supply Report 06/07).

The figure of 270m<sup>3</sup>/p/yr is higher than that used for the 2008/09 Scheme of Charges which was 165 m<sup>3</sup>/p/yr. The AIR08 figure is an assessment of the volumetric usage of water by NHH unmeasured properties during the 2007/08 year while the figure used in the Scheme of Charges was estimated for the 2008/09 year.

NIW has identified a number of large volume un-metered properties. There are also property types within the breakdown of NHH unmeasured properties that are potentially significant water users.

As the NHH property numbers reduce, with a targeted metering programme, identifying the higher volumetric users there should be a divergence between the calculated AIR08 figure and the estimated 2008/09 Scheme of Charges figure.

### **Per Capita Consumption (PCC) (unmeasured households)**

NIW has 109 PCC sites set up specifically to monitor household consumption. These sites are small (average size of 49 properties), permanently bounded, monitored for leakage, and their flows recorded by meters. NIW has 87% of the PCC sites with the flows recorded by GSM loggers. The remainder are monitored through manually downloaded loggers. The household consumption data is used to assess both an average PCC figure for Northern Ireland and a PCC figure for detached properties (based on detached property sites only). The PCC sites are also used to assess the occupancy rates for detached properties.

The average PCC figure has been calculated as 145.18 l/hd/day. This assessment is based on 12 months consumption data from 100 of the 109 sites. Halcrow's PCC Analysis Report for 2007/08 details the PCC calculation in more detail.

A MUR factor of 3.9% has been used for unmeasured PCC. 30% of the NIW PCC meters are older than 5 years and their accuracy is considered to be less than that of newer meters. NIW aim to develop a programme of replacing older PCC meters. In conjunction with this programme there will be a re-assessment of the MUR figure to be used in future water balances.

NIW has already commenced a review of its PCC sites by undertaking a property and population survey through the use of household questionnaires to all properties in each PCC site. This information will be available for AIR 2009.

### **Per Capita Consumption (PCC) (measured households)**

The PCC for detached properties has been calculated as 158.34 l/hd/day. This assessment is based on the consumption information for 28 sites (which are made up of purely detached properties). These 28 PCC sites were also used to calculate the occupancy rate for detached properties, which has been calculated as 2.77 hd/p.

A MUR factor of 3.9% has been used for measured PCC. 28% of the NIW PCC meters (for detached sites) are older than 5 years and their accuracy is considered to be less than that of newer meters. As previously indicated NIW aim to develop a programme of PCC meter replacement for older meters.

## **Underground Supply Pipe Leakage**

The volume of 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 NIW has been assessed for AIR 08 as 45.14 Mld. To convert this volume to the required l/p/day figure, the SPL volume has been divided by the number of unmeasured properties (including voids). The SPL calculation for NIW is detailed in the NIW Supply Pipe Leakage Assessment Report for 2007/08 (carried out by Halcrow).

Line 11 has been entered as zero. NIW do not have any billed metered households due to the fact that domestic metering is not in place. Farms do have a domestic element but any SPL will be captured through the meter at the property boundary. Therefore it will be taken into account in the metered consumption figures.

NIW has a relatively small number of internally metered properties (approximately 600) Hence the method of calculation of SPL on internally metered properties is the same as per Line 10.

NIW does not currently have a process of disconnecting/ red bunging void properties. Therefore void properties have been included in the household property numbers for the calculation of SPL per property. The process of red bunging void properties will be reviewed this year, for AIR 2009.

## **Meter Under-Registration**

NIW has used industry average meter under-registration figure from Ofwat's Security of Supply 2006/07 Report. NIW does not have a Company specific MUR figure. The MUR figures for GB companies vary from 0.8% to 5.9% for household meters with the average for all companies being 3.9%. The MUR figures for non-households vary between 3.0% and 10.6% with the average being 4.9%. NIW has an aging meter stock that could potentially reflect a MUR figure that is in the higher range of the GB figures. If the MUR for NIW was higher than the GB industry average then this would reduce the imbalance between top down and bottom up leakage assessments. NIW has already commenced work in 2008/09 to collect adequate information that will lead to the development of a company specific meter under registration figures.

## **Distribution System Operational Use**

NIW has carried out a reassessment of the components that make up DSOU, which include service reservoir cleaning; mains renewed; repair flushing; water and chlorine sampling. The DSOU figure has been reduced from 9.05 Mld in AIR 2007 to 4.39 Mld in AIR 2008. NIW

has assessed their DSOU volumes based on company specific data supplied by metered consumption data for 2007/08 (Source: CorVu) and company estimates.

### **Water Taken Unbilled**

NIW has carried out a significant reassessment of Water Taken Legally Unbilled. This includes obtaining information from the Northern Ireland Fire & Rescue Service, water used at WwTWs which has been banded based on OFWAT's methodology, metered water used at NIW depots and offices, an assessment of un-metered NIW depots and offices, and an assessment of un-metered Northern Ireland Civil Service buildings.

Work has been undertaken by NIW in relation to data integrity. A number of issues have been identified and are being taken forward. One of these issues is that there are approximately 6,841 meters with zero reads. An assessment of 522 of these found that there was water being used that was not being accounted for. An assessment of this unaccounted water totalled 4.00 Mld which has been included in Water Taken Legally Unbilled.

NIW has assessed their Water Taken Unbilled volumes based on company specific data supplied by metered consumption information (Source: CorVu) and data supplied by the local fire authority. The consumption of non-household test meters was included in the 'Water Taken Legally Unbilled' volume.

The Water Taken Unbilled figure has been increased from 9.66 Mld in AIR 2007 to 24.32 Mld in AIR 2008.

### **Water Delivered Potable**

All potable water supplied by NIW is calculated as the sum of lines 3, 6 and 19. There are no non-potable supplies to NIW customers. There are no non-standard rates for potable supplies to NIW customers. Therefore this value is the same as Line 20. There are no non-potable supplies to NIW customers.

### **Distribution Losses**

Distribution losses for NIW are calculated by subtracting Lines 16 (DSOU) & 20 (Water delivered) from Line 26 (Distribution Input).

### **Total Leakage**

This calculated figure sums distribution losses and underground supply pipe leakage. NIW have a robust leakage assessment based on leakage within the DMA network and upstream losses. NIW has an extensive DMA network (approx 1040 DMAs) covering 99% of all properties in Northern Ireland. Over 80% of these DMAs are monitored with

electromagnetic meters with a direct link to the company telemetry system. The remaining DMAs are monitored through mechanical meters and GSM/ standard 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.

Leakage allowances for household and non-household properties are subtracted from the Minimum Night Flow (MNF) to calculate a leakage figure for each DMA on a daily basis. Leakage allowances are currently 1.7 l/p/day for household properties and 8 l/p/day for non-household properties (Source: WRC Managing Leakage Suite of Reports). These leakage allowances will be reviewed over the next 18 months to form company specific figures.

DMA leakage assessments are analysed using the 20<sup>th</sup> percentile method. An hour to day factor of 20 has been used in the leakage calculation. Due to the fact that the vast majority of NIW is gravity fed and most pressure management is from fixed outlet PRVs, NIW feel that an hour to day factor of 20 is appropriate at the present time. As more flow modulated PRV schemes are introduced in NIW, the hour to day factor will need reviewed. NIW will review over the next 18 months the AZNP across the company to allow an updated hour to day factor to be determined.

The leakage assessments for each DMA are summed and added to Service Reservoir (SR) & Trunk Main (TM) leakage assessments to give a company leakage level. Service Reservoir and Trunk Main leakage assessments are as per AIR 07 – NIW plan to update these assessments over the next 18 months. Bottom Up leakage is then averaged for the 12 month period.

NIW has used an error estimate of 5% for Bottom Up Leakage in the MLE calculations. Maintaining a high degree of accuracy in the BU leakage reporting is a high priority for NIW. Given the very high DMA coverage and the high percentage cover of electromagnetic meters, NIW feel that the use of a 5% error estimate is appropriate.

### **Distribution Input (DI)**

NIW monitor DI on 128 Distribution Input meters across the company. Daily outputs are averaged over a 12 month period. In recent years NIW has improved the reporting in distribution input in terms of standardising the methodology and data collection across its 21 Resource Zones. All DI meters are on telemetry; some are backed up with GSM loggers and meters calibrated as per the meter calibration schedule.

## **Bulk Supply Imports/ Exports**

There are no bulk imports of water to NIW.

The volume of bulk exports has been entered as zero although there are 76 small exports to the Republic of Ireland (ROI). These exports are individually metered customers and these meters are read and billed through CorVu in a category known as 'cross border supplies (PR)'. This figure is included in the metered non household consumption category.

## **Water treated at own works to own customers.**

With the exception of the 76 small exports above, all water treated at its own works is used by NIW's own customers.

## **Overall Water Balance**

There is an overall imbalance of 31.74 Mld (5.17%) compared with 13.39 Mld (2.16%) for 2006/07. Work has been carried out in improving the robustness of the calculations for various components in the water balance. In 2007/08 NIW undertook a review of its metered consumption reports and property numbers. As a result of this work, there were changes in metered consumption volumes and a reduction of non-household unmeasured properties from 48,690 to 28,365 between AIR07 and AIR08. There is still uncertainty in respect of some components within the top down leakage assessment.

There is now a significant amount of unaccounted water in the top down leakage assessment compared to the bottom up leakage assessment and this needs to be investigated. NIW will immediately undertake a review of the water balance and its various components. This review will be carried out on behalf of NIW by Leakage Consultants.

As the water balance does not reconcile to within 5% and the reliability grade is C in accordance with reliability bands provided by the Utility Regulator. In applying the confidence grades the overall water balance has a confidence grade of C3.

## **Data Confidence Reliability Range.**

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, Alpha-numeric confidence grading system is used as per the Utility Regulator's guidance.

The Billed Measured HH been calculated using the company's own consumption monitor data. A 10% error estimate has been applied to this component in the MLE calculations. This

component had an error estimate of 5% for AIR 2007. On the recommendation of the AIR 07 Interim Reporter, this error estimate was increased to 10%.

The Billed Measured NHH has been calculated from the metered consumption data, provided by the company's billing system (CorVu). A 10% error estimate has been applied to this component in the MLE calculations.

Billed Unmeasured HH 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.

Billed Unmeasured NHH 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 10% has been applied to this component in the MLE calculations.

DSOU has been calculated using company specific data supplied by CorVu and company estimates. A 25% error estimate has been applied to this component in the MLE calculations.

Water Taken Unbilled has been calculated using company specific data supplied by CorVu; company estimates and data supplied by the local fire authority. A 25% error estimate has been applied to this component in the MLE calculations.

Total Leakage has a confidence grade of B3. A 5% error estimate has been applied to BU Leakage in the MLE calculation.

Distribution Input has a confidence grade of C3. The sum of components and the distribution input balance do not reconcile to within 5%.

The Overall Water Balance has a confidence grade of C3. The water balance components do not reconcile with measured distribution input to within 5%.

### **Lines 31 & 32 Security of Supply Index**

The basis of calculation for security of supply index (SOSI) is as described in the following documents: -

- Methodology Statement for AIR08 –Table 10, Non-financial Measures – Water Service, Lines 31-32, Table 10a
- Reporting Requirements, June 2008, Security of Supply Index, Version 1.1, April 2008

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

**ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES**

**Security of Supply Index - Planned level of service**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	WAFU (EA definition) (MI/d)	Bulk imports (MI/d)	Bulk exports (MI/d)	Dry year distribution input (MI/d)	Reporting year distribution input (MI/d)	Dry year available headroom (MI/d)	Target headroom (MI/d)	Surplus/deficit (MI/d)	Percentage deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit <sup>2</sup> x % population affected x 100)	Security of supply index
Ballinrees	24.30	0	0	20.71	18.69	3.59	1.85	1.74	8%	64.83	0%	0.000	
Altnahinch	15.54	0	0	14.41	13.35	1.13	1.18	-0.05	0%	45.17	3%	0.000	
Ballymena	25.40	0	0	27.80	24.67	-2.40	1.94	-4.33	-15%	70.84	4%	0.085	
Antrim/Larne	32.90	0	0	33.64	30.36	-0.74	2.51	-3.24	-9%	96.23	5%	0.044	
Magherafelt	28.60	0	0	29.18	26.36	-0.58	2.18	-2.76	-9%	67.20	4%	0.029	
Dungannon	3.90	0	0	6.23	5.25	-2.33	0.30	-2.63	-40%	9.81	1%	0.090	
Craigavon	65.60	0	0	76.53	68.52	-10.93	5.00	-15.93	-20%	172.91	10%	0.372	
Newry	51.40	0	0	50.74	45.63	0.66	3.92	-3.26	-6%	91.66	5%	0.018	
Lough Ross	6.60	0	0	6.62	6.01	-0.02	0.50	-0.53	-7%	8.79	0%	0.003	
Armagh	20.40	0	0	19.84	16.99	0.56	1.55	-1.00	-5%	36.66	2%	0.004	
Eastern General	341.88	0	0	272.50	249.78	69.38	26.05	43.32	15%	813.09	0%	0.000	
Lough Cowey	3.70	0	0	2.70	2.25	1.00	0.28	0.72	24%	7.75	0%	0.000	
Faughan	45.50	0	0	53.16	46.59	-7.66	3.47	-11.13	-20%	134.13	8%	0.292	
Bradán	31.00	0	0	39.18	35.52	-8.18	2.36	-10.54	-25%	89.76	5%	0.326	
Killyhevlin	35.80	0	0	33.43	24.58	2.37	2.73	-0.36	-1%	65.16	4%	0.000	
<b>Total</b>	<b>732.52</b>	<b>0.00</b>	<b>0.00</b>	<b>686.68</b>	<b>614.54</b>					<b>1774.00</b>		<b>1.263</b>	<b>-26.0</b>

**NORTHERN IRELAND WATER - ANNUAL INFORMATION RETURN**

**ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES**

**Security of Supply Index - Reference levels of service**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	WAFU (EA definition) (MI/d)	Bulk imports (MI/d)	Bulk exports (MI/d)	Dry year distribution input (MI/d)	Reporting year distribution input (MI/d)	Dry year available headroom (MI/d)	Target headroom (MI/d)	Surplus/deficit (MI/d)	Percentage deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit <sup>2</sup> x % population affected x 100)	Security of supply index
Ballinrees	24.30	0	0	20.71	18.69	3.59	1.85	1.74	8%	64.83	0%	0.000	
Altnahinch	15.54	0	0	14.41	13.35	1.13	1.18	-0.05	0%	45.17	3%	0.000	
Ballymena	25.40	0	0	27.80	24.67	-2.40	1.94	-4.33	-15%	70.84	4%	0.085	
Antrim/Larne	32.90	0	0	33.64	30.36	-0.74	2.51	-3.24	-9%	96.23	5%	0.044	
Magherafelt	28.60	0	0	29.18	26.36	-0.58	2.18	-2.76	-9%	67.20	4%	0.029	
Dungannon	3.90	0	0	6.23	5.25	-2.33	0.30	-2.63	-40%	9.81	1%	0.090	
Craigavon	65.60	0	0	76.53	68.52	-10.93	5.00	-15.93	-20%	172.91	10%	0.372	
Newry	51.40	0	0	50.74	45.63	0.66	3.92	-3.26	-6%	91.66	5%	0.018	
Lough Ross	6.60	0	0	6.62	6.01	-0.02	0.50	-0.53	-7%	8.79	0%	0.003	
Armagh	20.40	0	0	19.84	16.99	0.56	1.55	-1.00	-5%	36.66	2%	0.004	
Eastern General/Great	341.88	0	0	272.50	249.78	69.38	26.05	43.32	15%	813.09	0%	0.000	
Lough Cowey	3.70	0	0	2.70	2.25	1.00	0.28	0.72	24%	7.75	0%	0.000	
Faughan	45.50	0	0	53.16	46.59	-7.66	3.47	-11.13	-20%	134.13	8%	0.292	
Bradán	31.00	0	0	39.18	35.52	-8.18	2.36	-10.54	-25%	89.76	5%	0.326	
Killyhevlin	35.80	0	0	33.43	24.58	2.37	2.73	-0.36	-1%	65.16	4%	0.000	
<b>Total</b>	<b>732.52</b>	<b>0.00</b>	<b>0.00</b>	<b>686.68</b>	<b>614.54</b>					<b>1774.00</b>		<b>1.263</b>	<b>-26.0</b>

## **Table 10a - Security of Supply**

An annual security of supply index (SOSI) calculation has not been undertaken historically within NI Water. NI Water does not have a planned level in addition to the reference level and does not consider that critical period conditions are an important driver of their water resource planning.

The 2002-2030 Water Resource Strategy and the subsequent 2007 Review have identified the water available for use (WAFU) and the work required to ensure adequate supplies for Northern Ireland up to 2030. The last SOSI calculation was carried out in 2003/2004 and the index at that time was -171. The implementation of the work identified within the strategy has resulted in a noticeable improvement in this figure which has been assessed as -26 for the period 2007-08 and will improve again for 2008-09 with the availability of increase supplies being made available through the PPP coming online during 2008.

A review of the current strategy has commenced recently to assess how the present NIW strategy compares to the current approach in England and Wales and this will be used to define the requirements for a revision of the strategy to commence early in 2009. This review may result in revised figures for WAFU and demand. The confidence grades applied have been reduced to B4 to reflect the age of the data being used for the estimates.

### **Resource Zones with Deficit Headroom from SoSI**

The 2002-30 Water Resource Strategy and the subsequent 2007 review of the strategy identified shortfalls in WAFU and indicated measures to increase supplies. There has been a major improvement in SOSI since the previous SOSI calculation in 2003/04 which was -171.

Significant increases in supply will become available during 2008, mostly through the PPP Alpha schemes, and these increases will cover the anticipated demands. With the new supplies becoming available in 2008 on a Northern Ireland wide basis the overall WAFU will be sufficient to meet the dry year distribution input plus target headroom. Although the water supplies will be available during 2008 there is still ongoing work required within the distribution system through the watermain rehabilitation programme and a number of strategic links planned over the next 8 years to allow full flexibility of supply.

It is expected that there will be a considerable improvement in SOSI calculation for 2008/09.

The following zone by zone commentary indicates where the additional water will be sourced.

### **Ballymena**

The increased supply from Dunore Point under the PPP scheme will provide an additional 1.4MI/d giving a WAFU figure of 26.8MI/d. There are no significant problems being experienced in this zone and the SOSI calculation will be reviewed in detail for 2009.

### **Antrim/Larne**

The increased supply from Dunore Point under the PPP scheme will provide an additional 3.1MI/d giving a WAFU figure of 36.1MI/d.

### **Magherafelt**

The increased supply from Moyola under the PPP scheme will provide an additional 1.3MI/d giving a WAFU figure of 29.9MI/d.

### **Dungannon**

The increased supply from Castor Bay under the PPP scheme will provide an additional 1.9MI/d giving a WAFU figure of 5.8MI/d. This zone is currently under great pressure and tankering has been taking place to supplement supplies within the zone. There is also an urgent need for a strategic main from Castor Bay to Dungannon to allow flexibility of supply and this scheme has recently been given a high priority and is intended to be complete during the year 2009-10.

### **Craigavon**

The increased supply from Castor Bay under the PPP scheme will provide an additional 12.2MI/d giving a WAFU figure of 77.8MI/d.

### **Newry**

The increased supply from Castor Bay under the PPP scheme will provide an additional 8.6MI/d giving a WAFU figure of 60MI/d.

### **Lough Ross**

Improvements at the Carron Hill WTW have permitted an increase of WAFU to a level of 7.5MI/d.

### **Armagh**

The upgrade of Seaghan WTW, which is currently underway, will improve security of supply from the Seaghan Dam and this together with increased supply from Castor Bay under the PPP scheme will provide an additional 2.4MI/d giving a WAFU figure of 22.8MI/d.

### **Faughan**

The increased supply from Ballinrees under the PPP scheme will provide an additional 7.5Ml/d giving a WAFU figure of 53.5Ml/d. With additional output from Carmoney and some additional local pipework amendments this will be further increased to reach the WRS figure of 59.5Ml/d WAFU.

### **Bradán**

Preliminary work on increased abstraction from the Strule River has commenced and this will provide an addition 7Ml/d coming available during 2010 giving a WAFU figure of 38Ml/d.

### **Killyhevlin**

No specific problems are being experienced in this zone and the figures will be reviewed as part of the WRS review commencing in 2009.

It is intended that a revision of the WRS planned to commence in early 2009 will review the supplies and demands across all zones using current methodologies.



## **Asset Management Section**

**Reporting Requirements, June 2008**

**Security of Supply Index**

**Version 1.2**

**July 2008**

## Security of Supply Index

### Draft Report

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1.1	29 April 2008	Typo for total score 2029-30 corrected			Len Jackson
1.2	26 July 2008	Revised Table 2			Len Jackson

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## INTRODUCTION

OFWAT have provided guidance on the June 2008 reporting requirements with regard to Security of Supply Index. The guidance was published on the OFWAT web site on 3<sup>rd</sup> April 2008 as follows:

- o June Return Reporting Requirements: Chapter10a, Non Financial Measures, Security of Supply Index, Issue 1.2, March 2008.

The guidance for Water Company submissions is summarised below:

The guidance for calculating the security of supply index is set out in OFWAT document RD 03/02. There are many elements of the security of supply index calculation that are common to companies' water resource plan updates. There should be consistency for the following:

1. Water resource zones, water available for use and target headroom.
2. Companies should follow the definitions set out in the Environment Agency's Water Resource Planning Guidelines for the following: water available for use and reporting year distribution input.
3. Bulk supply imports and exports should be based on a dry year, and should be the maximum amounts that the company may request under their contracts or be obliged to supply.
4. Water available for use should be calculated to a common reference level of service used in the Environment Agency's '1997 Reassessment of Water Company Yields'. If the company is not able to precisely replicate the reference level of service, it should estimate yields as closely in line with the reference level of service as possible and should set out any assumptions clearly in the commentary.

The company should:

1. Confirm that it has applied a dry year adjustment factor to reported distribution input to derive dry year distribution input, and explain the basis of that factor; and
2. Reconcile the actual index score with that forecast in its final business plan/monitoring plan with reference to progress in delivering schemes.

The guidance for Reporters auditing Water Company submissions is summarised below:

The reporter shall check that there has been consistency for the following:

1. Water resource zones,
2. Water available for use (WAFU),
3. Reporting year distribution input; and
4. Target headroom.

Where there is a difference between the figures used in the water resource plan updates and those used to calculate the index, the reporter shall ask the company to explain why and comment on the company's justification.

The Northern Ireland Water (NIW), Water Resource Strategy Report published in 2002, and the more recent update (Revision B) published in January 2007, have identified the work required to upgrade the source deployable outputs and WAFU for the main Water Treatment Works (WTWs). The Strategy allows for a number of strategic links to maintain supply of water to Northern Ireland as a whole until 2030.

The main conclusions from the Water Resource Strategy Report Revision B published in January 2007 are as follows:

“Although there has been little overall change in the total demand for Northern Ireland, there are significant local variations which have resulted in an increase in the need for Water Available for Use (WAFU) within certain supply zones by 2030. The revised supply demand balance for 2030 shows an additional 11 MI/d of WAFU is required to meet demands in all resource zones. Therefore WAFU has increased to 813 MI/d in comparison with the figure of 802 MI/d in the original Water Resource Strategy 2002. However, this increase of 11 MI/d represents less than 2% of the overall demand balance and is within the confidence limits of the calculation methodology. The formal review of the Strategy in 2012 will provide an appropriate opportunity to review overall change and will include an improved level of data collection and accuracy to confirm these figures.”

## SECURITY OF SUPPLY INDEX

This calculation of Security of Supply Index (SOSI) is based on the method set out in Ofwat's letter RD 03/02 issued on 8 March 2002.

The following sources of data and assumptions have been used:

- The definition of the water resource zones conform to the EA definition and remains unchanged from “Water Resource Strategy (WRS) 2002, Review of Recent Published Data, Revision B”
- WAFU has been calculated using the EA definition.
- WAFU results as included in the “Water Resource Strategy (WRS) 2002 Review of Recent Published Data, Revision B”, shown in Section 3.6 have been used. Improvements planned to be complete in 2008 are not currently operational hence the current WAFU is similar to that described in 2005-06.
- There are no bulk imports from other companies.
- There are no bulk exports from other companies.
- The dry year distribution input factors prepared in the WRS 2002 for each water resource zone have been used.

- The available headroom has been updated as appropriate based on recent data by subtracting the dry year distribution input from the WAFU for each water resource zone.
- A uniform Target Headroom has been used based on the UKWIR report 98/WR/13/1 “A practical method for converting uncertainty in to headroom”. This is consistent with the WRS. The target headroom has been increased to 7.62% of WAFU for 2008-09 in accordance with the results from WRS.
- The surplus/deficit between target and available headroom has been updated as appropriate based on recent data.
- The percentage deficit has been updated as appropriate based on recent data.
- The zonal population has been updated as appropriate based on recent data.
- The percentage of total population with headroom deficit has been updated as appropriate based on recent data.
- The zonal index and security of supply index has been updated as appropriate based on recent data.

## **ASSESSMENT OF TARGET HEADROOM**

The UKWIR methodology (98/WR/13/1) for estimating target headroom has been used in this calculation. This establishes a methodology for use at resource zone level. Target Headroom is assessed with regard to eight supply-related factors and three demand-related factors. The assessment used comes from the WRS and the following describes the assessment of these factors and the resultant Target Headroom.

Strictly the headroom methodology is designed to be applied to each resource zone, and particularly when supply-related issues are considered. However, the WRS identified that the zonal differences are minor and therefore assessed Target Headroom as the same for all resource zones. This is reasonable for comparative purposes at this stage of the overall assessment.

### **Supply-Related Factors**

#### ***Factor S1 Vulnerable Surface Water Licenses***

This allows for a license that may be revoked or reduced because of a threat to: -

- Minimum residual river flows.
- Environmental in-river or estuary needs.
- Surface water features such as lakes and wetlands.
- A license where the rate of abstraction may need to be reduced in order to allow an increase in residual river flows.

The calculation was based on the WRS headroom where no licensing and environmental flows were in force, the S1 score is zero. However, an allowance been included to cover the risk associated with future licensing and setting of environmental flows before the planning horizon.

Assuming:

- A greater than 70% chance that licensing will reduce or revoke abstraction volumes (upper assumption). On the basis that a number of major impounding reservoirs have little or no compensation flow.
- More than 10% of water available for use (WAFU) is from such vulnerable sources (high assumption).

The S1 score at 2029-30 is assessed as 10 out of 10.

### ***Factor S2 Vulnerable Groundwater Licenses***

As with S1, this allows for a license that may be revoked or reduced because of a threat to:

- Minimum residual river flows.
- Environmental in-river or estuary needs.
- Surface water features such as lakes and wetlands.
- A license where the rate of abstraction may need to be reduced in order to allow an increase in residual river flows.

NIW currently plans to abandon all groundwater sources by 2009 when Castor Bay PPP comes on line. This means that, at the planning horizon, there will be no groundwater abstraction and therefore no uncertainty. Consequently S2 = 0 for 2029-30.

### ***Factor S3 Time-Limited Licenses***

This refers to licenses that will expire by a given date and may not be renewed (all or in part) at a future date. The WRS assumptions have been used in this assessment.

Assuming:

- A 0% to 30% chance that licensing will stop or limit abstraction from some sources (lower assumption).
- Greater than 15% of water available for use (WAFU) is from such vulnerable sources (upper assumption).

The S3 score at 2029-30 is assessed as 1.5 out of 15.

#### ***Factor S4 Bulk Transfers***

This strictly refers to the uncertainty surrounding bulk transfers to a resource zone from a source owned by another water company. Currently the transfer of water between water companies is insignificant and this is unlikely to change over the period up to 2030. As there are no inter company exports or imports, and none are planned, the 2029-30 score for S4 is zero. Schemes currently being developed and implemented for long term supplies do not include or assume any need for imports.

#### ***Factor S5 Gradual Pollution Causing a Reduction in Abstraction***

This refers to surface and ground water sources, which are vulnerable to, or at risk from, gradual pollution and may therefore no longer be economic to maintain. Uncertainty relates to:

- Inherent vulnerability of a source to gradual pollution.
- Rate at which abstraction will gradually decrease due to gradual pollution.

Assuming:

- A 30% to 70% chance that abstraction at surface water sources will be reduced/lost due to gradual pollution.
- Greater than 15% of WAFU is affected by gradual pollution by 2029-30.

The S5 score at 2029-30 is assessed as 8 out of 15.

#### ***Factor S6 Accuracy of Supply-Side Data***

This is to reflect the accuracy of the data used in determining WAFU, and particularly:

- The length of the data record used with respect to coverage of design droughts.
- The spatial resolution of the data used.
- The reliability of the data used.
- The extent to which artificial influences within the resource zone affect the accuracy of the data.

Generally there are gaps in data and the length of the data record is short, introducing uncertainty that the most severe historical drought may not have been identified. Except for the former Eastern Division where the data record is from 1975, the:

- Average or typical length of gauged and/or level records used in calculating WAFU is less than 10 years; component score = 2.

- Sufficiency of data is assessed as average (i.e. good data except in one or two aspects such as completeness, coverage, measurement accuracy, but not naturalisation of the record); component score = 1.
- Sufficiency of flow naturalisation used in calculating WAFU is assessed as average (i.e. naturalised records for which the user is confident except possibly during low flow periods); component score = 0.5.
- The quality of data is improving but, ironically, due to the abandonment of groundwater sources and the introduction of the Castor Bay PPP, the length of currently available data records applicable to 2029-30 is less for several items than for the current status.

Given the above, the S6 score is assessed as 3.5 out of 5 throughout the planning horizon. This has been applied to all resource zones.

### ***Factor S7 Single Source Dominance and Critical Periods***

This refers to domination by a single source (impounding or pumped storage reservoir, borehole(s) abstracting from a single aquifer, or a river abstraction) and limited storage.

Uncertainty may be from:

- Extent to which supply from a single source can be guaranteed.
- Source type characteristics/available storage.
- Effect of resource zone critical period on risk inherent in single source dominance.

Bulk transfers are not included under S7. Overall we assess the S7 score as 0 out of 15.

### ***Factor S8 Uncertainty of Climate Change on Yield***

This covers uncertainty in the variation in WAFU under the different climate change scenarios, and in the accuracy of the forecasts in the relevant scenarios. The WRS assessment used the maximum spread of WAFU at the planning horizon as 3.4 Ml/d or 4% in the former Northern Division, i.e. □ 15% for the case of three high forecasts and one low forecast the S8 score in 2029-30 is assessed as 1 out of 10.

There has been no recent new modelling of climate change by NIW so the S8 score of 1 out of 10 used for the WRS has been retained.

## **Demand-related factors**

### ***Factor D1 Accuracy Of Sub-Component Data***

Uncertainty is for:

- Reliability of data used in base year and forecast demand estimates.
- Accuracy of base year demand estimate.

The score is based on:

- Reliability band of data.
- Reconciliation of the water balance.

The D1 score as in the WRS remains at 4.5 out of 5 through the planning period.

### ***Factor D2 Demand Forecast Variation***

Uncertainty is for:

- Population growth.
- Economic activity.
- Per-capita consumption.
- Market trends.
- Water Service policy.
- Effectiveness of demand management measures.

The score is related to two factors:

- Whether the best estimate forecast tends to the upper or lower forecast.
- The spread between forecasts as a percentage of WAFU.

The demand forecast, D2, score remains unchanged at 4 out of 5.

### ***Factor D3 Uncertainty Of Climate Change On Demand***

Uncertainty arises from:

- Variation between demand forecasts for different climate change scenarios.
- Confidence with which demand can be predicted for individual climate change scenario.

The demand forecast, D3, score remains unchanged at 2.5 out of 5.

A summary of the assessed scores is shown in Table 1.

**Table 1 Assessed Target Headroom Scores**

Ref	Factor	1999-00	2029-30	Max score
		Probable	Probable	
S1	Vulnerable surface water licenses	0	10	10
S2	Vulnerable groundwater licenses	0	0	10
S3	Time limited licenses	0	1.5	15
S4	Bulk transfers	1	0	5
S5	Gradual pollution reducing abstraction	0	8	15
S6	Accuracy of supply-side data	3.5	3.5	5
S7	Single source dominance/critical periods	0	0	15
S8	Uncertainty of climate change on yield	0	1	10
D1	Accuracy of sub-component data	4.5	4.5	5
D2	Demand forecast variation	0	4	15
D3	Uncertainty of climate change on demand	0	2.5	5
	Total score	6.7	27	80

The total score is calculated by: -

$$S1 + S2 + S3 + S4 + S5 + (S6^2 + S7^2 + S8^2 + D1^2 + D2^2 + D3^2)^{0.5}$$

From the Score to Target Headroom Conversion Chart provided in the UKWIR methodology, Target Headroom is determined to be:

Method	1999-00	2029-30
Probable assessment	5.7% WAFU	12.5% WAFU

In the WRS a target headroom of 5.7% was derived for 1999-00 and 12.1% for 2029-30. Using the above results, the target headroom for 2008-09 is estimated to be 7.62% WAFU.

## **DRY YEAR distribution input ADJUSTMENT FACTOR**

Detailed calculations were carried out as an integral part of the WRS 2002 to derive the dry year distribution input adjustment factors for each water resource zone.

These initially used the standard methodology at that time in England and Wales for base year determination. This was to assess the level of demand which is just

equal to the maximum annual average which can be met without the introduction of demand restrictions at any time during the year. Using this methodology, it is expected that dry year demand is greater than normal year demand, and the dry year adjusted distribution input is not lower than the 1999/2000 distribution input. This methodology did not prove to be practical in the circumstances in Northern Ireland and the WRS Team therefore adopted the following method of determining appropriate dry year adjustment factors in each resource zone.

The dry year of record in each resource zone was identified by taking the highest ratio of the months April to September and October to March. The Base Year Distribution Input was increased by a factor (F) calculated from:

$$F = \frac{\text{Ratio of summer over winter months of dry year}}{\text{Ratio of summer over winter months in 1999-00}}$$

The results are summarized in Table 2.

**Table 2 Assessed Dry Year Distribution Input Adjustment Factors**

<b>Resource Zone</b>	<b>Dry Year Distribution Input Adjustment Factor (F)</b>
Ballinrees	1.018
Altnahinch	1.079
Ballymena	1.127
Antrim/Larne	1.108
Magherafelt/Cookstown	1.107
Dungannon	1.186
Craigavon	1.117
Newry	1.112
Lough Ross	1.103
Armagh	1.168
Eastern General/Belfast	1.091
Lough Cowey	1.200
Faughan/Altnaheglish	1.141
Derg/Bradán/Lough Macrory	1.103
Killyhevlin	1.360

In the WRS 2002 these factors were applied to the Demand for each resource zone to arrive at the 'dry year' Base Year forecast. This methodology was

dependent on the length of record in each resource zone. Earlier historical events may have been more severe but data was not available. However the 1995 (significant dry year) event was available in all records.

This main assumption is that the WRS report year is considered to be a 'normal' year, and that the dry year adjustment can be applied to each resource zone distribution input as shown in Table 2.

This assumption is valid with the limited data available but should be reviewed as part of an overall review of the WRS 2002 strategy forecasts, in particular in light of advancements in leakage reductions and the reduced distribution input figures.

## **DERIVING THE SECURITY OF SUPPLY INDEX**

The steps used in the calculation are as follows.

### **Step 1**

The distribution input figures (column 6) were obtained from the daily distribution input figures provided by NIW Leakage Section. Water available for use (WAFU) shown in column 2 as reported in the WRP updates has been used. There are no bulk imports (column 3) and exports (column 4).

The target headroom figures (column 8) have been calculated as 7.62% of WAFU.

Dry year distribution input (column 5) has been calculated from distribution input figures (column 6) multiplied by the dry year distribution input factors shown in Table 2.

The available headroom has been calculated as the sum of column (2) and column (3), minus column (4) and minus column (5).

### **Step 2**

The proposed index is based on the difference between the available headroom (column 7) and the target headroom (column 8) in each zone. This 'surplus/deficit' (column 9) has then been expressed in column 10 as a percentage of the sum of dry year distribution input and target headroom.

This, therefore, gives a measure of the size of the deficit/surplus in relation to the demand that expected during a dry year plus the target headroom required.

### Step 3

The population figures for each zone (column 11) with a headroom deficit have been expressed in column (12) as a percentage of the company total population where a deficit exists. Where the zone is not in deficit, zero has been entered in column 12.

Assessment of the population was based on population figures for Northern Ireland published by Northern Ireland Statistics and Research Agency (NISRA) for 2007. The overall population was distributed between the zones on the basis of the residential properties held on the Pointer database on GIS against each zone.

This therefore, gives a measure of the size of the surplus/deficits in relation to the demand during a dry year plus the necessary headroom.

### Step 4

The zonal scores were then derived and multiplied by the percentage of population with headroom deficit by the squared deficit. This means that the index is a function of the square of the deficit, so that large deficits affecting small zones weigh in the overall index. The product for each zone is then multiplied by 100 to produce the overall score.

### Step 5

The final company wide security of supply index was then calculated as:

$$(1 - \text{overall total zonal index score}) \times 100$$

The resulting score was rounded down to the nearest whole number.

## COMMENTS ON SECURITY OF SUPPLY INDEX

Available Headroom figures for many zones are low and many have negative headroom values compared to the Dry Year Distribution Input.

Available headroom is less than target headroom in 12 out of 15 water resource zones.

This status is reflected by the negative Security of Supply Index for Northern Ireland as shown below:

NIW Security of Supply Index for all water resource zones combined is -26.

The NIW Security of Supply Index results are shown in Appendix A (Table 10a).

Overall, the clear message from these results is that there are significant areas of concern for many of the Water Resource Zones with respect to Headroom although these problems are being addressed by the implementation of the WRS.

**Appendix A Table 10a**

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NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 10A NON FINANCIAL MEASURES

Security of Supply Index - Planned level of service

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Water resource zone	WAFU (EA definition) (MI/d)	Bulk imports (MI/d)	Bulk exports (MI/d)	Dry year distribution input (MI/d)	Reporting year distribution input (MI/d)	Dry year available headroom (MI/d)	Target headroom (MI/d)	Surplus/deficit (MI/d)	Percentage deficit (MI/d)	Zonal population	Percentage of total population with headroom deficit	Zonal index (%age deficit <sup>2</sup> x % population affected x 100)	Security of supply index
Ballinrees	24.30	0	0	20.71	18.69	3.59	1.85	1.74	8%	64.83	0%	0.000	
Altnahinch	15.54	0	0	14.41	13.35	1.13	1.18	-0.05	0%	45.17	3%	0.000	
Ballymena	25.40	0	0	27.80	24.67	-2.40	1.94	-4.33	-15%	70.84	4%	0.085	
Antrim/Larne	32.90	0	0	33.64	30.36	-0.74	2.51	-3.24	-9%	96.23	5%	0.044	
Magherafelt	28.60	0	0	29.18	26.36	-0.58	2.18	-2.76	-9%	67.20	4%	0.029	
Dungannon	3.90	0	0	6.23	5.25	-2.33	0.30	-2.63	-40%	9.81	1%	0.090	
Craigavon	65.60	0	0	76.53	68.52	-10.93	5.00	-15.93	-20%	172.91	10%	0.372	
Newry	51.40	0	0	50.74	45.63	0.66	3.92	-3.26	-6%	91.66	5%	0.018	
Lough Ross	6.60	0	0	6.62	6.01	-0.02	0.50	-0.53	-7%	8.79	0%	0.003	
Armagh	20.40	0	0	19.84	16.99	0.56	1.55	-1.00	-5%	36.66	2%	0.004	
Eastern General	341.88	0	0	272.50	249.78	69.38	26.05	43.32	15%	813.09	0%	0.000	
Lough Cowey	3.70	0	0	2.70	2.25	1.00	0.28	0.72	24%	7.75	0%	0.000	
Faughan	45.50	0	0	53.16	46.59	-7.66	3.47	-11.13	-20%	134.13	8%	0.292	
Bradan	31.00	0	0	39.18	35.52	-8.18	2.36	-10.54	-25%	89.76	5%	0.326	
Killyhevlin	35.80	0	0	33.43	24.58	2.37	2.73	-0.36	-1%	65.16	4%	0.000	
<b>Total</b>	<b>732.52</b>	<b>0.00</b>	<b>0.00</b>	<b>686.68</b>	<b>614.54</b>					<b>1774.00</b>		<b>1.263</b>	<b>-26.0</b>

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 10B NON FINANCIAL MEASURES

Environment and Heritage Service Agency Data - annual average out-turns

DESCRIPTION			UNITS	DP	RESOURCE ZONE	RESOURCE ZONE	Total
<b>A BASIC RESOURCES</b>							
1	Deployable output		MI/d	2dp			
2	Outage allowance		MI/d	2dp			
3	Water available for use		MI/d	2dp			
<b>B RAW WATER</b>							
4	Raw water abstracted		MI/d	2dp			
5	Raw water exported		MI/d	2dp			
6	Raw water retained		MI/d	2dp			
7	Raw water imported		MI/d	2dp			
8	Raw water collected		MI/d	2dp			
9	Raw water losses		MI/d	2dp			
10	Raw water operational use		MI/d	2dp			
11	Non potable supplies		MI/d	2dp			
12	Raw water into treatment		MI/d	2dp			
<b>C POTABLE WATER TO POINT OF DELIVERY</b>							
13	Treatment works losses		MI/d	2dp			
14	Treatment works operational use		MI/d	2dp			
15	Potable water produced		MI/d	2dp			
16	Potable water imports		MI/d	2dp			
17	Potable water exports		MI/d	2dp			
18	Distribution input		MI/d	2dp			
19	Distribution losses		MI/d	2dp			
20	Water taken		MI/d	2dp			
21	Distribution system operational use		MI/d	2dp			
22	Water delivered		MI/d	2dp			
<b>D POTABLE WATER CUSTOMER BASE</b>							
23	Unmeasured household - population		000's	3dp			
24	Unmeasured household - properties		000's	3dp			
25	Unmeasured household - occupancy rate		h/pr	2dp			
26	Measured household - population		000's	3dp			
27	Measured household - properties		000's	3dp			
28	Measured household - occupancy rate		h/pr	2dp			
29	Unmeasured non household population		000's	3dp			
30	Unmeasured non household - properties		000's	3dp			
31	Measured non household - population		000's	3dp			
32	Measured non household - properties		000's	3dp			
33	Total population		000's	3dp			
34	Void household - properties		000's	3dp			
35	Void non households - properties		000's	3dp			
36	Total properties		000's	3dp			
<b>E POTABLE WATER DELIVERED</b>							
37	Water taken unbilled		MI/d	2dp			
38	Water delivered billed		MI/d	2dp			
39	Unmeasured household water delivered		MI/d	2dp			
40	Unmeasured household - uspl		MI/d	2dp			
41	Unmeasured household - consumption		MI/d	2dp			
42	Unmeasured household - pcc		l/h/d	2dp			
43	Measured household water delivered		MI/d	2dp			
44	Measured household - uspl		MI/d	2dp			
45	Measured household - consumption		MI/d	2dp			
46	Measured household - pcc		MI/d	2dp			
47	Unmeasured non-household water delivered		MI/d	2dp			
48	Unmeasured non-household - uspl		MI/d	2dp			
49	Unmeasured non household - consumption		MI/d	2dp			
50	Measured non household water delivered		MI/d	2dp			
51	Measured non household - uspl		MI/d	2dp			
52	Measured non household - consumption		MI/d	2dp			
53	Void properties - uspl		MI/d	2dp			
<b>F LEAKAGE</b>							
54	Total leakage		MI/d	2dp			
55	Total leakage		l/prop/d	2dp			

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

**ANNUAL INFORMATION RETURN - TABLE 10B NON FINANCIAL MEASURES**

**Environment and Heritage Service Agency Data - critical period**

DESCRIPTION			UNITS	DP	RESOURCE ZONE	RESOURCE ZONE	Total
<b>A BASIC RESOURCES</b>							
1	Deployable output		MI/d	2dp			
2	Outage allowance		MI/d	2dp			
3	Water available for use		MI/d	2dp			
<b>B RAW WATER</b>							
4	Raw water abstracted		MI/d	2dp			
5	Raw water exported		MI/d	2dp			
6	Raw water retained		MI/d	2dp			
7	Raw water imported		MI/d	2dp			
8	Raw water collected		MI/d	2dp			
9	Raw water losses		MI/d	2dp			
10	Raw water operational use		MI/d	2dp			
11	Non potable supplies		MI/d	2dp			
12	Raw water into treatment		MI/d	2dp			
<b>C POTABLE WATER TO POINT OF DELIVERY</b>							
13	Treatment works losses		MI/d	2dp			
14	Treatment works operational use		MI/d	2dp			
15	Potable water produced		MI/d	2dp			
16	Potable water imports		MI/d	2dp			
17	Potable water exports		MI/d	2dp			
18	Distribution input		MI/d	2dp			
19	Distribution losses		MI/d	2dp			
20	Water taken		MI/d	2dp			
21	Distribution system operational use		MI/d	2dp			
22	Water delivered		MI/d	2dp			
<b>D POTABLE WATER CUSTOMER BASE</b>							
23	Unmeasured household - population		000's	3dp			
24	Unmeasured household - properties		000's	3dp			
25	Unmeasured household - occupancy rate		h/pr	2dp			
26	Measured household - population		000's	3dp			
27	Measured household - properties		000's	3dp			
28	Measured household - occupancy rate		h/pr	2dp			
29	Unmeasured non household population		000's	3dp			
30	Unmeasured non household - properties		000's	3dp			
31	Measured non household - population		000's	3dp			
32	Measured non household - properties		000's	3dp			
33	Total population		000's	3dp			
34	Void household - properties		000's	3dp			
35	Void non households - properties		000's	3dp			
36	Total properties		000's	3dp			
<b>E POTABLE WATER DELIVERED</b>							
37	Water taken unbilled		MI/d	2dp			
38	Water delivered billed		MI/d	2dp			
39	Unmeasured household water delivered		MI/d	2dp			
40	Unmeasured household - uspl		MI/d	2dp			
41	Unmeasured household - consumption		MI/d	2dp			
42	Unmeasured household - pcc		l/h/d	2dp			
43	Measured household water delivered		MI/d	2dp			
44	Measured household - uspl		MI/d	2dp			
45	Measured household - consumption		MI/d	2dp			
46	Measured household - pcc		MI/d	2dp			
47	Unmeasured non-household water delivered		MI/d	2dp			
48	Unmeasured non-household - uspl		MI/d	2dp			
49	Unmeasured non household - consumption		MI/d	2dp			
50	Measured non household water delivered		MI/d	2dp			
51	Measured non household - uspl		MI/d	2dp			
52	Measured non household - consumption		MI/d	2dp			
53	Void properties - uspl		MI/d	2dp			
<b>F LEAKAGE</b>							
54	Total leakage		MI/d	2dp			
55	Total leakage		l/prop/d	2dp			

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 11 NON FINANCIAL MEASURES  
WATER SERVICE ACTIVITIES

DESCRIPTION	UNITS	DP	1		2	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG
<b>A ASSET BALANCE AT APRIL 1</b>						
1 Total length of mains	km	2	25,921.72	C3	25972	B3
<b>B CHANGES DURING REPORT YEAR</b>						
2 Mains renewed	km	2	239.87	B3	136	A2
3 Mains relined	km	2	10.05	B3	0	A2
4 Mains cleaned (total)	km	2			8259 jobs	C5
5 Distribution mains cleaned for quality	km	2			0	A2
6 New mains	km	2	199.18	B3	238	A2
7 Mains abandoned and other changes	km	2	148.9	B3	259	A2
8 Lead communication pipes replaced - quality (Total)	nr	0				
9 Lead communication pipes replaced - maintenance or other (Total)	nr	0			659	B3
8a Lead communication pipes replaced - quality (E&P)						
9a Lead communication pipes replaced - maintenance or other (E&P)					425	A2
8b Lead communication pipes replaced - quality (Ops)						
9b Lead communication pipes replaced - maintenance or other (Ops)					234	B3
10 Communication pipes replaced - other (Total)	nr	0			9809	B4
10a Communication pipes replaced - other (E&P)					4716	A2
10b Communication pipes replaced - other (Ops)					5093	B4
11 Mains bursts per 1000km	nr	0			139	C3
<b>C ASSET BALANCE AT MARCH 31</b>						
12 Total length of mains	km	2	25972	B3	26067.07	B3
<b>D DISTRIBUTION STUDIES</b>						
13 Cumulative number of distribution zone studies completed	nr	0	22	A1	30	A1
14 Distribution zone studies ongoing	nr	0	27	A1	21	A1
15 Total distribution zones identified for study	nr	0	71	A1	71	A1
16 Cumulative % distribution zone studies completed	%	1	31	A1	42.3	A1
17 Percentage population/properties - completed studies	%	1	31	A1	43.1	A1
<b>E OTHER WATER SERVICE ACTIVITIES</b>						
18 Length of aqueducts refurbished for maintenance	km	2	0	AX	0	A2
19 Substantive refurb. work - dams & impounding reservoirs (maintenance)	nr	0	5	B2	0	A2
20 Number of existing water treatment works refurbished for maintenance	nr	0	26	B2	0	A2
21 Capacity of refurbished water treatment works for maintenance	MI/d	3	0	B2	135.8	A2
22 Number of new or enhanced water treatment works for quality	nr	0	1	A1	5	A2
23 Distribution input of new or enhanced water treatment works for quality	MI/d	0	6	B2	102.4	A2
24 Number of pumping stations refurbished for maintenance	nr	0	7	B2	1	A1
25 Number of service reservoirs & water towers refurbished for maintenance	nr	0	N/C		13	A1
26 Number of household meters renewed	nr	0	0	A1		
27 Number of security related improvements	nr	0	3	B2	0	A2
28 Environmental impact - number of investigations	nr	0	N/C			
29 Environmental impact - number of options appraisals	nr	0	N/C			
30 Other environmental improvements	nr	0	N/C		N/C	

## Table 11 - Water Service Activities

### General

NIW intends to replace/rehabilitate approximately 1.3% of the water mains network on an annual basis. This is equivalent to 915 km over the 3 year period of 07/08, 08/09 and 09/10.

One of the main drivers for the water mains 'rehab' project is water quality. The rehab programme is driven by a priority scoring. The coarse information used at the outset to define zonal study priority is further refined to determine exact construction priority. These work packages are then further split into high and low priority areas. At each stage more information has been gathered to ensure that the most accurate and up to date information is utilised.

### Line 1

The value for line 1 is taken from line 12 of JR07 i.e. 25972km.

### B: CHANGES DURING REPORT YEAR

#### Lines 2, 3, 6 & 7

All information is compiled from E&P contract management information monthly returns. This is an accurate measurement of the actual lengths of water mains laid, renovated or replaced, compiled from contractor's on-site records. The information is collated from each individual contract on a monthly basis and aggregated into an overall annual figure – hence the confidence grade A1.

#### Line 4: Mains cleaned (total)

The specified unit for this line is "kilometres". However, N.I.W. does not currently record the length of mains cleaned (total) in kms. The number of Mains Flushing jobs has been used as a substitute.

#### Calculation Process

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 11: Lines 4 to 5 and 8 to 11. (*Filename: "T11 L4-5 & 8-11 Methodology Statement"*)

1. Detailed Data was extracted from the Work Management system using the Operations Management Information System (OMIS) and from Field Manager manual records for the period April 2007 – November 2007.

2. Following the restructuring of the Networks Water function and the introduction of the new Mobile Work Management system, data was collated by Field Managers using Ellipse reports and Field Manager records. It was then entered on the Network Monthly Statistical Report for the period December 2007 – March 2008 for all areas.
3. The data is shown on N: Networks Water\AIR08

**Number of Mains Flushing Jobs**

Activity	Total Before Extrapolation	Total After Extrapolation	Difference
Mains Flushing Jobs	5,129	8,259	3,130 38%

There was an increase of 651% in the total number of flushings.

2007 information return was 1,268 flushings.

2008 information return is 8,259.

Since restructuring of Networks Water in November 07 extensive flushing was carried out as part of a new planned work regime in Southern and Eastern areas, which would account for the increase on the previous year’s figures

**Confidence Grade = C5**

The file identified in point 3 above shows the data collated as described above. The recorded data is a combination of Work Orders and written customer requests with some missing documentation and extrapolation used when monthly data was not available; therefore the reliability band is C. The percentage of extrapolated data equated to 38%, therefore the accuracy band is 5.

**Future Reporting**

For the AIR09 Networks Water will collate the data form the new Mobile Work Management. A flushing programme is being set up using Maintenance Scheduled Tasks (MSTs) where Work Orders are automatically generated and sent directly to the field. This will automatically record and report via the Ellipse reporting system.

**Lines 5 & 8**

EP do not undertake any of these functions as part of construction projects.

**B: CHANGES DURING REPORT YEAR**

**Line 5b: Distribution mains cleaned for quality (total)**

At present N.I.W. does not have a programme for quality enhancement or cleaning specified to improve customer acceptability as supported by DWI.

**Line 8b: Lead communication pipes replaced – quality**

**Line 9b: Lead communication pipes replaced - maintenance or other**

Networks Water currently does not have a formal lead quality replacement programme based solely on water quality (Drinking Water regulations). Lines 8 and 9 have been combined and a single figure quoted for lead communication pipes replaced.

**Calculation Process**

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 11: Lines 4 to 5 and 8 to 11. (Filename: “T11 L4-5 & 8-11 Methodology Statement”)

1. Detailed Data was extracted from the Work Management system using the Operations Management Information System (OMIS) and from Field Manager manual records for the period April 2007 – November 2007.
2. Following the restructuring of the Networks Water function and the introduction of the new Mobile Work Management system, data was collated by Field Managers using Ellipse reports and Field Manager records. It was then entered on the Network Monthly Statistical Report for the period December 2007 – March 2008 for all areas.
3. The data is shown on N: Networks Water\AIR08

**Lead Communication Pipes Replaced (total)**

Activity	Total Before Extrapolation	Total After Extrapolation	Difference	
Networks	215	234	19 8%	

**Confidence Grade = B3**

The file identified in point 3 above shows the data collated as described above. The recorded data is a combination of Work Orders and written customer requests with some missing documentation and extrapolation used when monthly data was not available; therefore the reliability band is B. The percentage of extrapolated data equated to 8%, therefore the accuracy band is 3.

**Future Reporting**

For the AIR09 Networks Water will collate the data form the new Mobile Work Management. This will automatically record and report via the Ellipse reporting system.

## Line 10: Communication pipes replaced – other

### Calculation Process

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 11: Lines 4 to 5 and 8 to 11. (Filename: “T11 L4-5 & 8-11 Methodology Statement”)

1. Detailed Data was extracted from the Work Management system using the Operations Management Information System (OMIS) and from Field Manager manual records for the period April 2007 – November 2007.
2. Following the restructuring of the Networks Water function and the introduction of the new Mobile Work Management system, data was collated by Field Managers using Ellipse reports and Field Manager records. It was then entered on the Network Monthly Statistical Report for the period December 2007 – March 2008 for all areas.
3. The data is shown on N: Networks Water\AIR08

### Communication Pipes

Activity	Total Before Extrapolation	Total After Extrapolation	Difference
Networks	5,012	5,093	81 2%

There was an increase of 103% in the total number of communication pipes replaced in the 2008 information return.

2007 information return was 2513

2008 information return is 5093

The increase is due to the additional information from Networks Water which was not captured in the 2007 figure. This figure does not include the communications pipes replaced as part of the Rehabilitation programme.

### Confidence Grade = B4

The file identified in point 3 above shows the data collated as described above. The recorded data is a combination of Work Orders and written customer requests with some missing documentation and extrapolation used when monthly data was not available; therefore the reliability band is B. The percentage of extrapolated data equated to 2%, but as we have missing data the accuracy band is 4.

## Future Reporting

For the AIR09 Networks Water will collate the data form the new Mobile Work Management. This will automatically record and report via the Ellipse reporting system.

### Line 11: Mains bursts per 1000km

Ofwat Returns from GIS2008:

Potable Mains Length (km) Total: 26,067 kms

Figure compiled by Asset Information Development from NIMS Data.

The specified unit for this line is Mains Bursts per 1000 kms. However, N.I.W. does not currently record Mains Bursts per 1000kms. The number of Mains Bursts jobs has been used as a substitute. The number of Mains Bursts per 1000 kms will be calculated using the Figure of Mains Length mentioned above i.e. 26,067 kms.

### Calculation Process

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 11: Lines 4 to 5 and 8 to 11. (*Filename: "T11 L4-5 & 8-11 Methodology Statement"*)

1. Detailed Data was extracted from the Work Management system using the Operations Management Information System (OMIS) and from Field Manager manual records for the period April 2007 – November 2007.
2. Following the restructuring of the Networks Water function and the introduction of the new Mobile Work Management system, data was collated by Field Managers using Ellipse reports and Field Manager records. It was then entered on the Network Monthly Statistical Report for the period December 2007 – March 2008 for all areas.
3. The data is shown on N: Networks Water\AIR08

### Number of Burst Mains

Activity	Total Before Extrapolation	Total After Extrapolation	Difference
Networks	2,134	2,162	
Leakage	1,449	1,449	
<b>Total</b>	<b>3,583</b>	<b>3,611</b>	<b>28</b> 1%

### Leakage Data (April 2007 to March 2008)

A figure for Mains Repairs was also obtained from the Leakage Function. The source of this figure was the Leakage Activities Database (LAD).

Again, the Number of Bursts (Jobs) has been recorded as a figure i.e.: 1,449

Calculation of Mains Bursts per 1,000 kms will be made by adding the Leakage Figure (1,449) to the Networks Total (2,162) dividing by Total Length of Mains (26,067.07) and multiplying by 1000 =

$$3,611 / 26,067.07 = 0.1385 * 1000 = 138.53$$

Therefore, there was a Total of 139 Bursts per 1,000 kms

### **Proportion of Bursts within Line 11 found by Proactive Methods**

- The number of Mains Repairs carried out by the Networks Water Function was **2,162**
- The number of Mains Repair carried out by the Leakage Function was **1,449**
- The Total number of Mains Repairs carried out by NIW was **3,611**

Therefore, active Leakage Control accounted for 40% of the total number of mains repairs carried out by NIW.

There was a decrease of 29% in the number of Mains Repairs reported in the 2008 Information Return:

2007 Information Return 5,054

2008 Information Return 3,611

The decrease in figures from 2007 information return is due to the ongoing rehabilitation programme and the extension of the pressure management programme.

### **Confidence Grade = C3**

The file identified in point 3 above shows the data collated as described above. The recorded data is a combination of Work Orders and written customer requests with some missing documentation and extrapolation used when monthly data was not available; therefore the reliability band is C. The accuracy data for this data is 3.

### **How Northern Ireland Water Expects to Improve the Confidence Grading of its Regulatory Reporting on Mains Bursts per 1000km**

For the AIR 08/09 Networks Water will collate the data form the new Mobile Work Management. This will automatically record and report via the Ellipse reporting system.

### **Line 12**

The value of 26067.07km has been extracted from NI Water digital data which is held in the NIMS MapInfo GIS. It is recognized that these records are not wholly complete or accurate and that there are known missing records from GIS, which are unaccounted for.

- The difference in the value for the length of mains may be due to a number of reasons:
1. Data cleansing exercises that have been carried out on the data i.e. unknown pipe sizes now populated and spuriously high or low pipe sizes being fixed to reflect actual sizes; or
  2. Mains in different bands being taken out of service; or
  3. Mains in particular bands being replaced with different pipe sizes that would make them fall into other bands
  4. New records being added to GIS to reflect new or historical mains.

The break-up of this value is as follows:

**Potable Mains Lengths (km)**

Date	Unknown Size (0)	Band 1	Band 2	Band 3	Band 4	Total
		<= 165mm or <= 6"	166 - 320mm or 7 - 12"	321 - 625mm or 13 - 25"	>625mm or >25"	
01/04/2008	153.71	20,886.92	3,617.92	1,203.74	204.78	26,067.07

The confidence grade B3 reflects the degree of inaccuracy and lack of completeness of this information in the NIMS MapInfo GIS.

**Line 13**

NIW's zonal studies conform to industry best practice and have been audited on several occasions, most recently by Halcrow Management Sciences Ltd who have confirmed as such.

This value is derived from the number of zones studied year by year against a total of 71 number zones in N. Ireland with start/finish dates held on the following spreadsheet. 13 zonal studies have been completed since JR07. The latter is highlighted in yellow in the table below.

Confidence grade A1 reflects actual zonal study report.

<b>Zonal Studies Start &amp; Completion Dates (31<sup>st</sup> March 2008)</b>			
Zone	Area	Start Date	Completion Date
Craigavon West	SE	11/11/99	Aug-01
B'mena Borough	NW	20/04/00	Dec-02
Silent Valley	SE	16/07/01	Jan-Mar 2004
Fofanny Newry	SE	16/07/01	Jan-Mar 2004
Camlough	SE	10/10/01	Jan-Mar 2004
Ballinrees West	NW	07/01/02	Apr-Jun 2003
Breda South	SE	20/03/01	Oct-02
Cityside	NW	09/08/00	Oct-04
Castor Bay/Armagh	NW	18/12/02	Feb-06
Seagahan	NW	18/12/02	Feb-06

Clay Lake	NW	18/12/02	Feb-06
Ards North	SE	24/06/03	Nov-05
Lough Cowey	SE	24/06/03	Nov-05
Bangor Outer	SE	24/06/03	Nov-05
Castor Bay/Magheraliskmisk	SE	19/11/03	Nov-05
Altnahinch	NW	04/06/01	Feb-03
Drumabest	NW	05/06/01	Feb-03
Ballinrees East	NW	07/01/02	Apr-Jun 2003
Ballinrees Central	NW	07/01/02	Apr-Jun 2003
Dungonnell	NW	30/05/01	Jan-05
North Tyrone	NW	10/05/01	May-Jun 2006
South West	NW	10/05/01	May-Jun 2006
Tardree	NW	04/09/03	ongoing
Dunore West	NW	04/09/03	ongoing
Lough Fea	NW	23/04/01	Dec-07
Castlereagh	SE	19/05/02	Nov-07
Purdysburn East	SE	19/05/02	Nov-07
Castor Bay Shanmoy	NW	12/11/02	ongoing
Altmore/Gortlenaghan	NW	12/11/02	ongoing
Newtownards Town	SE	02/11/04	Dec-07
Ballintemple	SE	02/07/02	ongoing
Lough Ross	SE	02/07/02	ongoing
Fofanny B'bridge	SE	05/04/01	Dec-07
Castor Bay/Banbridge	SE	05/04/01	Dec-07
Carmony East	NW	04/07/01	Mar-08
Waterside	NW	04/07/01	Mar-08
Moyola	NW	01/10/01	ongoing
Lisburn Town	SE	29/04/03	Jan-08
Lisburn Rural	SE	29/04/03	Jan-08
Mid Down	SE	02/11/04	ongoing
Ballygowan	SE	02/11/04	ongoing
Comber	SE	02/11/04	ongoing
Craigavon North	SE	19/11/03	Feb-08
Craigavon South	SE	19/11/03	Feb-08
Limavady	NW	19/05/04	ongoing
North East	NW	19/05/04	ongoing
South	NW	06/01/03	ongoing
South East	NW	06/01/03	ongoing
N Down/Bangor	SE	01/04/06	Jan-08
South Down	SE	15/06/07	ongoing
Downpatrick	SE	15/06/07	ongoing
Newcastle	SE	15/06/07	ongoing
Mourne Coastal	SE	15/06/07	ongoing
Breda North	SE	22/02/08	ongoing

Belfast East	SE	22/02/08	ongoing
Hollywood	SE	22/02/08	ongoing
Dunmurry	SE	Jun-08	
Lisburn South Rural	SE	Jun-08	
Lough Mourne	SE	Jun-08	
Carrickfergus	SE	Jun-08	
Newtownabbey	SE	Jun-08	
Omagh	NW	May-08	
Dunore East	NW	Jun-08	
Killylane	NW	Jun-08	
Ballywonard/Dunanney	SE	2008/09	
Ballysillan/Ballyaghagan	SE	2008/09	
West Belfast Rural	SE	2008/09	
Whiterock	SE	2008/09	
Ballygomartin/Purdysburn West	SE	2008/09	
Oldpark	SE	2008/09	
Ballygomartin North	SE	2008/09	
<b>KEY</b>			
Started/finished		35	
Started/ongoing		21	
Programmed to start		8	
Remaining zones to start		7	

#### Line 14

The population for zones is taken from zone boundaries which are applied to the POINTER address database to give populations for each zone versus the census total population for Northern Ireland. The 43.1% accounts for updated studies within the past 5 years up to 31<sup>st</sup> March 2008

### E: OTHER WATER SERVICE ACTIVITIES

#### Calculation Process

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 11: Lines 15 to 21 and 24. (Filename: "T11 L15-21 & 24 Methodology Statement")

#### Line 15: Length of aqueducts refurbished for maintenance

Supply, in conjunction with Asset Management, has prepared a list of aqueducts managed by Supply to facilitate future reporting.

As required, Supply has reported against this list on any refurbishment work carried out for capital maintenance purposes, defined as work for which we have obtained a Capital Expense Code.

**Supporting Documentation**

(Filename: "Register of NIW Aqueducts")

(Filename: "Capital Expenditure Data Sheet")

**Line 16: Substantive refurb. work - dams & impounding reservoirs (maintenance)**

As required, Supply has reported on any capital money spent by Water Supply on dams and impounding reservoirs as listed on the WR16 Report, as listed on OMIS. This excludes work carried out by Engineering and Procurement.

**Supporting Documentation**

(Filename: "Capital Expenditure Data Sheet")

**Line 17: Number of existing water treatment works refurbished for maintenance**

Water Supply has reported on any work attributable to maintenance of existing WTWs for which a Capital Expense Code was obtained. This excludes all work carried out by Engineering & Procurement.

Each site will be reported on with effect from the commencement of work on site until commissioning.

**Supporting Documentation**

(Filename: "Capital Expenditure Data Sheet")

**Line 18: Capacity of refurbished water treatment works for maintenance**

Water Supply has reported on the aggregated maximum design capacity for all works currently undergoing capital refurbishment for maintenance purposes, excluding all work carried out by Engineering & Procurement.

**Supporting Documentation**

(Filename: "Register of NIW WTWs & Treatment Type Index")

**Line 19: Number of new or enhanced water treatment works for quality**

Water Supply has reported on the number of WTWs where water quality enhancements were commissioned during the reporting period, excluding all work carried out by Engineering & Procurement.

**Supporting Documentation**

(Filename: "Register of NIW WTWs & Treatment Type Index")

## **Line 20: Distribution input of new or enhanced water treatment works for quality**

Water Supply has reported distribution input recorded on the outlet meters from all the WTWs listed in our response to Line 19.

### **Supporting Documentation**

(Filename: "Register of NIW WTWs & Treatment Type Index")

## **Line 21: Number of pumping stations refurbished for maintenance**

Water Supply has reported on the number of pump sets refurbished for maintenance, excluding all capital replacement. Information held on AMMS.

## **Line 24: Number of security related improvements**

Water Supply Function has 26 Key Point Sites as defined in the NIO Key Points arrangements. Key Points Surveys are undertaken on a schedule determined by NIO. Recommendations arising out of Key Points Surveys are agreed with NIO and reported on by Water Supply Function when fully complete.

### **General Comments**

- Supply has improved the data collection process for AIR08 by the implementation of registers and this has resulted in a high confidence grading.
- Although there was no capital spend in excess of £5m or over £100k and 10% or more of the gross MEA value, supply would point out there was still expenditure below these amounts. Please see filename: "Capital Expenditure Data Sheet".
- Five number enhanced WTWs to be commissioned under PPP summer 08. These are Dunore, Castor Bay, Moyola & Ballinrees.
- There are a number of schemes planned for 08/09 which would relate to Table 11. Please see filename: "(CAPEX 08-09\_Supply)".

## **Lines 24 & 25**

All information is compiled from E&P contract management information monthly returns. This is an accurate measurement of the actual work done and is compiled from contractor's on-site records. The information is collated from each individual contract on a monthly basis and aggregated into an overall annual figure. Also a confidence grade A1.

There is an element of double counting in the figures in Lines 2 & 6 such that a km of water main renewed (Line 2) could be made up of new or increased diameter main. This may also result in an element of abandoned water main (Line 7). The same argument applies to new water mains (Line 6).

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

**ANNUAL INFORMATION RETURN - TABLE 11A NON FINANCIAL MEASURES  
WATER SERVICE SERVICEABILITY INDICATORS**

DESCRIPTION		1		2	
		NUMBER OF WTWs	CG	OUTPUT FOR CALENDAR YEAR	CG
<b>A</b>	<b>WATER TREATMENT WORKS - TURBIDITY</b>	<b>UNITS</b>	<b>DP</b>	<b>UNITS</b>	<b>DP</b>
		nr	0	Ml/d	2
1	95%ile greater than or equal to 0.5NTU	7		51.86	A2
2	95%ile less than 0.5NTU	36		565.91	A2
3	Turbidity not recorded	0		0	A2
4	Total	43		617.77	A2

## Table 11a - Water Service Serviceability Indicators

During the period 2005 to date, a number of non-compliant water treatment works have either been completely replaced with new works, or else taken out of service as and when a replacement supply is available. During 2008, 5 existing major water treatment works are to be replaced/upgraded as part of the Alpha PPP project.

The turbidity compliance at WTWs has improved in 2007 with 50 exceedances of the limit in 2007, compared to 114 in the equivalent period in 2006.

The data used for the estimation of WTWs' flow for the various categories in Table 11 lines 1-4 was supplied from NIW's leakage information meter data (see attached spreadsheet) apart from Rathlin Borehole for which this information does not exist – supply data was used for this site. 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 for 2007, an estimate of expected daily throughput by works was received from operational scientists in order to populate the LIMS system.

The calculations were carried using the following data criteria:

- Only scheduled audit final water samples lifted to meet Water Supply regulatory requirements during the calendar year were used, and using accredited laboratory analyses rather than onsite analyses.
- Only those works which had more than 11 months worth of data to be included (Guidance notes Appendix A 4 refers).
- All works which were sampled for audit purposes during 2007 were included in assessment. Standby WTWs were not included in these calculations, as no audit samples were lifted during the monitoring period.
- Only scheduled, compliant samples from were included in calculations – no ad hoc or survey included and no results from online monitors.
- The data was captured and retrieved using Water Service's UKAS audited LIMS (Laboratory Information Management System).
- The 95%ile compliance was calculated using standard MS Excel formulae, with all audit analyses included for each site (example spreadsheet attached),  
e.g. =PERCENTILE (K2:K366,0.95) where cell K2 is the first cell in the data range and K366 is the last cell in the data range

## 2007 WTW Turbidity Summary

Site Code	Site Name	Avg Daily Capacity ML/d	95%ile	Number ≥ 0.5 NTU	Number < 0.5 NTU	Output ≥ 0.5 NTU	Output < 0.5 NTU
W1301	Moyola	418.00	0.6	1	0	418.00	0.00
W1302	Lough Fea	357.00	0.3	0	1	0.00	357.00
W1303	Dungonnell	260.00	0.3	0	1	0.00	260.00
W1307	Buckna Borehole	45.84	0.285	0	1	0.00	45.84
W1310	Glarryford Borehole	209.25	0.285	0	1	0.00	209.25
W1501	Killylane	364.00	0.3	0	1	0.00	364.00
W1701	Ballinrees	522.00	0.4	0	1	0.00	522.00
W1702	Altnahinch	238.00	0.358	0	1	0.00	238.00
W1704	Alcrossagh Borehole	55.29	0.4	0	1	0.00	55.29
W1705	Drumabest Borehole	87.02	0.3	0	1	0.00	87.02
W1706	Rathlin Borehole	3.12	0.3	0	1	0.00	3.12
W2308	Castor Bay	2210.00	0.41	0	1	0.00	2210.00
W2501	Altmore	125.00	0.78	1	0	125.00	0.00
W2509	Clay Lake	69.00	0.7	1	0	69.00	0.00
W2512	Gortlenaghan Borewell	34.38	2.325	1	0	34.38	0.00
W2514	Seagahan	320.00	0.4	0	1	0.00	320.00
W2515	Shanmoy Borewell	86.61	1.06	1	0	86.61	0.00
W2706	Camlough	145.00	0.4	0	1	0.00	145.00
W2801	Fofanny New	1178.00	0.2	0	1	0.00	1178.00
W2802	Carron Hill (New works)	183.00	0.3	0	1	0.00	183.00
W3301	Dunore Point	3088.00	0.3	0	1	0.00	3088.00
W3315	Forked Bridge	484.00	0.2	0	1	0.00	484.00
W3317	Dorisland	856.00	0.3	0	1	0.00	856.00
W3320	Creightons Green (Whinney Hill)	24.00	0.345	0	1	0.00	24.00
W3391	Lagan Valley Boreholes Poleglass	67.24	0.234	0	1	0.00	67.24
W3392	Lagan Valley Boreholes Breda	0.00	0.3	0	1	0.00	0.00
W3501	Ballysallagh Works	82.00	0.748	1	0	82.00	0.00
W3505	Lough Cowey	63.00	0.3	0	1	0.00	63.00
W3593	Ards Boreholes At Ballycullen Low	249.18	0.4	0	1	0.00	249.18
W3786	Barbour Boreholes At Northern	28.86	0.3	0	1	0.00	28.86
W3801	Drumaroad Final Water	3257.00	0.4	0	1	0.00	3257.00
W4301	Carmoney	607.00	0.485	0	1	0.00	607.00
W4306	Caugh Hill	722.00	0.585	1	0	722.00	0.00
W4324	Stradreagh	27.39	0.3	0	1	0.00	27.39
W4326	Brishey	30.78	0.345	0	1	0.00	30.78
W4501	Derg	355.00	0.2	0	1	0.00	355.00
W4513	Lough Bradan	222.00	0.3	0	1	0.00	222.00
W4523	Lough Macrory	334.00	0.3	0	1	0.00	334.00
W4541	Glenhordial	114.00	0.4	0	1	0.00	114.00
W4542	Lenamore Springs	11.34	0.2	0	1	0.00	11.34
W4701	Killyhevlin	687.00	0.4	0	1	0.00	687.00
W4722	Belleek	43.00	0.29	0	1	0.00	43.00
				<b>7</b>	<b>35</b>	<b>1536.99</b>	<b>16726.31</b>
				<b>No</b>	<b>No</b>	<b>(ML/d)</b>	<b>(ML/d)</b>

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

**ANNUAL INFORMATION RETURN - TABLE 12 NON FINANCIAL MEASURES  
WATER EXPLANATORY FACTORS**

DESCRIPTION	UNITS	DP
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A SOURCE TYPES AND PUMPING		UNITS	DP
1	Impounding reservoirs		
2	River abstractions		
3	Boreholes		
4	Source types and pumping; total		
5	Average pumping head - total	m.hd	1

B TREATMENT TYPE	
6	Proportion of distribution input - simple disinfection
7	Proportion of distribution input - W1
8	Proportion of distribution input - W2
9	Proportion of distribution input - W3
10	Proportion of distribution input - W4
11	Proportion of distribution input - total
12	Total numbers of works

C POTABLE MAINS		UNITS	DP
13	Potable mains (nominal bore)	km	2

1	2	3	4
NR OF SOURCES	PROP'N DIST INPUT	BULK PROP'N OF D.I.	REPORT YEAR JR06
			CG

UNITS	DP	UNITS	DP	UNITS	DP
nr	0	Prop'n (0-1)	3	Prop'n (0-1)	3
	19		0.532		
	9		0.425		
	16		0.042		
	44		1		
				111.28	B3

TOTAL PROP'N OF D.I.	TOTAL NR OF WORKS
----------------------	-------------------

UNITS	DP	UNITS	DP
Prop'n (0-1)	3	nr	0
	0.024		12
	0		0
	0.019		4
	0.397		14
	0.56		14
	1		44

BAND 1 ≤ 165mm	BAND 2 166 - 320mm	BAND 3 321 - 625mm	BAND 4 > 625mm
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21040.63	3617.92	1203.74	204.78
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## **Table 12 - Water Explanatory Factors**

### **Lines 1-12 Source Types and Treatment Type**

This information is based on previous information submitted. The information was circulated to Water Supply section for confirmation or update as appropriate.

The following works are no longer operating: -

*Reservoir Abstractions;*

Lough Island Reavey is decommissioned

The following boreholes were out of service, hence no abstraction, during the past year: -

*Boreholes*

Balmoral

New Forge Lane

Lisburn No1 (Barbour)

The Hollow

Hullstown

There have been no changes to treatment processes or types of any of the other sources since JR07.

### **Lines 1-11 Distribution Input**

Leakage Section provided the Distribution Input against the impounding reservoirs, river abstractions and borehole sources, as identified by Water Supply.

The Distribution Input has been given a Confidence Grade of B2.

### **Line 5 – Information obtained from Atkins Consultants**

Distribution Input for each zone supplied by DZSC's based on the model used to supply distribution pump data.

Exclude exports to zones where data is incomplete. Therefore, distribution input of Castor Bay split into southern and eastern components (89.6%, 10.4% respectively) and Dunore Point WTW split into northern and eastern components (27.1%, 78.9% respectively). The sum of (pump flow x lift) for the works was factored by 89.5 and 27.1 percent respectively. This factored value was used in the calculation where it is automatically divided by the respective WTW DI. The eastern component of both these works has not been included in the calculation as there is limited distribution pump data available in the eastern region.

Calibrated hydraulic network models used in the data collection of pump lift and head have been built by a framework of DZS Consultants over a period of more than five years. Thus, models used have various calibration days. These models may be historic and may not portray the best

representation of the current day situation. Leakage reduction and changes to the system subsequent to the field test and model construction will not be taken into account.

NIW total flows for each WTW in NI are current 2008 figures which may not accurately match pump data available from the network models.

The Average Pumping Head calculation was performed only where calibrated network model pump data, corresponding distribution input data and supply pump data was provided by DZS Consultants or NI Water Ltd in its entirety. The sum of (pump lift x flow) for all complete data has been divided directly by the corresponding distribution input for only those zones where pump data was available.

Distribution pump data has been taken from available calibrated network models, therefore, confidence in the data obtained is reasonably good; **B3 / B4**. Calibrated network models represent the best source of distribution pump data currently available.

### **Confidence Grade**

Distribution pump data has been taken from available calibrated network models, therefore, confidence in the data obtained is reasonably good; **B3 / B4**. Calibrated network models represent the best source of distribution pump data currently available.

Water Resource and Treatment pump data has been taken from a variety of sources:

- TDMS (various periods of analysis based on staff supplying data); **B4/C4**.
- Direct readings from pumps by site staff (care must be taken as snap shot may not be fully representative of average day figures); **B4**.
- Record drawings / Site Staff Experience (head calculated as difference in pipe invert levels on drawings); **B4**
- Distribution Input data obtained from NIWS Total WTW Flows 2008; **A4**.

When the supply and distribution data source confidence grades are combined for the Average Pumping Head Calculation, the overall confidence grade is **B3**, given the variety of sources and periods of data used.

### **Data Coverage**

In the 2008 Return, data collection efforts have been focused on the areas of Northern Ireland where the majority of DZS areas are completed, namely the northern and southern regions. The Average Pumping Head calculation incorporates data from these regions, along with small discrete zones where data has been previously obtained.

The data coverage of Northern Ireland for the Average Pumping Head calculation can be summarised as follows:

- a. The total no. of connected properties in NI (based on DZS Figures) = 823,231.
- b. The total no. of connected properties modelled by DZSC (Completed / Ongoing DZS) = 487,102 (59.2% of all properties).

- c. The total no. of connected properties where all data is known and included in calculation = 345,023 (70.8% of all modelled properties, **41.9% of all properties**).

It is anticipated that over the next few years, as the DZS's approach completion, the missing data can be obtained from Consultants using their calibrated network models. At current estimates, 47.9% of DZS areas are already complete; a further 42.2% are ongoing with 22.5% due for completion by June 2009 and 19.7% due for completion by June 2010. 15 of the 71 DZS are yet to commence and these are likely to be completed after June 2010.

### **Future Improvements**

In future returns, greater advice is required on the complex operation of sets of pumps in the large WTW's supplying many DZS areas. It may be possible to improve the accuracy of data recorded for these pumps if a more average operation was known. Data taken from record drawings / site supervision staff regarding pump lift for high and low lift pumps for the 2008 Return could be improved if pressure gauges were available up- and downstream of the pumps and could be recorded via TDMS.

Until the whole of NI is completed by DZSC's, the quantity of distribution pumps which can be fully matched with supply remains limited, particularly in eastern and western regions of NI.

### **Line 13**

The values for the lengths of potable mains have been extracted from NI Water digital data which is held in the NIMS MapInfo GIS. It is recognized that these records are not wholly complete or accurate and that there are known missing records from GIS, which are unaccounted for.

The difference in the value for the lengths of mains may be due to a number of reasons:

Data cleansing exercises that have been carried out on the data i.e. unknown pipe sizes now populated and spuriously high or low pipe sizes being fixed to reflect actual sizes; or

Mains in different bands being taken out of service; or

Mains in particular bands being replaced with different pipe sizes that would make them fall into other bands

New records being added to GIS to reflect new or historical mains.

The break-up of this value is as follows:

<b>Date</b>	<b>Band 1</b>	<b>Band 2</b>	<b>Band 3</b>	<b>Band 4</b>	<b>Total</b>
	<= 165mm or <= 6"	166 - 320mm or 7 - 12"	321 - 625mm or 13 - 25"	>625mm or >25"	
01/04/2008	21040.63	3,617.92	1,203.74	204.78	26,067.07

The value of 21040.63 for Band1 includes the 153.71km identified from NIMS MapInfo GIS as being of unknown bore.

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

**ANNUAL INFORMATION RETURN - TABLE 13 NON FINANCIAL MEASURES  
SEWERAGE PROPERTIES & POPULATION**

DESCRIPTION	UNITS	DP	1		2	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG
<b>A PROPERTIES</b>						
1 Households properties connected during the year	000	3	5.078	C4	6.380	C4
2 Non-households properties connected during the year	000	3	5.859	B4	1.319	B3
<b>B BILLING</b>						
3 Households billed unmeasured sewage	000	3	539.625	C4	533.506	C4
4 Households billed measured sewage	000	3	25.639	C4	25.616	C4
5 Households billed sewage	000	3	565.264	C4	559.122	C4
6 Non-households billed unmeasured sewage	000	3	48.690	B2	30.638	B2
7 Non-households billed measured sewage	000	3	50.420	B2	38.002	B2
8 Non-households billed sewage	000	3	99.110	B2	68.640	B2
9 Void properties	000	3	39.104	C4	38.357	C4
<b>C POPULATION</b>						
10 Total connected population	000	3	1,464.617	C4	1495.054	C4

## **Table 13 - Sewerage Properties & Population**

There was no billing for sewage (either measured or unmeasured) in N.I. during the reporting year. The reference to “billed” has been removed from Table 13: Lines 3, 5, 6 & 8 and an explanatory note included below the table. NIW only issues bills to metered properties and these only represent around 7.5% of connected properties. Unbilled properties and populations have therefore been included to provide a more meaningful return as NIW prepares for the introduction of billing to all customers.

Figures have been calculated from Table 7 information on the assumption that 84% of properties connected to the public water supply are connected to the public sewerage system (based on 1991 census information) and 89% of all non-households connected to a public water supply are connected to the public sewerage system. (*see file “Table 13 Calculations”*)

In the case of newly connected (Line 1), unmeasured (Line 3) and measured (Line 4) household calculations for Table 13, an allowance is made for those household properties that have septic tanks and which do not return their waste water to the sewer. Northern Ireland has a large rural population and in the absence of any more reliable information, the assumption that 84% of domestic properties and 89% of non domestic properties are connected to the sewerage system as advised by Crystal Alliance.

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

For the purpose of this return, farms are again classed as households measured as opposed non-households measured. (The guidance states that farms should be classed as non-households.)

Also, the calculation of total connected population has been revised as the non-resident element of this calculation was incorrectly omitted from the previous return.

### **Confidence Grades**

In the case of calculations involving the assumption that 84% of household properties are connected to the sewerage system (Lines 1, 3, 4, 5, 9 & 10), a confidence grade of “C4” has been assigned.

In the case of all other calculations (Lines 2, 6, 7 & 8), a reliability grading of “B” has been assigned.

The commentary for Table 7 explains why an accuracy grading of “2” was assigned to Table 7: Lines 1 & 2. As this data is derived from Rapid systems it has been assigned a confidence grade of “B2”

This data was derived from information supplied by the Customer Billing and Contact centre from the Rapid system.

It should be noted that data regarding connections is potentially not up to date as it is derived from Land and Property Services (LPS). NIW last received a LPS update in March 08; that said we are aware that the information may potentially be 2-3 years out of date in places. Notwithstanding this it is considered to be the best source of information available to NIW and

commensurate with information held by the former Rates Collection Agency (RCA). Had the launch of customer billing not been postponed in April 07 the company would have been in possession of more accurate data given customer communications associated with billing and operational issues.

An accuracy grading of “3” has also been assigned to Table 13: Line 2 as the calculation is based on the value of Table 7: Line 2. An accuracy grading of “2” has been assigned to Table 13: Lines 6, 7 & 8.

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

**ANNUAL INFORMATION RETURN - TABLE 14 NON FINANCIAL MEASURES**

**SEWAGE COLLECTED**

DESCRIPTION		UNITS	DP	1		2	
				BASE YEAR SBP 2006-07 CG		REPORTING YEAR 2007-08 CG	
<b>A</b>	<b>SEWAGE - VOLUMES</b>						
1	Volume unmeasured household sewage	MI/d	2	233.51	C4	244.67	B3
2	Volume unmeasured non-household sewage	MI/d	2	39.64	B4	20.70	B4
3	Volume unmeasured sewage	MI/d	2	273.15	C4	265.37	B4
4	Volume measured household domestic sewage	MI/d	2	11.45	C4	11.78	C3
5	Volume measured non - household domestic sewage	MI/d	2	86.36	C3	79.17	C3
6	Volume trade effluent	MI/d	2	36.49	B2	26.25	C3
7	Volume waste water returned	MI/d	2	407.45	C4	382.57	C3

## Table 14 – Sewage Collected

### A: SEWAGE - VOLUMES

The data for this table was based on data submitted by the Leakage function for Table 10: Lines 1, 2, 4 and 5. Methodology and commentary is therefore as per the Leakage Methodology and Commentary for Table 10.

#### Changes in Methodology over the Previous Year

For the purpose of this return, farms are again classed as households measured as opposed non-households measured. (*The guidance states that farms should be classed as non-households.*)

The methodology is basically the same as the methodology used to calculate the figures for the 2007 Information Return, except for the following:-

#### Lines 1 and 4            Volume unmeasured household sewage and Volume measured household domestic sewage

For the purpose of the 2007 Information Return, an estimated allowance was made for those household properties that had septic tanks and which did not return their waste water to the sewer. Northern Ireland has a large rural population and in the absence of any more reliable information, the assumption that 83% of household properties were connected to the sewerage system was based on the 1991 Census. (The 2001 Census did not include this information.) 100% of non-household properties were assumed to be connected to the sewerage system.

For the purpose of AIR08, the number of households connected to the sewerage system is 84% whilst the number of non-households connected to the sewerage system is 89%. These statistics were provided by Crystal Alliance.

For the purpose of AIR08, it is again assumed that 95% of all measured non-household and household domestic water (less septic tank effluent) is returned to the sewer.

#### Confidence Grades

##### Line 1            Volume unmeasured household sewage

The volume of unmeasured household sewage was calculated as 0.84 x 95% of the unmeasured household demand quoted in the Water Balance.

This line has been allocated a confidence grade of B3. A confidence grade of B3 was assigned to the unmeasured household demand from the Water Balance (Table 10: Line 4) which is used in the calculation of this line.

##### Line 2            Volume unmeasured non-household sewage

The volume of unmeasured non-household sewage was calculated as 0.89 x 95% of the unmeasured non-household demand quoted in the Water Balance.

This line has been allocated a confidence grade of B4. A confidence grade of B4 was assigned to the unmeasured non-household demand from the Water Balance (Table 10: Line 5) which is used in the calculation of this line.

**Line 3            Volume unmeasured sewage**

This line has been allocated a confidence grade of B4 because it is based on the summation of Table 10: Lines 1 and 2 and Line 1 received a confidence grade of B3 whilst Line 2 received a confidence grade of B4.

**Line 4            Volume measured household domestic sewage**

The volume of measured household domestic sewage was calculated as 0.84 x 95% of the measured household demand quoted in the Water Balance.

This line has been allocated a confidence grade of C3. A confidence grade of B3 was assigned to the measured household demand from the Water Balance (Table 10: Line 1) which is used in the calculation of this line. However 95% is an assumption, hence the “C” grading and its inclusion in this calculation warrants a grading of “3” i.e. within +/- 10% but outside +/- 5%.

**Line 5            Volume measured non-household domestic sewage**

The volume of measured non-household domestic sewage was calculated as 0.89 x 95% of the measured non-household demand quoted in the Water Balance.

This line has been allocated a confidence grade of C3. A confidence grade of B3 was assigned to the measured non-household demand from the Water Balance (Table 10: Line 2) which is used in the calculation of this line. However 95% is an assumption, hence the “C” grading and its inclusion in this calculation warrants a grading of “3” i.e. within +/- 10% but outside +/- 5%.

**Line 6            See trade effluent commentary for table 15**

**Line 7            Volume waste water returned**

This line is based on the summation of Lines 3, 4, 5 and 6. The components of this calculation received confidence grades of B4, C3, C3 and C3 respectively. As C3 was the lowest confidence grade for a component, this line has been allocated a confidence grade of C3.

**Significant Year on Year Changes in Reported Figures**

The volume of waste water returned reported in AIR08 (383.02 MI/d) compared to the volume reported in the 2007 Information Return (407.45 MI/d) can be attributed to differences in the base data used to calculate these volumes i.e. differences in the Water Delivered (Table 10).

Differences in the water delivered are presented in the table below:-

Water Delivered – Volumes	2006-07 Ml/d	2007-08 Ml/d	Difference Ml/d
Billed measured household	14.52	14.70	+ 0.18
Billed measured non-household	129.32	124.19	- 5.13
Billed unmeasured household	296.15	307.86	+ 11.71
Billed unmeasured non-household	41.73	24.38	- 17.35
<b>Total</b>	<b>481.72</b>	<b>471.13</b>	<b>- 10.59</b>

10.59 Ml/d less water overall was delivered to measured/unmeasured households/non-households in 2007/08 than in 2006/07.

These differences together with a fall in the calculated volume of trade effluent from 36.49 Ml/d to 26.25 Ml/d, an updated percentage of household properties connected to the sewerage system from 83% to 84% and an updated percentage of non-household properties connected to the sewerage system from 100% to 89% explains why the volume of waste water returned in AIR08 is 24.43 Ml/d less than the volume of waste water returned in the 2007 Information Return.

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

**ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES  
SEWAGE TREATMENT**

DESCRIPTION	UNITS	DP	1		2		
			BASE YEAR SBP		REPORTING YEAR		
			2006-07	CG	2007-08	CG	
<b>A SEWAGE - LOADS</b>							
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1	26316	B2	4919.93	C3
2	Total load receiving secondary treatment (BOD/year)	tonnes	1	44575.8	C3	43690.2	C3
3	Total load receiving primary treatment only (BOD/year)	tonnes	1	516.7	C3	482.3	C3
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1	1234.5	C3	444.1	C3
5	Total load entering sewerage system (BOD/year)	tonnes	1	48754.3	C3	46877	C3
6	Equivalent population served (resident)	000	2	2226.22	C3	2120.9	C3
7	Equivalent population served (resident) (numerical consents)	000	2	2034.9	C3	2054.7	C3
<b>B SEWERAGE - SERVICE FACILITIES</b>							
8	Number of sewage treatment works	nr	0	1097	A2	1058	A2
9	Treatment capacity available (BOD5/day)	tonnes	1	132	D3	132.1	D3
10	Number of STWs providing nutrient removal	nr	0	19	A2	18	A2
11	Equivalent population served by STWs providing nutrient removal	000	2	1058.85	C3	960.1	C3
12	Number of STWs providing pathogen reduction	nr	0	4	A2	1	A2
13	Equivalent population served by STWs providing disinfection	000	2	24.56	C3	28.4	C3
<b>C SEWAGE - SLUDGE DISPOSAL</b>							
14	Percentage unsatisfactory sludge disposal	%	2	0%	A1	0.00	A1
15	Total sewage sludge produced	ttds	1	38	B3	38.4	B2
16	Total sewage sludge disposal	ttds	1	38	B3	38.4	B2
17	Additional sewage sludge arising from new quality obligations since 2005	ttds	1	3.1	D3	1.5	B3

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

**ANNUAL INFORMATION RETURN - TABLE 15 NON FINANCIAL MEASURES  
SEWAGE TREATMENT (PPP)**

DESCRIPTION	UNITS	DP	1		2	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG
<b>A SEWAGE - LOADS</b>						
1	Trade effluent load receiving secondary treatment (BOD/year)	tonnes	1			N/C
2	Total load receiving secondary treatment (BOD/year)	tonnes	1			1880
3	Total load receiving primary treatment only (BOD/year)	tonnes	1			0
4	Total load receiving preliminary treatment only (BOD/year)	tonnes	1			0
5	Total load entering sewerage system (BOD/year)	tonnes	1			
6	Equivalent population served (resident)	000	2			78
7	Equivalent population served (resident) (numerical consents)	000	2			
<b>B SEWERAGE - SERVICE FACILITIES</b>						
8	Number of sewage treatment works	nr	0			1
9	Treatment capacity available (BOD5/day)	tonnes	1			12.44
10	Number of STWs providing nutrient removal	nr	0			1
11	Equivalent population served by STWs providing nutrient removal	000	2			102
12	Number of STWs providing pathogen reduction	nr	0			0
13	Equivalent population served by STWs providing disinfection	000	2			0
<b>C SEWAGE - SLUDGE DISPOSAL</b>						
14	Percentage unsatisfactory sludge disposal	%	2			0
15	Total sewage sludge produced	ttds	1			0.8
16	Total sewage sludge disposal	ttds	1			0.8
17	Additional sewage sludge arising from new quality obligations since 2005	ttds	1			0.0

## Table 15 – Sewage Treatment

### Line 1 Trade Effluent

Water Service introduced a universal trade effluent charging and control policy in the early nineties. There was a concerted effort to consent the major industrial discharges but the main driving force was the collection of revenue from trade effluent charges.

In relation to charging it was decided that only those companies which were industrially derated or premises which were rate exempt e.g. nursing homes, would be subject to trade effluent charges. With the focus on revenue there was little incentive to consent and sample rated premises. As other priorities arose e.g. UKAS accreditation, staff were moved from the trade effluent section and the only work undertaken was sampling in relation to charging. Little trade effluent control work was undertaken and consenting of discharges was solely on a proactive basis.

With the creation of NIW and the introduction of trade effluent charges across all industrial/commercial premises from 09/10 there is now pressure to consent trade discharges regardless of rating status. To initiate this process a data base of potential trade discharges was derived from a wide range of sources e.g. yellow pages, trade directories. This has in the order of 18000 entries although many will be dry processes and others will discharge to water courses.

The work on consenting companies on this database has commenced but it is acknowledged there are still a significant number of small unconsented discharges. The volume of trade effluent and loadings obtained by the existing methodology will be lower than the actual but as consenting progresses; the figures will become more accurate.

The flow data obtained for the calculation of loadings was not in a user friendly format and required significant resources to derive. In addition flow data for some sites was not available and consented volumes had to be applied to calculate loadings.

There is a need for flow data to be available for all charged premises in a user friendly format and the trade effluent manager will discuss this issue with Customer Services Directorate/ Crystal Alliance.

Due to the lack of control work in the past compliance with consents is poor. In addition Water Service trade effluent charges historically were low thus there was no incentive for companies to install onsite treatment.

Both factors would result in the percentage trade effluent loading contribution to Northern Ireland WWTW being higher than the rest of the UK. However the increased control currently being exercised and increasing charges to a realistic level are incentives to reduce strength and hence the percentage loading should decrease.

For those traders that were sampled, actual BOD results were used in the calculation of BOD loadings. A standard sewage strength result was used in the calculation of BOD loadings for the remaining traders and was obtained by averaging the results of inlet samples taken on a monthly basis from the twelve major works.

It should be noted that the Water and Sewage Services Order 2006 defines nursing homes as trade effluent, a situation which differs from England and Wales.

### **Lines 2-13**

It should be noted that the banding of works has been based on Population Equivalents ascertained in 2001/2002 for NIAMP2, with some updates carried out in 2004, with some additional updates during the past year. Population Equivalents for some WwTWs are up to 6 years old.

The PEs which have been used for AIR08 largely reflect those which were submitted to EHS in Nov.2007 for the determination of the sampling schedule. Changes to the latter only occur where rationalisation of works has since occurred.

Kinnegar WwTWs is not included in Table 15. It has been agreed that the PPP section within NIW will complete and forward information pertaining to Kinnegar WwTWs. North Coast WwTWs is a new works which did not feature in JR07.

Although North Down WwTWs is a PPP project, and has been constructed, it is not being included in the AIR08 by NIW, as the 3 original works Bangor, Donaghadee and Millisle were in operation for the majority of this reporting period by NIW, and hence are included in this return. In addition North Down WwTWs is still undergoing Preliminary Acceptance Testing.

The differences between JR07 and AIR08 values for lines 2-5 are detailed in the differences shown in Table 17d.

### **Lines 2-7**

The confidence grade of the data in lines 2-7 remain as C3, as in JR03, as the virtually all the PEs are on the same basis as JR08. Data in table 17d is also confidence grade C3.

### **Line 6**

Sludge liquors from imported sludge would have been included in the loads for the WwTWs greater than 250PE, derived from NIAMP2. Recirculated liquors are not included in the loads.

Differences occur between JR07 and AIR08 due to pumpaways, changes to PEs and the withdrawal of known holiday population data, although the latter is limited.

The differences between line 6 in JR07 and AIR08 are as follows:

<b>Name of Works</b>	<b>Change in Overall Pe from 07 to 08 (Negative signifies a decrease)</b>	<b>Reason for change</b>
Drumaness	-409	New Pe information received from an appraisal report for the works.
Dunmurry	-10713	Pe updated as a Pe study carried out in area during 07/08. APT Tourist Pe Information(57) taken off
Lisbarnet	-18	Pe updated as a Pe study carried out in area during 07/08
Ravarnet	32	Pe updated as a Pe study carried out in area during 07/08
Larne	1082	Pe updated as a Pe study carried out in area during 07/08. APT Tourist Pe Information(261) taken off
Articlave	-1107	This works now pumps to a new WwTWs, North Coast
Blackrock(Antrim)	-14117	This works now pumps to a new WwTWs, North Coast
Castlerock	-3733	This works now pumps to a new WwTWs, North Coast
Coleraine	-44900	This works now pumps to a new WwTWs, North Coast
Derrycrin	126	Wrong Pe figured entered for 07 report this now rectified
Dundoonan	-45	This works now pumps to a new WwTWs, North Coast
Portrush Harbour	-18250	This works now pumps to a new WwTWs, North Coast
Starid(Ballyclare)	-407	This works now pumps to Ballyclare. Please note Ballyclare WWTW 07 return figure included the Pe from this SPS.
Tandragee	-377	Pe updated as a Pe study carried out in area during 07/08
Caledon	873	Tynan and Caedon WWTW now pumping to Caledon. Please note details of Tynan and Caledon not included in 07 return but Pe figure for Caledon not updated.
Kilmachugh	-15	Wrong Pe figured entered for 07 report this now rectified
Lislea	21	Wrong Pe figured entered for 07 report this now rectified
Milltown(Benburb)	53	Wrong Pe figured entered for 07 report this now rectified
Mountnoris	-24	Pe updated as a Pe study carried out in area during 07/08. APT Tourist Pe Information(2) taken off
Claudy	574	New Pe information received from an appraisal report for the works.
Culmore	20283	Review carried out by APT, E&P and McAdam Design
Fintona	-123	Pe updated as a Pe study carried out in area during 07/08
Fivemiletown	-139	Pe updated as a Pe study carried out in area during 07/08. APT Tourist Pe Information(23) taken off
Irvinestown	617	Pe updated as a Pe study carried out in area during 07/08
Kinegar	-102679	This WWTWs is now a PPP site
Annalong	-450	NIAMP2 Tourist Pe information taken off overall PE

Ballyhalbert Old	-1950	NIAMP2 Tourist Pe information taken off overall PE
Bangor	-390	NIAMP2 Tourist Pe information taken off overall PE
Millisle	-2928	NIAMP2 Tourist Pe information taken off overall PE
Newcastle	-4476	NIAMP2 Tourist Pe information taken off overall PE
Ballyronan	-15	NIAMP2 Tourist Pe information taken off overall PE
Cushendall	-630	NIAMP2 Tourist Pe information taken off overall PE
Portballantrae	-588	NIAMP2 Tourist Pe information taken off overall PE
Bullays Hill	-45	NIAMP2 Tourist Pe information taken off overall PE
Cranfield(Down)	-3270	NIAMP2 Tourist Pe information taken off overall PE
Markethill	-240	NIAMP2 Tourist Pe information taken off overall PE
Dungannon	-60	NIAMP2 Tourist Pe information taken off overall PE
Warrenpoint	-246	NIAMP2 Tourist Pe information taken off overall PE
Benone	-3216	NIAMP2 Tourist Pe information taken off overall PE
Castle Arcdale	-720	NIAMP2 Tourist Pe information taken off overall PE
North Coast	87331	This is a new WWTWs
<b>Total Difference between 07 and 08 return</b>	<b>-105288</b>	

Total Line 6 JR07 -	2226220
Total Line 6 AIR08 -	2120940
Total Difference -	105280

### Line 7

Sludge liquors from imported sludge would have been included in the loads for the WWTWs greater than 250PE, derived from NIAMP2. Recirculated liquors are not included in the loads.

Differences occur between JR07 and AIR08 due to pumpaways, changes to PEs and the withdrawal of known holiday population data, although the latter is limited.

The differences between line 7 in JR07 and AIR08 are as follows:

Name of Works	Change in Overall Pe from 07 to 08 (Negative signifies a decrease)	Reason for change
Antrim	80	Creevery & Lenagh Terrace SPSs now pump to Antrim
Articlave	-1107	This works now pumps to a new WWTWs, North Coast
Blackrock(Antrim)	-14117	This works now pumps to a new WWTWs, North Coast
Bullays Hill	37	Morrows Terrace now gravitates to Bullays Hill
Caledon	873	Killylea and Tynan now pumps to this works
Claudy	871	Clagan(50), Killycor(75) and Kinculbrack(172) now pump to Claudy. New appraisal information also raised pe by 574.
Coalisland	283	Derryvale now pumps to Coalisland
Coleraine	-44900	This works now pumps to a new WWTWs, North Coast
Culmore	20283	Review carried out by APT, E&P and McAdam Design
Derrycrin	126	Pe updated with new information
Downpatrick	45	Ballynagross now pumps to Downpatrick
Drumaness	-356	Magheratimpany(53) now pumps to Drumaness. Overall Pe reduced by 409 as new information received.
Dunmurry	-10713	Pe updated as a Pe study carried out in area during 07/08
Fintona	-123	Pe updated as a Pe study carried out in area during 07/08
Fivemiletown	-139	Pe updated as a Pe study carried out in area during 07/08. APT Tourist Pe Information(23) taken off
Irvinestown	617	Pe updated as a Pe study carried out in area during 07/08
Larne	8693	Blackcave(7611) now pumps to Larne. Pe updated as a Pe study carried out in area during 07/08, Pe increased by 1343. APT Tourist Pe Information(261) taken off
Lisbarnet	-18	Pe updated as a Pe study carried out in area during 07/08
Mountnorris	-24	Pe updated as a Pe study carried out in area during 07/08. APT Tourist Pe Information(2) taken off
Newry	139	Ashtree Cottages(42), Crwon Bridge(67) and Derryleckagh(30) now pumps to Newry.
North Coast	87331	This is a new WWTWs
Portrush Harbour	-18250	This works now pumps to a new WWTWs, North Coast
Ravarnet	32	Pe updated as a Pe study carried out in area during 07/08
Straid(Ballyclare)	-407	This works now pumps to Ballyclare. Please note Ballyclare WWTW 07 return figure included the Pe from this SPS.
Tamnamore	67	Derrylee(50) and Clontyclay(17) now pump to Tamnamore
Bangor	-390	NIAMP2 Tourist Pe information taken off overall PE
Newcastle	-4476	NIAMP2 Tourist Pe information taken off overall PE
Ballyronan	-15	NIAMP2 Tourist Pe information taken off overall PE
Bullays Hill	-45	NIAMP2 Tourist Pe information taken off overall PE
Markethill	-240	NIAMP2 Tourist Pe information taken off overall PE
Dungannon	-60	NIAMP2 Tourist Pe information taken off overall PE
Warrenpoint	-246	NIAMP2 Tourist Pe information taken off overall PE
Benone	-3216	NIAMP2 Tourist Pe information taken off overall PE
Castle Arsdale	-720	NIAMP2 Tourist Pe information taken off overall PE
Tandragee	-160	Auglish(50), Ballylisk(150) and Old Mill Rd(17) now pump tp Tandragee. Pe updated as a Pe study carried out in area during 07/08, Pe decreased by 377.
<b>Total Difference between 07 and 08 return</b>	<b>19755</b>	
Total Line 7 JR07 -		2034900
Total Line 7 AIR08 -		2054670
Total Difference -		-19770

### Line 8

The number of WWTWs of 1058, on this line differs from the total of 1084 as shown in Table 17c, as the former does not include the screened outfalls (9 No.) and the unscreened outfalls (17 No.), as per the definition for this line.

### Line 9

The treatment capacity available for AIR08 has been derived from the same base data as JR07, and hence must remain at a confidence grade of D3. Treatment capacities for a number of works are unknown, and hence no contribution has been made for these works to the value for this line.

### Line 10 & 11

The number of works 18 No (with a PE 960136) with nutrient removal reflect those required by EHS to have nitrogen or phosphorus removal.

The list of works with phosphorus removal are as listed:

Phosphorus Removal			AIR08 Actual PEs	Comments
Armagh	2	1 = June 08	30300	
Ballyclare	1		17577	
Ballynacor	1		50000	
Banbridge	1		19655	
Bullays Hill	2		45037	
Cookstown	1		33852	
Downpatrick	-	2 = 31 July 08	0	Not yet in place - not applicable for AIR08
Garrison	2		555	
Lisnaskea	1		4045	
Magherafelt	1		23022	
Antrim	1		92780	
Dungannon	1		50810	
Seagoe	2		21400	
Enniskillen	1		23255	
Tandragee	2	1 = 1 Jan 2008	8590	
Ballymena	1		111305	

The list of works with phosphorus removal are as listed:

<b>Nitrogen Removal</b>		AIR08 Actual PEs	Comments
Belfast	10	318985	
Carrickfergus	15	33324	
Whitehouse	15	75644	

The difference, from JR07, between the equivalent population served by WWTWs providing nutrient removal is as follows:

<b>Name of Works</b>	<b>Change in Overall Pe from 07 to 08 (Negative signifies a decrease)</b>	<b>Reason for change</b>
Ballyclare	1262	Ballynure WwTWs now pumps to Ballyclare
Banbridge	1012	Lenaderg(410) and Seapatrick(602) WwTWs now pumping to Banbridge
Bullays Hill	37	Morrows Terrace now gravitates to Bullays Hill
Antrim	80	Creevery(50) and Lenagh Terrace(30) now pump to Antrim
Tandragee	1574	Scarva(417), Laurelvale(1317), Auglish(50), Ballylisk(150) and Old Mill Rd(17) now pump tp Tandragee. Pe updated as a Pe study carried out in area during 07/08, Pe decreased by 377.
Kinnegar	-102679	This details of this site have been omitted as it is a PPP site
<b>Total Difference between 07 and 08 return</b>	<b>-98714</b>	

<b>Total Line 11 AIR 07 -</b>	1058850
<b>Total Line 11 AIR 08 -</b>	960136
<b>Total Difference -</b>	98714

### Line 12 & 13

Larne WWTWs is the only works which has been identified by DMcCrum as requiring pathogen reduction i.e. which possess a microbiological standard from EHS i.e. 20,000fc/100ml. The

other 3 WwTWs (Kircubbin, Greyabbey and Dundrum) which were listed against these lines last year have not been included in AIR08 as they do not have such a standard.

<b>Finalised Name of Works</b>	<b>Car ID</b>		<b>Name</b>	<b>2007 pe</b>
Larne (WWTW)	2044	1	Larne	28439
			<b>TOTAL</b>	<b>28439</b>

**Line 14**

There is no record of any unsatisfactory disposal. Confidence Grade A1.

**Line 15 & 16**

This is the total sewage sludge produced for 2007/08 (tds) as recorded monthly by WW Area Sludge Officers and taken from OMIS reports (copy attached) along with sewage sludge produced at Kinnegar WwTW and indigenous sludge at Belfast WwTW to incineration.

Additional indigenous transfer of sludge from Belfast WwTW to Incinerator now recorded monthly (copy attached) resulting in an increased overall confidence grade of B2.

**Line 17**

The increase in sludge from new quality obligations is based on measured volumes as detailed by Area Sludge Officers, relating to identified WwTWs as detailed in attached methodology.

The % dry solids of sludge cake has been identified by site (see attached copy).

The % dry solids of liquid sludge have been taken as an average value of 3.17% as measured at Incinerator (see attached copy). Confidence Grade B3.

**Table 15 PPP**

PPP information has been provided for the Kinnegar WwTW only.

## DRYING PLANT MONTHLY AVERAGE % DRY SOLIDS - 2007/08

Plant	Area	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	March	Average
Dunmurry	East	24.90%	24.12%	20.80%	24.70%	23.40%	17.00%	24.13%	23.78%	23.54%	25.18%	22.89%	24.48%	23.24%
New Holland	East	23.35%	24.14%	23.35%	22.83%		21.01%	24.26%	23.94%	24.80%	25.73%	23.35%	23.50%	23.66%
Ballinacor	South	21.75%	20.74%	20.00%	20.68%	19.83%	19.88%	19.89%	20.27%	20.43%	20.84%	21.22%	21.27%	20.57%
Culmore	West					27.12%	27.04%	26.30%	27.10%	28.60%	28.50%	29.10%	29.30%	27.88%
Enniskillen	West					20.43%	19.74%	20.97%	20.20%	19.86%	21.10%	20.98%	19.88%	20.40%
Omagh	West					21.93%	22.09%	25.46%	23.87%	22.75%	23.73%	24.26%	21.76%	23.23%
Strabane	West					24.06%	23.89%	25.79%	26.00%	26.40%	26.50%	27.20%	27.00%	25.86%
Kinnegar	East	25.17%	25.80%	26.35%	25.92%	26.93%	26.43%	25.56%	23.87%	22.75%	25.00%	25.00%	25.00%	25.32%
North Coast	North									25.03%	24.01%	24.60%	23.58%	24.31%

Monthly Ave.	23.79%	23.70%	22.63%	23.53%	23.39%	22.14%	24.05%	23.63%	23.80%	24.51%	24.29%	23.97%
Accum Ave.	23.79%	23.75%	23.37%	23.41%	23.40%	23.08%	23.28%	23.34%	23.41%	23.56%	23.65%	23.69%

Kinnegar WwTW Cake Record:

Area	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	2007/08	Units
													Total	
Monthly (Cake)	132	331	307	291	323	327	207	486	294	164	252	178	3292	Sludge (tonnes)
Monthly (tds) *	33	84	78	74	82	83	52	123	74	42	64	45	833	Dry Tonnes (tds)

Area	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	2007/08
													Average
% Dry Solids	25.17%	25.80%	26.35%	25.92%	26.93%	26.43%	25.56%	23.87%	22.75%	25.00%	25.00%	25.00%	25.32%

OMB Item Heading	Area	2007/08												Units	
		Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08		Total
Sludge tankered for incineration	North West	8007	9040	9144	7829	5520	6113	5795	5865	6924	8258	8892	7052	88439	m3
	North	8007	9040	9144	7829	5520	6113	5795	5865	6924	8258	8892	7052	88439	
	West													0	
Sludge tankered for incineration	South East	8993	11907	11242.5	10353	10298	9690	7118	11211.5	9913	11286.5	12138.5	11042	125193	m3
	South	2990	4455	3078	2349	2915	2559	1782	2241	2079	1863	1674	1404	29389	
	East	6003	7452	8164.5	8004	7383	7131	5336	8970.5	7834	9423.5	10464.5	9638	95804	
	<b>WW Services Total</b>	<b>17000</b>	<b>20947</b>	<b>20387</b>	<b>18182</b>	<b>15818</b>	<b>15803</b>	<b>12913</b>	<b>17077</b>	<b>16837</b>	<b>19545</b>	<b>21031</b>	<b>18094</b>	<b>213632</b>	
Sludge disposal to agricultural land	North West	0	0	0	0	0	0	0	0	0	0	0	0	0	m3
	North	0	0	0	0	0	0	0	0	0	0	0	0	0	
	West													0	
Sludge disposal to agricultural land	South East	2519.55	4250.15	2545	712.72	2061.45	2596.05	1883.3	229.05	330.85	0	432.65	101.8	17663	m3
	South													0	
	East	2519.55	4250.15	2545	712.72	2061.45	2596.05	1883.3	229.05	330.85	0	432.65	101.8	17663	
	<b>WW Services Total</b>	<b>2520</b>	<b>4250</b>	<b>2545</b>	<b>713</b>	<b>2061</b>	<b>2596</b>	<b>1883</b>	<b>229</b>	<b>331</b>	<b>0</b>	<b>433</b>	<b>102</b>	<b>17663</b>	
Sludge cake disposal to incinerator	North West	0	634.44	407.37	1336.86	1297.72	772.44	137.05	147	570.69	926.89	270.06	33.02	6534	tonnes
	North	0	0	117	487	554	258.48	29	147	382	443.68	270.06	0	2688	
	West	0	634.44	290.37	849.86	743.72	513.96	108.05	0	188.69	483.21	0	33.02	3845	
Sludge cake disposal to incinerator	South East	1029.98	1404.55	341.24	309.38	474.5	341.61	116.1	247.78	911.95	942.08	339.98	0	6459	tonnes
	South	388	486	0	0	0	0	0	0	0	0	0	0	874	
	East	641.98	919	341.24	309.38	474.5	341.61	116.1	247.78	911.95	942.08	339.98	0	5585	
	<b>WW Services Total</b>	<b>1030</b>	<b>2039</b>	<b>749</b>	<b>1646</b>	<b>1772</b>	<b>1114</b>	<b>253</b>	<b>395</b>	<b>1483</b>	<b>1869</b>	<b>610</b>	<b>33</b>	<b>12993</b>	
Sludge cake disposal to landfill	North West	0	0	63.36	155.67	0	143.1	0	0	0	0	0	0	362	tonnes
	North	0	0	0	0.00	0	143.1	0	0	0	0	0	0	143	
	West	0	0	63.36	155.67	0	0	0	0	0	0	0	0	219	
Sludge cake disposal to landfill	South East	0	0	265.76	365.46	0	0	0	0	0	0	697.16	899.08	2227	tonnes
	South	0	0	0	0.00	0	0	0	0	0	0	560	578	1138	
	East	0	0	265.76	365.46	0	0	0	0	0	0	137.16	321.08	1089	
	<b>WW Services Total</b>	<b>0</b>	<b>0</b>	<b>329</b>	<b>521</b>	<b>0</b>	<b>143</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>697</b>	<b>899</b>	<b>2590</b>	
Sludge cake recycled to forestry	North West	1008.327	1200.28	2024.19	1169.256	1755.147	1894.19	3098.867	2734.205	1916.481	2051.794	2481.07	2517.681	23851	tonnes
	North	0	0	266.07	0	231.86	143.12	495.7	349	59	58.54	325.35	405.95	2335	
	West	1008.327	1200.28	1758.12	1169.256	1523.287	1751.07	2603.167	2385.205	1857.481	1993.254	2155.72	2111.731	21517	
Sludge cake recycled to forestry	South East	2667	4110.06	3519	2884	4828.75	5450.8	8153.82	6377.06	3658.28	3351.56	3701.5	3055.88	51758	tonnes
	South	2667	3963	3519	2884	2976	3204	5456	3930	2910	3024	3492	2061	40086	
	East	0	147	0	0	1852.75	2246.8	2697.82	2447.06	748.28	327.56	209.5	994.88	11672	
	<b>WW Services Total</b>	<b>3675</b>	<b>5310</b>	<b>5543</b>	<b>4053</b>	<b>6584</b>	<b>7345</b>	<b>11253</b>	<b>9111</b>	<b>5575</b>	<b>5403</b>	<b>6183</b>	<b>5574</b>	<b>75609</b>	
Sludge cake recycled to Willows	North West	923.32	284.9	0	0	0	0	0	0	0	0	0	0	1208	tonnes
	North													0	
	West	923.32	284.9	0	0	0	0	0	0	0	0	0	0	1208	
Sludge cake recycled to Willows	South East	0	0	0	0	0	0	0	0	0	0	0	0	0	tonnes
	South													0	
	East													0	
	<b>WW Services Total</b>	<b>923</b>	<b>285</b>	<b>0</b>	<b>1208</b>										

**Belfast Indigenous Sludge Record:**

Area	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	2007/08 Total	Units
Daily (Sludge)	900	900	900	900	900	900	900	900	900	900	900	900	10800	Sludge (m <sup>3</sup> )
Monthly (Sludge)	27000	27900	27000	27900	27900	27000	27900	27000	27900	27900	25200	27900	328500	Sludge (m <sup>3</sup> )
Daily (tds) *	30	27	27	26	24	23	27	30	31	29	33	35	342	Dry Tonnes (tds)
Monthly (tds) *	891	837	805	804	742	699	845	899	968	901	930	1071	10393	Dry Tonnes (tds)

Incinerator to Forestr	0	35	0	0	324	438	494	407	135	77	98	35	2044	Dry Tonnes (tds)
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Belfast WWTW sludge produced for incineration	8349	Dry Tonnes (tds)
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**Incinerator Sludge Intake % Dry Solids**

Area	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	2007/08 Average
% Dry Solids	3.30%	3.00%	2.98%	2.88%	2.66%	2.59%	3.03%	3.33%	3.47%	3.23%	3.69%	3.84%	3.17%

**Table of Additional Sewage Sludge Arising From New Quality Obligations Since April 2007**

Site	2006/07		2007/08			Commissioned (mth/year)	Comments
	Base	(tds)	Actual	(tds)	Change		
North Coast	0	0	4694 tonnes	1141	1141	May-07	24.31% Ytd Average % Dry Solids; Works came into service in May 2007
North Down	0	0	10233m3	324	324	Nov-07	Nov 07 to March 08
Total		0		1465	1465		

**Note:**

Conversion to (tds) is based on 3.17% for liquid sludge and available data for sludge cake (calculated average).

**Table of Additional Sewage Sludge Arising From New Quality Obligations Since 2005/06**

Site	2005/06		07/08			Comments
	Base	(tds)	Actual	(tds)	Change	
Culmore	10235 tonnes	2456	12749 tonnes	3554	1098	27.88% Ytd Average % Dry Solids; Secondary treatment provided as part of works upgrade
Strabane	4291 tonnes	1030	2706 tonnes	700	-330	25.86% Ytd Average % Dry Solids; Reduced quantities due to Omagh new works commissioned Dec 2005
Omagh	1083 tonnes	260	5686 tonnes	1321	1061	23.23% Ytd Average % Dry Solids; Omagh new works commissioned Dec 2005
Ballyclare	7935 m3	317	11626m3	369	51	Higher sludge capture associated with operation of new works
North Coast	0	0	4694 tonnes	1141	1141	24.31% Ytd Average % Dry Solids; Works came into service in May 2007
Larne	0	0	8321m3	264	264	New works replaced untreated outfall
Carrickfergus	13812 m3	552	17918m3	568	16	Secondary treatment provided as part of works upgrade
Whitehouse	27191 m3	1088	33903m3	1075	-13	Secondary treatment provided as part of works upgrade (ongoing)
North Down	0	0	10233m3	324	324	Nov 07 to March 08
Cookstown	9901 m3	396	16571m3	525	129	New works provided Secondary treatment; No imports during Construction Phase
Total		6100		9841	3741	

**Note:**

Conversion to (tds) is based on 3.17% for liquid sludge and available data for sludge cake (calculated average).

Conversion to (tds) was based on 4% for liquid sludge and 24% for sludge cake at period of 2005/06 base year.

<b>Wastewater Services Sludge Production 2007/08 Disposal Outlets</b>			
<b>Source</b>	<b>Outlet</b>	<b>AIR08 Table (17g) Disposal Outlets</b>	<b>Sludge Volume 2007/08 (tds)</b>
			<b>OFWAT AIR08</b>
Newtownbreda WwTW	Agr. land (injection & spreading)	Farmland Conventional	560
Ballynacor	R Heatrick & Co.	Other	18,198
Silverhill WwTW, Enniskillen	R Heatrick & Co.		
Strabane WwTW	SMD Contracts		
Omagh WwTW	SMD Contracts		
Culmore WwTW (Part)	Brookhall Estates		
New Holland WwTW	Lisbane Landfill		
Belfast WwTW (indigenous)	Incinerator, Duncrue St., Belfast	Incineration	10,393
Belfast WwTW (imported)	Incinerator, Duncrue St., Belfast		6,772
North Coast WwTW	Incinerator, Duncrue St., Belfast		3,078
Ballynacor (Cake)	Incinerator, Duncrue St., Belfast		
Culmore WwTW (Part)	Incinerator, Duncrue St., Belfast		
New Holland WwTW (Cake)	Incinerator, Duncrue St., Belfast		
Dunmurry WwTW (Cake)	Incinerator, Duncrue St., Belfast		
Kinnegar (Cake)	Incinerator, Duncrue St., Belfast		
Incinerator	R Heatrick & Co.	Other	-2,044
			<b>38,403</b>

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 16 NON FINANCIAL MEASURES  
SEWERAGE SERVICE ACTIVITIES

DESCRIPTION	UNITS	DP	1 BASE YEAR SBP 2006-07		2 REPORTING YEAR 2007-08	
				CG		CG
<b>A ASSET BALANCE AT APRIL 1</b>						
1 Total length of sewers	km	2	13911.23	B3	14263.62	
2 Total length of "critical" sewers	km	2	1321	C5	2467	
<b>B CHANGES DURING REPORT YEAR</b>						
3 New "critical" sewers	km	2	0	C3	2.01	A2
4 "Critical" sewers - inspection by CCTV/man entry	km	2	5.58	C3	5.471	A3
5 "Critical" sewers - renovated	km	2	2.79	C3	1.821	A3
6 "Critical" sewers - replaced	km	2	0	C3	3.609	A3
7 Abandoned "critical" sewers and other changes	km	2	0	C3	0	A2
8 New "non-critical" sewers	km	2	54.97	C3	41.105	A3
9 "Non-critical" sewers - renovated	km	2	1.54	C3	1.134	A3
10 "Non-critical" sewers - replaced	km	2	N/C		8.914	A3
11 Abandoned "non-critical" sewers and other changes	km	2	N/C		0.994	A3
12 Sewer collapses per 1,000km	nr	1	86.4	C4	47.3	B4
13 Sewer blockages per 1,000km	nr	1	1536.4	C4	1181.0	B4
<b>C ASSET BALANCE AT MARCH 31</b>						
14 Total length of sewers	km	2	14263.62	B3	14319.5	B3
15 Total length of "critical" sewers	km	2	1355	C5	2469.01	C4
<b>D INTERMITTENT DISCHARGES</b>						
16a Number of unsatisfactory intermittent discharges excluding CSOs (EHS)	nr	0			441	C4
16b Number of unsatisfactory intermittent discharges CSOs (EHS)	nr	0			408	C4
17a Number of intermittent discharges excluding CSOs	nr	0			1377	B4
17b Number of CSOs	nr	0			799	B4
<b>E DRAINAGE AREA PLANS</b>						
18 Cumulative number of drainage area plans completed	nr	0			49	A1
19 Number of drainage area plan studies in progress at the report end of the rep	nr	0			30	A1
20 Total sewerage drainage areas	nr	0			109	A2
21 Cumulative % drainage area plan studies completed	%	1			45	A1
22 % population/properties covered by completed studies	%	1			43	A2
<b>F OTHER SEWERAGE SERVICE ACTIVITIES</b>						
23 Number of intermittent discharges refurbished for maintenance	nr	0	N/C		0	A2
24 Number of sewage treatment works refurbished for maintenance	nr	0	16	B2	72	A1
25 P.e. of refurbished sewage treatment works for maintenance	000	0	352	B2	542	
26 Number of new or enhanced sewage treatment works for quality	nr	0	14	B2	31	A2
27 P.e. of new or enhanced sewage treatment works for quality	000	0	356	B2	553	
28 First time sewerage - number of schemes completed	nr	0	N/C		12	A2
29 First time sewerage schemes - properties	nr	0	N/C		52	A2
30 Number of sludge treatment works refurbished for maintenance	nr	0	N/C		N/C	
31 Number of pumping stations refurbished for maintenance	nr	0	N/C		17	A2
32 Number of sea outfalls refurbished for maintenance	nr	0	N/C		0	A2
33 Number of investigations completed related to the quality programme	nr	0	N/C		N/C	

## **Table 16 - Sewerage Service Activities**

### **General**

NIW is targeting investment to maintain and achieve stable serviceability – e.g. the Belfast Sewers Project – Sewer Rehab. The work carried out to date has been almost exclusively the repair of collapsed or partially collapsed sewers.

Critical sewers are identified using standard industry definitions – WRc Sewer Rehabilitation Manual Category 4 and 5 and almost exclusively occur in Belfast.

The only sewer cleaning work carried out under the Belfast Sewers Project – Sewer Rehab was what was considered necessary to allow CCTV surveys to be conducted or where a relining technique required it.

### **Line 1**

The value for line 1 is taken from line 14 of JR07 i.e. 14263.62km.

### **Line 2**

The value for line 2 in JR07 was 1355km. However this value should be subject to a correction. The preferred value for this line is 2467km which is derived from 17.3% of the value of line 14 (i.e. 14263.62) of JR07.

Further initial query work undertaken on the GIS suggests that the actual critical sewer length is between 1879km and 4922km. Details of this query are appended.

## **B: CHANGES DURING REPORT YEAR**

### **Commentary: Line 3**

All information is compiled from E&P contract management information monthly returns. This is an accurate measurement of the actual lengths of sewers laid, renovated or replaced, compiled from contractor's on-site records. The information is collated from each individual contract on a monthly basis and aggregated into an overall annual figure – hence the confidence grade A1.

### **Lines 4, 5 & 6**

The confidence grades are A1 for the lengths of sewer, however, the overall confidence grade has been dropped to A2 to take account of inconsistent interpretation of the definition of a critical sewer.

### **Line 4**

The figure for critical sewer inspection by CCTV may include surveys outside the reporting period – either sewers surveyed before 1 April 2007 but constructed in 07/08 and sewers surveyed in 07/08 but not due for construction until after 31 March 08.

## **Lines 8 – 11 Non-critical Sewers**

Critical sewers are almost exclusively identified in Belfast – sewers in other conurbations rarely score sufficiently against the WRc criteria to achieve critical status.

The information is compiled from E&P contract management information monthly returns.

The confidence grades are A1 for the lengths of sewer, however, the overall confidence grade has been dropped to A2 to take account of inconsistent interpretation of the definition of a critical sewer.

## **Line 12: Sewer Collapses per 1,000km**

As the Ellipse system has been used to report on sewer collapses, the Regulatory instructions for calculating figures for Table 16: Line 12 and Table 16a: Lines 1 and 2 must be reversed.

Table 16: Line 12 has been calculated using the figure reported for Table 16a: Line 2 and the total length of sewers figure derived from the GIS and reported for Table 16: Line 14.

Please note that in a deviation from the line description, the figure for Table 16a: Line 2 includes both gravity sewer collapses and rising main failures (normally reported separately at Table 16a: Line 1).

## **Line 13: Sewer Blockages per 1,000km**

As the Ellipse system has been used to report on sewer blockages, the Regulatory instructions for calculating figures for Table 16: Line 13 and Table 16a: Line 3 must be reversed.

Table 16: Line 13 has been calculated using the figure reported for Table 16a: Line 3 and the total length of sewers figure derived from the GIS and reported for Table 16: Line 14.

*(See figures for Lines 1, 2 and 3 for Table 16a)*

## **Line 14**

The value of 14319.5km has been extracted from NI Water digital data which is held in the NIMS MapInfo GIS. It is recognized that these records are not wholly complete or accurate and that there are known missing records from GIS, which are unaccounted for.

The confidence grade B3 reflects the degree of inaccuracy and lack of completeness of this information in the NIMS MapInfo GIS.

## **Line 15**

This line is the result of line 2 plus line 3(2 km\*) minus line 7(0km\*) of Table 16. The confidence grade is C4 reflecting the confidence grade of Line 2.

\* These values were obtained from W Scott of Engineering Procurement directorate on 27.5.08.

## **Line 16**

The number of unsatisfactory intermittent discharges is based on the fact that 333 intermittent discharges have to date been the subject of formal classification by EHS. Of these 333 intermittent discharges, 51% have been classified as unsatisfactory. The percentage of unsatisfactory intermittent discharges has increased from 50 to 51, from JR07 to now.

Line 16a: The number of intermittent discharges excluding CSOs and 'foul-only' pumping stations is  $2176 - 799 - 512^* = 865$  (see commentary below on Line 17).

Number unsatisfactory = 51% of 865 = 441.

\* Within JR07, the number of 'foul-only' pumping stations was assumed to be 50% of the total number of pumping stations. Retaining this assumption, the number of 'foul-only' pumping stations is now estimated to be 50% of  $(911 + 114) = 512$ .

Line 16b: The number of CSOs = 799 (see commentary below on Line 17)

Number unsatisfactory = 51% of 799 = 408.

## **Line 17**

### **JR07 Comments ref Intermittent Discharges**

Number of CSOs within Sewerage Systems – 795

Number of overflows from SPSs within Sewerage Systems – 867.

It is my opinion that the above numbers of overflows are approximately within 20% of the number of overflows actually on the ground. Some updating of the figures has been carried out since the information was submitted for the 2005/06 June Returns. However I am also aware that NIW MapInfo records refer to SPSs for which we are unsure of whether overflows exist or not. In addition it is quite possible that our records do not totally reflect all the overflows on the ground.

Total number of sewerage system overflows is  $795 + 867$  i.e. 1662

### **AIR08 Comments ref Intermittent Discharges**

Number of CSO's within Sewerage Systems – 799

This is an increase in 4 from 06/07 figures

Number of overflows from SPSs within Sewerage Systems – 911

This is an increase of 44 from 06/07

***Hence for AIR08 the total number of Sewerage System Overflows is  $799 + 911$  i.e. 1710***

### **JR07 Comments ref Overflows from within WWTWs**

Number of CSOs from within WWTWs – 256

Number of overflows from SPSs from within WWTWs – 113

It is my opinion that the above numbers of overflows are approximately within 35% of the number of overflows from WWTWs, on the ground. Although we have contained all overflows from within WWTWs, on the Consent of Discharge applications to EHS, we presently have no record of the totality. The only way of determining a more accurate number is to review approximately 800 applications.

Total number of overflows within WWTWs – 256 + 113 i.e. 369

**AIR08 Comments ref Overflows from within WWTWs**

Summary of Overflows	Total
Formula 'A'	88
FFT	218
3DWF	24
Additional	136
<b>Total</b>	<b>466</b>

22 of these are from CSOs – rest are PS E/Os NOTE APPROXIMATED

***Hence for AIR08 the total number of overflows within WWTWs is 466***

The increase in number of overflows from 369 in JR07 to 466 in AIR08 (i.e. 97), has resulted from an exercise to trawl the Water Order Consent applications, in particular for WWTWs with a PE greater than 250PE, and to record the number of overflows.

*Hence the value for line 17a i.e. 'Number of intermittent discharges excluding CSOs' (i.e. number of PS overflows in Sew. System 911, and the total number of overflows within WWTWs of 466) is 1377.*

*And the value for line 17b i.e. 'Number of CSOs' (i.e. the number of CSOs in the Sew. System) is 799.*

**Lines 18 and 19  
DRAINAGE AREA PLAN PROGRAMME**

**STATUS AT APRIL 2008**

A. DAPs UPDATED SINCE APRIL 2003  
Initial DAS

<u>Catchment</u>	<u>Domestic population*</u>	<u>DAP date</u>
Magheralin	1427	July 05
Tandragee	3523	June 05
Waringstown	3015	June 05
Draperstown	1983	June 06
Maghera	3950	June 06
Moneymore	1800	June 06
Greyabbey	1148	Feb 06
Kircubbin	1056	Feb 06
Portaferry	2514	Feb 06
Ballyhalbert	602	Aug 06
Ballywalter	1675	Aug 06
Cloughey	927	Aug 06
Portavogie	2320	Aug 06
Castledawson	1244	Nov 06
Magherafelt	9817	Nov 06
Portglenone	1206	Oct 06
Castlewellan	2049	Oct 06
Dromore	6305	Nov 06
Maghaberry	1653	Nov 06
Donaghadee	6470	March 06
Millisle	2331	March 06

	Whitehead	3880	March 06
	Newcastle	9050	Dec 05
	Annalong	2554	June 06
	Dundrum	1291	July 06
	Kilkeel	6993	July 06
	Downpatrick	10146	Sept 05
	Ardglass	1631	Oct 06
Revisited DAS	Ballymoney	5017	Oct 04
	Seahill	2831	April 06
	Dunmurry	31958	Nov 03
	Hillsborough	2503	Aug 03
	Ballyclare	12,286	July 04
	Coleraine	22,730	Nov 06
	Moira	4367	April 03
	Lurgan	26512	April 03
	Rathfriland	2827	Nov 03
	Bessbrook	3000	Feb 04
	Richhill	3225	Feb 04
	Limavady	14744	Sept 03
	Strabane	14365	Sept 03
	Londonderry	90707	Nov 06
	Carrickfergus	27327	Aug 03
	Randalstown	5734	Mar 08

Antrim	31983	Mar 08
Ballycastle	5493	June 05
Portadown	30,154	Nov 06
Craigavon	16,281	Nov 06
Belfast	190000	2005

B. DAPs CURRENTLY IN PROGRESS

Initial DAS

Coalisland	6590
Gilford	2227
Markethill	1744
Castleberg	3106
Newbuildings	4500
Newtownstewart	1866
Sion Mills	3174
Bushmills	2015
Castlerock	1883
Portballintrae	1785
Ballyrickard	36814
Bellaghy	940
Garvagh	1273
Kilrea	1554
Ballycarry	1025
Ballystrudder	890
Crossmaglen	1717
Dungannon	14886

Keady	3592
Glenavy	1041
Upper Falls	27683

Revisited DAS

Greenisland	6477
Whitehouse	60874
Greencastle	8500
Bangor	59813
Armagh	21053
Warrenpoint	6000
Lisburn	42563
Omagh	23093
East Belfast	100,000

C. NO DAS EVER EXECUTED

Ballykelly	2196
Dungiven	3135
Eglinton	3165
Greysteel	1230
Ballygowan	2507
Saintfield	3344
Crossgar	1892
Killyleagh	3276
Newtownbreda	24574
Ballynahinch	5601

Annahilt	1183
Fintona	1534
Fivemiletown	1340
Irvinestown	2219
Lisnaskea	2949

D. DAPs WHICH WERE IMPLEMENTED

Larne	19928
Cushendall	2298
Glenarm	375
Cushendun	474
Portrush	7588
Portstewart	9563
Newry	24485
Banbridge	16074
Rostrevor	2500
Enniskillen	16174
Helens Bay	1410

E. DAPs REQUIRING REVISIT

Cookstown	12645
Ballymena	28367
Crumlin	4260
Holywood	12000

\* residential populations, extracted from NIAMP2 (2002)

**Line 18**

DAPs within Category A above = 49.

**Line 19**

DAPs within category B above = 30

**Line 21**

49 of 109 = 45%.

**Line 22**

636,604 population is attributed to the 49 DAPs from a total connected population of 1,472,922.

The value of 45 for line 21 is derived from the fact that 48 out of the 109 DASs have been updated during the past 5 years.

The value of 43 for line 22 is derived from the fact that 636,604 population is attributed to these 44 DASs, from a total connected population

**Line 23**

The figures for intermittent discharges for the 2006 June Return were based on an exercise which reviewed intermittent discharges to ensure formal consents were in place for NIW by April 2007.

The figures for the 2007 June return include for consent to discharge for emergency overflows from SPSs on sites where WwTWs have been converted to SPSs for transfer of influent to another works.

The figures for the 2008 AIR only comprise additional intermittent discharges which meet Line 23 definition.

**Line 24**

The figure in this line includes figures from Line 26 – all sewage treatment works have been refurbished for maintenance but some for quality only (Line 26).

**Line 23 – 32 except Lines 25 & 27**

The information is obtained directly from the Captrax system which retains the CIDA allocation for each project.

**Lines 25 & 27**

The information is obtained from records held by Asset Management and no confidence grading has been given.

**Line 28**

This figure has been obtained from Captrax but required manual input to interrogate the Form A1 information to extract the exact number of properties which complied with the definition.

**Line 31**

This figure has been obtained from Captrax but was validated by direct consultation with the particular Project Manager.

**Table 16 PPP**

PPP information has not been provided as during the period in question no sewerage networks were operated by PPP concessionaires.



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## REPORT CRITICAL SEWER LENGTHS

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### Introduction

A request was received requiring information on lengths of sewer that fall within 'Critical' category. The criteria was as follows:

Discarding the various criteria which relate to location, the definition comes down to the following three categories:

1. Depth greater (or equal to) than 3 meters.
2. All brick sewers
3. Diameter: Combined or Storm: greater than or equal to 600mm.  
Foul: greater than or equal to 450mm.

### Key Data Used

Sewers table

### Methodology

The sewer table covering all NI was copied to local drive and queries made on the data as follows:

1. Brick sewers were queried by *select \* from Sewers where Material = "Brick"* and the selection saved
2. Sewers with a depth equal to or greater than 3m at either Upstream or Downstream were queried by *select \* from Sewers where UpstreamDepth >= 3 or DownstreamDepth >= 3* and selection saved
3. Combined sewers were queried by *select \* from Sewers where function = "Combined" and Size1 >= 600* and the selection saved
4. Storm sewers were queried by *select \* from Sewers where function = "Surface" and Size1 >= 600* and the selection saved
5. Foul sewers were queried by *select \* from Sewers where function = "Foul" and Size1 >= 450* and the selection saved

The tables created by the above queries were then individually queried for total length in each and listed below is the results.

Category	Length
Brick	38.24km
US depth or DS depth >= 3m	1517.68km
Combined >=600mm	355.72km

Storm >=600mm	406.50km
Foul >=450mm	142.57km

It should be noted that some pipes fall in more than one category and therefore will have been counted in more than one query. An example would be a Combined Brick sewer with an upstream depth of 3.5m and a diameter in 'Size1' of 700mm. This example would be captured under:

- Brick Sewers
- Depth >=3m
- Combined Sewer >= 600mm

The table saved under the above 'Brick' query was then saved as 'Critical Sewers' table. The other tables saved under the first set of queries were then opened. Any 'Brick' sewers were isolated from these tables and for the Combined, Storm and Foul size tables any that were equal or greater than 3m in depth were also isolated. The remaining results were appended to the 'Critical Sewer' table to create a full list of sewers that fall under any of the categories. A total of **2105.43km** of sewers are classed as critical under this.

The results above are based on all sewers within the dataset and will include those that may not be in the ownership of NIW or that have been abandoned or that are out of service. The results below show the results of the same queries performed against NIW owned sewers only.

Category	Length
Brick	30.24km
US depth or DS depth >= 3m	1438.98km
Combined >=600mm	342.91km
Storm >=600mm	234.08km
Foul >=450mm	140.50km

Again as with the first query it should be noted that some pipes fall in more than one category and therefore will have been counted in more than one query.

The following query was applied to select those sewers that meet any of the above criteria and saved as NIW Only Critical Sewers.

Select \* From NIWOnlySewers where Material = "Brick" **or** UpstreamDepth >= 3 **or** DownstreamDepth >= 3 **or** function = "Combined" and Size1 >= 600 **or** function = "Surface" and Size1 >= 600 **or** function = "Foul" and Size1 >= 450

The sum of the total lengths for this query was then calculated. A total of **1879.54km** of sewers are classed as critical under this.

It should be noted that there will be a number of sewers that could be critical sewers but have not been accounted for in these figures due to incomplete data being held on them. The following methodology was applied to obtain a count of sewer lengths that will not have been included due to missing or unknown data relating to Material, Depth and Function and Size.

The following was performed on the NIW Only Sewers

1. Unknown material sewers where queried by Select \* From NIWOnlySewers where Material = "Unknown" or Material = ""
2. Sewers with depth data that could potentially be greater than 3m but would not have been captured by the previous query due to incomplete data was queried by Select \* From

NIWOnlySewers where UpstreamDepth < 3 and Downstream Depth = 0. This query ensures that data where both the UpstreamDepth and DownStream depths are 0 are selected but also selects sewers that have an UpstreamDepth less than 3m but no DownstreamDepth recorded as these could potentially be greater than 3m.

3. Sewers that have an unknown or missing function where queried by Select \* from sewers where function = "Unknown" or function = "" and size >= 450.
4. Sewers that have an unknown size where queried by Select \* from NIWOnlySewers where size1 = 0

The results of the above queries were then individually queried for a sum of the total lengths, the results are shown below.

Category	Length
Unknown Material	2327.11km
Unknown or Incomplete Depth Data	3428.24km
Unknown Functions	1.24km
Unknown Size	753.54km

Again some of these sewers will fall into more than one category so the table was queried again to select those sewers that fall into any of the categories.

The following was applied to select those sewers that fall into any of the categories.

Select \* From NIWOnlySewers where Material = "Unknown" or Material = "" or UpstreamDepth < 3 and DownstreamDepth = 0 or Function = "" and Size1 > 450 or Function = "unknown" and size1 > 450 or Size1 = 0

The sum of the total lengths for this query was then calculated. This gave a total of sewer lengths that have not been included but may be Critical of **4921.61Km**

To put this into context so as it can (if required) be factored in, the total length for all of the NIWOnlySewers at the time of these queries was **14353.55km** meaning that **34.2%** of the data held in the sewers table could potentially be Critical but due to incomplete or missing data have not been included in the results.

### Possible Sources of Data

The NIW GIS data is known to be incomplete due to the time delay between the construction of assets and the Asset Information Maintenance Teams receiving/digitizing 'as constructed' records. This could result in data that should be included not being included. The accuracy of the coordinates and attributes of the NIW GIS data rely upon the precision of the digitizer.

This data has been extracted from a live dataset which is continuously updated and validated. The data and the results of any analysis performed should be regarded as indicative only at this point in time. The Northern Ireland Water network is changing on a daily basis and so the information supplied will become dated in the near future.

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

**ANNUAL INFORMATION RETURN - TABLE 16A NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS**

DESCRIPTION				UNITS	DP	1	
						2007-08	
<b>A SEWERS - MAINTENANCE</b>							
1	Total number of rising main failures			nr	0	N/C	
2	Total number of gravity sewer collapses			nr	0	677	B4
3	Total number of sewer blockages			nr	0	16,912	B4
4	Total number of equipment failures repaired			nr	0	11,715	A2

## Table 16a – Sewage Serviceability Indicators

### A: SEWERS - MAINTENANCE

#### Calculation Process

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 16a: Lines 1 to 3. (Filename: “T16a L1-3 Methodology Statement”)

#### Line 1            **Total number of rising main failures**

Separate information relating to rising main failures is not available to allow reporting on this line. The new Ellipse system did not have a standard job to distinguish between gravity and rising main repairs, due to the reduction in standard jobs required on the introduction of this system. However, rising main failures are included in the figure reported for Table 16a: Line 2: Number of Gravity Sewer Collapses.

As this is now identified as a failing, Mobile Work Management have been requested to create a Standard Job Type for Pumping Main Repairs to enable the reporting of gravity and pumping main repairs separately, as required.

During a dummy run in November 2007 to establish the existence of the required fields within the Ellipse system for the Annual Return, a figure for Rising Main Repairs was obtained. However, on investigation in April 2008 this figure was found to be completed inaccurately as, for the reason stated above, no standard job exists on the Ellipse system.

#### Line 2            **Total number of gravity sewer collapses**

The figure reported for this line includes rising main failures. The new Ellipse system did not have a standard job to distinguish between gravity and rising main repairs, due to the reduction in standard jobs required on the introduction of this system.

#### Line 3            **Total number of sewer blockages**

#### Calculation Process

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 16a: Lines 1 to 3. (Filename: “T16a L1-3 Methodology Statement Networks Sewerage”)

T16a – line 2, Number of Gravity Sewer Collapses = **677** (see attached)

T16a – line 3, Number of Sewer Blockages = **16,912** (see attached)

## **Confidence Grade**

Although, as stated in the methodology, all jobs are issued through and recorded by the Ellipse database, Networks Sewerage believes there to be an element of miscoding of standard jobs on the system.

Not all Blocked Sewers and Sewer Repairs are being recorded on the Ellipse system due to miscoding of standard jobs and/or completion details not giving accurate details of the work actually carried out at each job.

Therefore, Networks Sewerage believes that at this stage of the Ellipse evolution, the confidence grading for the above figures should be classified as **B4**.

## **How Northern Ireland Water Expects to Improve the Confidence Grading of its Regulatory Reporting on Sewer Collapses per 1000km**

To ensure the confidence grading is increased **CONSIDERABLY** for next year's return, the Business Unit has for this coming year, put in place a system where all Networks Sewerage Field Managers will submit copies of all invoices relating to the payments for Blocked Sewers, Gravity Sewer Repairs and Pumping Main Repairs. These will be cross checked against the Ellipse data and signed off by Business Unit and each Field Manager on a monthly basis.

### **Line 4            Total Number of Equipment Failures Repaired**

#### **Calculation Process**

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 16a: Lines 4 and 5. (*Filename: "T16a L4 & 5 Methodology Statement"*)

#### **Reporting Restrictions**

1. The AMMS records do not incorporate instances of non-electromechanical devices such as storage tanks or hydrobrakes.
2. The failure of a pump, for example, on AMMS will be recorded but not the outcome associated with this failure. It is therefore not possible to identify in isolation those equipment failures which resulted in "a detrimental impact on service to customers" since the vast majority of pumping stations possess an acceptable level of redundancy which mitigates the impact of failure on the customer.
3. These figures need not relate directly to equipment failures associated with M&E. In the vast majority of cases, for example, in SPS jobs the attendance is due to unblocking of pump sets rather than pump set failure. There is therefore a danger that the figures are incorrectly perceived as M&E equipment failures, which may be avoidable through proactive action by M&E staff.
4. The table contained within Chapter 16a covering "Guidance for reporting equipment failures which had, or were likely to have, a detrimental impact on service to customers or the environment" refers to a number of specific equipment types which are expected to be considered when presenting the overall figure for Line 4 Table 16a.

5. The revised table below and overleaf includes reference to reasons for either the inclusion or exclusion of particular equipment types from the reported figure in Line 4

<b>Equipment Failure</b>	<b>Description</b>	<b>Comments (reasons for exclusion)</b>
Pumping Station (Foul, Surface Water or Combined)	The failure of a pumping station (i.e. inability to pump sufficient forward flows) reported as one failure regardless of numbers of failed components contributing to the total failure.  <b>N.B. Exclude power grid failure events except where the company's standby generation facility failed.</b>	Pumping equipment failure recorded rather than instances where station failed to pump sufficient forward flow since the latter is not recorded currently
Overflows (CSO and Emergency)	The failure of an emergency or combined sewer overflow to operate properly leading to increased likelihood of upstream surcharge / flooding and / or un-consented discharge of sewage to environment.	Failure of electromechanical equipment has now been included although this is not necessarily an accurate indicator in isolation of CSO failure. The failure of a CSO to operate correctly is not available via M&E AMMS system records
Penstocks	The failure of any sewerage infrastructure penstock or flow shut off valve in a fixed position.	This equipment type, although very uncommon, will be incorporated within the SPS and any associated failures will therefore be captured in Line 4. Once again, however, the failure record will not register the specific nature or consequence of the fault and is unlikely to yield a clear indication of non-consented discharge etc
Anti-Flood Valves	The failure of anti-flood valves protecting customer property from flooding. Include both standard mechanical and pumped anti-flood valves, and report if failed in closed or open positions.	None of this asset type attracts M&E maintenance and any such failure is not therefore recorded on the AMMS system or consequently included in the Line 4 figure.
Vacuum Sewerage Systems	The failure of a vacuum sewerage system, or parts of a system, leading to surcharge and / or customer flooding including individual failures of vacuum pots.	The Line 4 figure includes all electromechanical defects associated with vacuum sewer systems.
Storage Tanks	A failure to maintain sufficient capacity of a storage facility leading to increased likelihood of customer flooding and / or un-consented discharge of sewage to environment. Include failures of any integral return pumping and screening / maceration equipment that impact on required capacity	None of this asset type attracts M&E maintenance and any such failure is not therefore recorded on the AMMS system or consequently included in the Line 4 figure.
Flow Control Devices (i.e. Hydrobrakes)	The failure of a flow control device to operate properly leading to upstream or downstream surcharge / flooding.	Where these devices receive M&E maintenance then any associated defects are recorded at the associated. However the vast majority receive no M&E maintenance and consequently their failure will not be captured or recorded in Line 4.
Real Time Telemetry Control Systems	The failure of a real time control system to operate properly leading to increased likelihood of upstream or downstream surcharge / flooding or un-consented discharge of sewage to environment.	NIW's telemetry system is used for monitoring and intervention control at SPS sites. Where a telemetry failure has occurred this is recorded in Line 4. However it should be pointed out that a telemetry failure will not result in a perceived "increased likelihood of upstream or downstream surcharge"
Oil Interceptors	Failure of an oil interceptor to operate properly leading to an increased likelihood of un-consented or polluting discharge to the environment.	None of this asset type attracts M&E maintenance and any such failure is not therefore recorded on the AMMS system or consequently included in the Line 4 figure.
Chemical Dosing	The total failure of chemical dosing plant over an extended period (i.e. not breakdowns responded to and resolved promptly) leading to increased likelihood of odour from the sewerage network.	Whilst chemical dosing failures at SPS sites will be captured if there is associated M&E maintenance it should be pointed out that no outcome is recorded in terms of the increased likelihood of odour from the sewerage network.

## **Suggested Improvements/Actions**

1. NIW needs to collate separately data relating to other attendances at site to ensure that all equipment failures are recorded.
2. An alternative may be to utilise the telemetry data relating to high level alarms since this will indicate situations where the inlet flow has exceeded the discharge rate. However this method does not take account of excessive rainfall which has resulted in the design throughput of the station being exceeded and for which a consented emergency discharge is available.
3. NIW should develop a reporting database which requires each high level exceedance recorded via telemetry to be associated with a specific cause and incident as per the equipment failure categories identified in Chapter 16a definitions manual.

## **Line 5           Unplanned Maintenance**

### **Calculation Process**

For full details of the calculation processes, see Line-Specific Methodology Statement for Table 16a: Lines 4 and 5. (*Filename: "T16a L4 & 5 Methodology Statement"*)

This strategy has only recently been implemented but, already, results are promising.

### **Reporting Restrictions**

1. Whilst there is clearly merit in ensuring the availability of critical plant, no mechanism currently exists for recording instances of non-availability.
2. A pump, for example, failing at a pumping station may not be critical. However, as per the equipment table, the inability to pump sufficient flow forward as a result of equipment failure would obviously be considered as non-availability of critical plant.
3. Much of the mechanical and electrical work activity at pumping stations is associated with pump blockages. This is, in many cases, not directly associated with equipment failure but can be attributed to outside influences. There is currently no mechanism for extracting these instances. This will ultimately lead to a misrepresentation of mechanical and electrical planned maintenance performance.
4. Reactive and planned maintenance activities are currently measured (hours) to ascertain the current associated ratio. Whilst no formal target is currently in place it is intended that the ratio of planned to reactive maintenance will be established at 3:1 in the near future.

## **Suggested Improvements/Actions**

1. As with Line 4 the "critical" status of the equipment needs to be considered in the context of outcome of failure.

2. NIW should develop a strategy which identifies critical items of equipment (or systems) for availability and monitors availability of same to ensure the development of a meaningful KPI.
3. However separate capture of this data may, in due course, assist to provide a more reflective indicator.
4. NIW is currently initiating the implementation of a comprehensive Mobile Work Management (MWM) system which will, in future, be used to capture data associated with equipment maintenance tasks. It is obviously essential that the data collection methodology is consistent with that used in association with the AMMS system to ensure that future figures presented reflect the same measurable.

It is anticipated that the MWM system will capture improved detail relating to all maintenance-related activities. This will include a specific breakdown of the travelling-time component of each job. Through rationalisation of boundaries and high level coordination of work-planning it is anticipated that travelling-time can be reduced to deliver a more effective maintenance regime.



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

**ANNUAL INFORMATION RETURN - TABLE 16B NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS**

DESCRIPTION	UNITS	DP
-------------	-------	----

1		2	3	4	CG
NUMBER OF STW's		PERCENTAGE OF STW's WHERE THERE ARE NO BOD EVENTS FORECAST FOR THE CURRENT YEAR			
UNITS	DP	UNITS	DP		
nr	0	%	1		

A	SEWAGE TREATMENT WORKS - BOD PERFORMANCE	UNITS	DP
1	Equivalent population band 3 to 6		
2	Excluded STWs	nr	0
3	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
181	93.3	88.2	88.3	A2
903				
1084				

NUMBER OF STW's		PERCENTAGE OF STW's WHERE THERE ARE NO SS EVENTS FORECAST FOR THE CURRENT YEAR			CG
UNITS	DP	UNITS	DP		
nr		%	1		

B	SEWAGE TREATMENT WORKS - SS PERFORMANCE	UNITS	DP
4	Equivalent population band 3 to 6		
5	Excluded STWs	nr	0
6	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
181	95.0	91.3	89.0	A2
903				
1084				

NUMBER OF STW's		PERCENTAGE OF STW's WHERE THERE ARE NO NH3 EVENTS FORECAST FOR THE CURRENT YEAR			CG
UNITS	DP	UNITS	DP		
nr		%	1		

C	SEWAGE TREATMENT WORKS - NH3 PERFORMANCE	UNITS	DP
7	Equivalent population band 3 to 6		
8	Excluded STWs	nr	0
9	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 95%ile > 1	EVENT (c) Mean > 0.5	
78	94.1	88.8	95.6	A2
1006				
1084				

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

**ANNUAL INFORMATION RETURN - TABLE 16B NON FINANCIAL MEASURES  
SEWERAGE SERVICE SERVICEABILITY INDICATORS (PPP)**

DESCRIPTION	UNITS	DP
-------------	-------	----

1		2		3		4	
NUMBER OF		PERCENTAGE					
		CG					
UNITS	DP	UNITS		DP			
nr	0	%		1			

<b>A SEWAGE TREATMENT WORKS - BOD PERFORMANCE</b>			
1	Equivalent population band 3 to 6		
2	Excluded STWs	nr	0
3	Total STWs	nr	0

	EVENT (a) Max >	EVENT (b)	EVENT (c)
6	100	100	100
0			
1			

NUMBER OF		PERCENTAGE					
		CG					
UNITS	DP	UNITS		DP			
nr		%		1			

<b>B SEWAGE TREATMENT WORKS - SS PERFORMANCE</b>			
4	Equivalent population band 3 to 6		
5	Excluded STWs	nr	0
6	Total STWs	nr	0

	EVENT (a) Max >	EVENT (b)	EVENT (c)
6	71.7	100	100
0			
1			

NUMBER OF		PERCENTAGE					
		CG					
UNITS	DP	UNITS		DP			
nr		%		1			

<b>C SEWAGE TREATMENT WORKS - NH3 PERFORMANCE</b>			
7	Equivalent population band 3 to 6		
8	Excluded STWs	nr	0
9	Total STWs	nr	0

	EVENT (a) Max > 2	EVENT (b) 0.5%ile < 1	EVENT (c) Mean < 0.5
6	N/A	N/A	N/A
1			
0			

## Table 16b - Sewerage Service Serviceability Indicators

### Lines 1 – 8 Sewerage Service Serviceability Indicators

The Strategic Business Plan aims to undertake a significant number of schemes to upgrade a number of works with numeric standards which are currently failing. Hence any predictions based on actual performance will err on the low side. Northern Ireland Water (NIW) is unable to produce an accurate future prediction based on the previous 3 year results as, due to the impact of our Capital Works Program, the numbers and compliance of many of the major Waste Water Treatment Works (WWTWs) is in a state of flux. For example, over the last 3 years, the listed major WWTWs and numerous smaller WWTWs have been constructed to meet Environmental Needs Standards – these works serving approximately 25% of the Northern Ireland total population. A second group of WWTWs are subject to interim standards until the Capital Works Program is complete, at which time Environmental Needs Standards will apply. The works are currently passing the interim standards, so there should be no impact on results prediction.

Site Code	Site Name
S13AW	Portglenone
S13BE	Tullagharley
S13CH	Cookstown
S13FI	Bellaghy
S15AA	Ballyclare
S15BS	Larne
S25CO	Dundrum
S25DZ	Carrickfergus
S27AM	Rathfriland
S34AE	Whitehouse
S43CI	Culmore
S45ID	Omagh-Mountjoy
S45JA	Strabane

As such, the calculations for the return have been based on the last 2 years data as this is more representative of future compliance and more accurately reflects the sites / schemes in place.

The methodology for statistical calculations produced involved the use of the results that are used for reporting to the Environmental Regulator. These samples are held in LIMS (Laboratory Information Management System) and are representative, scheduled audit samples. No operational samples were used for calculations. The calculations were carried out in accordance with the guidance notes for Table 16B.

Origin of definitions – for 2007 NIAMP2 populations were adopted for scheduling and as part of Water Service's previous consent applications. These NIAMP2 figures were used for population of the size bands.

For the purpose of these calculations, sea outfalls have been included, although not listed in Table 15 line 8.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17A SEWERAGE EXPLANATORY FACTORS  
SEWERAGE SUB - AREA EXPLANATORY FACTORS

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	
			AREA 1 CG	AREA 2 CG	AREA 3 CG	AREA 4 CG	AREA 5 CG	AREA 6 CG	AREA 7 CG	AREA 8 CG	Total CG	
<b>A SEWERAGE SUB AREAS GENERAL</b>												
Area name:-												
1	Annual average resident connected population	000	1								1468 8	A3
2	Annual average non-resident population	000	1								27 2	B2
3	Volume of sewage collected (daily average)	MI/d	1								383 0	C4
4	Total connected properties	nr	0								666119	B2
5	Area of Sewerage District	km <sup>2</sup>	0								13520	B2
<b>B SEWERAGE DATA</b>												
6	Total length of sewer	km	0								14320	B3
<b>C Costs</b>												
7	Sewerage: Direct Costs	£000	0								19,095	
8	Sewerage: Power Costs	£000	0								4,540	
9	Sewerage: Service Charges	£000	0								0	
10	Sewerage: General & Support Expenditure	£000	0								11,156	
11	Sewerage: Functional Expenditure	£000	0								30,251	

## **Table 17a – Sewerage Explanatory Factors**

The overall approach and allocation process for Table 17 has been significantly refined and improved since the 2007 return. However as the development of the necessary systems and controls is an ongoing process, there are still some limitations and it has not been possible to fully complete the Information Return for 2008. There are limitations on the number of Wastewater locations that are being directly coded to, further explanations are found under each of the table headings below.

A new Sludge function was set up within Wastewater in 200708 which specifically control the transportation and disposal of sludge and ash. These costs feed into Table 17G.

The tables have been completed with the information available at the end of March 0708.

### **Line 1**

This derived from by multiplying T7:L17 (resident baseline population) by 84% which is the percentage of households connected to the sewerage system provided by Crystal Alliance. Confidence Grade for this line is A3 in keeping with that assigned to T7:L17.

### **Line 2**

This is Total Visitor Nights (taken from T2:L20 Population (Winter) calculation) divided by 365. Confidence Grade of B2.

### **Line 3**

This corresponds to the sewage figure given in Table 14 line 7.

### **Line 4**

This is the sum of Table 13 Lines 5, 8 & 9.

### **Line 5**

This corresponds to the area of the land mass of Northern Ireland excluding inland loughs.

### **C Costs**

#### **Line 7**

It is not yet possible to split the costs into areas, a total figure has been given in Column 9. The figure for Direct Sewerage Costs agrees to Table 22, Line 9 Column 1. See Table 22 assumptions.

#### **Line 8**

The figure for Sewerage Power Costs agrees to Table 22, Line 2 Column 1. See Table 22 assumptions.

**Line 10**

The figure for Sewerage General & Support agrees to Table 22, Line 10 Column 1. See Table 22 assumptions.

**Sewerage Explanatory Factors (PPP)**

The 2nd table in 17A has not been populated; it is not yet possible to separately identify the relevant costs.

AIR - TABLE 17B SEWERAGE EXPLANATORY FACTORS  
SEWERAGE TREATMENT WORKS - LARGE WORKS INFORMATION DATABASE

DESCRIPTION	UNITS	DP	TOTAL	1		2		3		4		5		6		7		8		9	
				Belfast W10	CG	Ballymena W60	CG	Culmore W75	CG	Antrim W63	CG	Lisburn W22	CG	Whitehouse W07	CG	Dunmurray W21	CG	North Coast W59	CG	North W58	CG
1 Name				Belfast		Ballymena		Culmore		Antrim (Milltown)		New Holland		Whitehouse		Dunmurray		North Coast		Bangor	
<b>A WORKS SIZE</b>																					
2 Population equivalent of total load received	000	0	1,533	319	C3	111	C3	110	C3	93	C3	84	C3	76	C3	65	C3	87	C3	65	C3
<b>B EFFLUENT CONSENT STANDARD</b>																					
3 Suspended solids consent	mg/l	0		50	A1	25	A1	50	A1	50	A1	15	A1	50	A1	25	A1	50	A1	50	A1
4 BOD5 consent	mg/l	0		30	A1	15	A1	30	A1	30	A1	10	A1	30	A1	10	A1	30	A1	30	A1
5 COD consent	mg/l	0		125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1
6 Ammonia consent	mg/l	0		N/C		3	A1	10	A1	15	A1	3	A1	N/C		3	A1	N/C		N/C	
7 Phosphates consent	mg/l	0		N/C		1	A1	N/C		1	A1	N/C		N/C		N/C		N/C		N/C	
<b>C TREATMENT CATEGORY</b>																					
8 Classification of Treatment Works				SA		TA2		SA		TA2		TA1		SA		TA1		SA		Sea outfall	
<b>D COSTS</b>																					
9 Direct cost	£000	0	7,419	640		597		424		273		463		285		525		207			
10 Power costs	£000	0	3,476	2		370		323		120		253		50		219		164			
11 Service Charges	£000	0	-	0		0		0		0		0		0		0		0			
12 General and support expenditure	£000	0	3,238	575		128		74		85		175		220		266		33			
13 Functional expenditure	£000	0	10,656	1215		725		498		358		638		505		790		240		0	
14 Estimated terminal pumping costs	£000	0	-																		
15 Estimated sludge costs	£000	0	-																		

10		11		12		13		14		15		16		17		18		19		20		21		22					
Newtownards W14		Dungannon W49		Omagh W79		Ballynacor W46		Newry W31		Bullay's Hill W47		Cookstown W62		Carrickfergus W03		Newtownbreda W09		Strabane W80		Armagh W48		Ballymoney (Glenstall) W66		Larne W69					
CG		CG		CG		CG		CG		CG		CG		CG		CG		CG		CG		CG		CG					
Newtownards (Ballyrickard)		Moygashel		Omagh		Ballynacor		Newry		Bullays Hill		Cookstown		Carrickfergus		Newtownbreda		Strabane		Armagh		Ballymoney (Glenstall)		Larne					
61 C3		51 C3		50 C3		50 C3		49 C3		45 C3		34 C3		33 C3		33 C3		31 C3		30 C3		27 C3		28 C3					
50	A1	50	A1	50	A1	50	A1	50	A1	50	A1	25	A1	50	A1	30	A1	50	A1	25	A1	50	A1	50	A1	50	A1		
30	A1	30	A1	30	A1	30	A1	30	A1	30	A1	15	A1	30	A1	15	A1	30	A1	15	A1	30	A1	30	A1	30	A1	30	A1
125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1	125	A1
N/C		5	A1	10	A1	10	A1	N/C		5	A1	4	A1	N/C		5	A1	10	A1	12	A1	12	A1	N/C	A1	N/C	A1	N/C	A1
N/C		1	A1	N/C		1	A1	N/C		2	A1	1	A1	N/C		N/C		N/C		2	A1	2	A1	N/C	A1	N/C	A1	N/C	A1
SB1		TA2		SA		TA2		SA		TB2		TA2		SA		TA1		SA		TA2		SA		TA2					
202		418		320		723		454		239		170		289		327		204		263		77		318		318			
32		204		155		409		205		57		158		90		127		125		113		73		226		226			
0		0		0		0		0		0		0		0		0		0		0		0		0		0			
193		186		111		136		121		143		12		246		211		77		149		4		93		93			
394		605		431		859		575		381		183		535		537		282		413		81		411		411			

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17B SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - LARGE WORKS INFORMATION DATABASE (PPP)

DESCRIPTION	UNITS		DP	TOTAL	1	~	~	~	80
					CG	CG	CG	CG	CG
1 Name					Kinnegar	N/C	N/C	N/C	N/C
<b>A WORKS SIZE</b>									
2 Population equivalent of total load received	000	0		78	78	N/C	N/C	N/C	N/C
<b>B EFFLUENT CONSENT STANDARD</b>									
3 Suspended solids consent	mg/l	0		-	45 (95%ile)	N/C	N/C	N/C	N/C
4 BOD5 consent	mg/l	0		-	25 (95%ile)	N/C	N/C	N/C	N/C
5 COD consent	mg/l	0		-	<125	N/C	N/C	N/C	N/C
6 Ammonia consent	mg/l	0		-	ual average	N/C	N/C	N/C	N/C
7 Phosphates consent	mg/l	0		-	0.0	N/C	N/C	N/C	N/C
<b>C TREATMENT CATEGORY</b>									
8 Classification of Treatment Works				-	ated Sludge	N/C	N/C	N/C	N/C
<b>D COSTS</b>									
9 Direct cost	£000	0		-	N/C	N/C	N/C	N/C	N/C
9a Total Unitary Charge	£0	0		-	N/C	N/C	N/C	N/C	N/C
10 Power costs	£000	0		-	N/C	N/C	N/C	N/C	N/C
11 Service Charges	£000	0		-	N/C	N/C	N/C	N/C	N/C
12 General and support expenditure (NIW)	£000	0		-	N/C	N/C	N/C	N/C	N/C
13 Functional expenditure	£000	0		N/C	N/C	N/C	N/C	N/C	N/C
14 Estimated terminal pumping costs	£000	0		-	N/C	N/C	N/C	N/C	N/C
15 Estimated sludge costs	£000	0		-	N/C	N/C	N/C	N/C	N/C

## Table 17b - Sewage Treatment Works – Large Works Information Database

### Lines 1-8 only

All consents have both BOD and SS, therefore no comment required.

There are no consents for ammonia and without BOD and SS, therefore no comment required.

The consent conditions are based on 95%ile limits.

With respect to works with tight ammonia limits, NIW would comment that for Bullay's Hill, Cookstown, Dunmurry, Moygashel and Newtownbreda WwTW achieving the respective ammonia limits would lead to a lower effluent BOD than the consented values.

Table 17b does not contain Kinnegar WWTW as this is a PPP works.

The PE figures used are NIAMP2 and are in those agreed with the Environmental Regulator for sample scheduling and compliance assessment in 2007.

It is noted that these vary from the PE data used in Table 17c and 17d for the following WwTW's

WWTW Name	NIAMP2 figure	Table 17c and Table 17d
Antrim	92700	92780
Bullays Hill	45000	45037
Culmore	109717	130000
Dunmurry	65050	54394
Ballymoney (Glenstall)	27215	38238
Larne *	19485	28439
Newry	49390	65100
Newtownbreda	32814	32817
Omagh	50453	40000

The reason for the difference is due to the fact that Table 17b reports on a calendar year, using figures agreed prior to commencement of the calendar year.

Table 17c and 17d report on financial year, using figures in place at the end of the reporting period.

For example Antrim WWTW – During 2007 Creevery WWTWs was pumped into Antrim WWTW (it had an act PE of 50, and design PE of 80 in JR07). Lenagh Terrace was pumped also (it had an act PE of 30 and a design PE of 30 in JR07). Actual PE of Antrim has been increased from 92700 to 92780 from JR07 to AIR08.

The revised PE figures used in Table 17c and 17d have been approved by Environmental Regulator for use in the 2008 sample schedule and compliance reporting and will be reported in AIR09 returns.

\* Larne has not been reported as it falls below the 25000 PE threshold in the database held by Environmental Regulation section for the reporting period.

Coleraine WWTW was pumped away to the new North Coast WWTW in May 2007, but has been reported in the Table 17b.

No assumptions have been made.

#### **D Costs**

These costs are a further breakdown by location of the Band 6 costs detailed in Table 17f line 6.

#### **Line 9**

These costs are the total of activity 510 (Sewage Treatment) + £235 in 591 incorrectly coded. All the costs from Kinnegar (W08 £1,692,660) have been excluded as this was a PPP site in 2007-08. Accruals for the prospective North Down PPP site (W58 £1,179,000) have also been excluded from the table. Direct Costs include Power, Contractors, Materials, Chemicals, Direct Labour (611X and 612X-Wages overheads).

#### **Line 10**

These costs are the total power costs coded to Activity 510 (Sewage Treatment) & the specific location. There is no split of power costs between Sludge Treatment and Sewage Treatment, at most sites there is only one electric meter. There is one electricity meter at Duncrue street which includes costs for the Belfast WwTW's (W10) and the Incinerator (W01). The total of these power costs are allocated to the Incinerator and included in Table 17G.

#### **Line 11**

There are no service charges.

#### **Line 12**

The total General & Support expenditure agrees to Table 22 Line 10 Column 2 - see Table 22 assumptions. This figure was allocated across all the Sewage treatment locations based on direct labour costs (611X and 612X - Wages overheads). No Costs have been allocated to the PPP site.

#### **Line 14**

Terminal pumping station costs cannot be identified separately as they are included within the works location code.

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17C SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - NUMBERS

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	
			TREATMENT CATEGORY										TOTAL	
			PRIMARY	SECONDARY		TERTIARY			SEA OUTFALLS					
	ACTIVATED	BIOLOGICAL		A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED				
<b>A SMALL WORKS</b>														
1	Number of STWs in size band 1	nr	0	269	57	486	3	1	3	2	0	1	8	830
2	Number of STWs in size band 2	nr	0	1	14	29	5	0	8	2	1	0	0	60
3	Number of STWs in size band 3	nr	0	1	29	50	4	2	6	3	1	3	6	105
4	Number of STWs in size band 4	nr	0	3	17	13	2	2	8	1	4	4	3	57
5	Number of STWs in size band 5	nr	0	0	4	1	0	3	0	2	0	0	0	10
<b>B LARGE WORKS</b>														
6	Number of STWs in size band 6	nr	0	0	9	1	3	7	0	1	0	1	0	22
7	Total numbers of STWs	nr	0	274	130	580	17	15	25	11	6	9	17	1084
<b>C SMALL WORKS WITH AMMONIA CONSENTS</b>														
8	Number of small STWs with NH <sub>3</sub> consent (5 - 10mg/l)	nr	0	45										
9	Number of small STWs with NH <sub>3</sub> consent (< = 5mg/l)	nr	0	25										

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17C SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - NUMBERS (PPP)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	
			TREATMENT CATEGORY										TOTAL	
			PRIMARY	SECONDARY		TERTIARY		SEA OUTFALLS						
	ACTIVATED	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED					
<b>A SMALL WORKS</b>														
1	Number of STWs in size band 1	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
2	Number of STWs in size band 2	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
3	Number of STWs in size band 3	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
4	Number of STWs in size band 4	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
5	Number of STWs in size band 5	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	
<b>B LARGE WORKS</b>														
6	Number of STWs in size band 6	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	1	N/C	N/C	1
7	Total numbers of STWs	nr	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	1	N/C	N/C	1
<b>C SMALL WORKS WITH AMMONIA CONSENTS</b>														
8	Number of small STWs with NH3 consent (5 - 10mg/l)	nr	0	N/C										
9	Number of small STWs with NH3 consent (<= 5mg/l)	nr	0	N/C										

## Table 17c - Sewage Treatment Works – Numbers

It should be noted that the banding of works has been based on Population Equivalents ascertained in 2001/2002 for NIAMP2, with some updates carried out in 2004, with some additional updates during the past year. Population Equivalents for some WWTWs are up to 6 years old.

The PEs which have been used for AIR08 largely reflects those which were submitted to EHS in Nov.2007 for the determination of the sampling schedule. Changes to the latter only occur where rationalisation of works has since occurred.

Rationalisation of WWTWs has been ongoing, with up to 40 WWTWs being pumped away or gravitated to larger works prior during the past financial year. However it should be noted, as previously pointed out, that the actual PEs for a number of WWTWs are up to 6 years old.

We have assumed the Bands to be:

### Small works

size band 1  $\leq$  15kg BOD5/day (population equivalent: 0 - 250)

size band 2  $>15$  but  $\leq$  30kg BOD5/day (population equivalent: 251 - 500)

size band 3  $>30$  but  $\leq$  120kg BOD5/day (population equivalent: 501 – 2,000)

size band 4  $>120$  but  $\leq$  600kg BOD5/day (population equivalent: 2,001 – 10,000)

size band 5  $>600$  but  $\leq$  1500kg BOD5/day (population equivalent: 10,001 – 25,000)

### Large Works

size band 6  $>$  1500kg BOD5/day. (population equivalent:  $>$  25,000)

- Kinnegar WWTW is not included in the NI Water table but is shown in the PPP table of Table 17c.
- North Coast WWTWs is a new works which did not feature in 2007-08
- Although North Down WWTWs is to be a PPP project, and has been constructed, it is not being included in the AIR08 by NI Water, as the 3 original works Bangor, Donaghadee and Millisle were in operation for the majority of this reporting period by NIW, and hence are included in this return. In addition North Down WWTWs is still undergoing Preliminary Acceptance Testing.

The total number of WWTWs in Table 17C line 7 is the total of all works in this table i.e. 1084 including the screened outfalls (9 No.) and the unscreened outfalls (17 No.). Changes to lines 1 to 7 of this table, from JR07 to present are summarised below:

**TABLE 1 – CHANGES TO WWTWs FROM JR07 TO AIR08**

<b>Band Size &amp; Treatment Category</b>	<b>JR 07 Number</b>	<b>AIR 08 Number</b>	<b>Difference between JR07 &amp; AIR08 (Negative figure signifies an increased figure from 07)</b>	<b>Reason for difference (If any)</b>
Band 1 Prim	272	269	3	4 WWTWs now SPS's - Ballytober Rd, Lenagh Terrace, Derryleckagh, Killycor 1 WWTWs, Cornamuck, moved from Sec Bio to Prim
Band 1 Sec Ac	59	57	2	2 WWTWs now SPS's - Magheratimpany, Derrylee
Band 1 Sec Bio	499	486	13	11 WWTWs now SPS's - Ballynagross, Creevery, Dundoonan, Ashtree Cottages, Aughlish, Ballylisk, Clontyclay, Crown Bridge, Old Mill Rd, Clagan(L'Derry), Kinculbrack 1 WWTWs, Morrows Terrace, now gravitates to Bullays Hill 1 WWTWs, Cornamuck, moved from Sec Bio to Prim
Band 1 Ter A1	3	3	0	
Band 1 Ter A2	1	1	0	
Band 1 Ter B1	4	3	1	1 WWTWs now SPS - Sixmilecross
Band 1 Ter B2	2	2	0	
Band 1 Sea Out Pre	0	0	0	
Band 1 Sea Out Scr	1	1	0	
Band 1 Sea Out Unsc	8	8	0	
Band 2 Prim	1	1	0	
Band 2 Sec Ac	16	14	2	2 WWTWs now SPS's - Saval Beg, Scarva
Band 2 Sec Bio	32	29	3	2 WWTWs now SPS's - Straid(Ballyclare), Derrylee 1 WWTWs, Edenderry(Antrim) moved from Sec Bio to Ter B1
Band 2 Ter A1	6	5	1	1 WWTWs now SPS - Carnbane
Band 2 Ter A2	1	0	1	1 WWTWs, Mountfield, moved from Ter A2 to Ter B2
Band 2 Ter B1	8	8	0	1 WWTWs now SPS - Lenaderg 1 WWTWs, Edenderry(Antrim) moved from Sec Bio to Ter B1

Band 2 Ter B2	1	2	-1	1 WWTWs, Mountfield, moved from Ter A2 to Ter B2
Band 2 Sea Out Pre	1	1	0	
Band 2 Sea Out Scr	0	0	0	
Band 2 Sea Out Unsc	0	0	0	
Band 3 Prim	2	1	1	1 WWTWs now SPS – Damolly
Band 3 Sec Ac	32	29	3	1 WWTWs now SPS - Clady 2 WWTWs increased in size from Band 3 to Band 4 - Drumaness, Claudy
Band 3 Sec Bio	53	50	3	3 WWTWs now SPS - Articlave, Ballynure, Mayobridge
Band 3 Ter A1	4	4	0	
Band 3 Ter A2	2	2	0	
Band 3 Ter B1	9	6	3	3 WWTWs now SPS - Spa, Laurelvale, Seapatrick
Band 3 Ter B2	3	3	0	
Band 3 Sea Out Pre	1	1	0	
Band 3 Sea Out Scr	3	3	0	
Band 3 Sea Out Unsc	6	6	0	
<b>Total</b>	<b>1030</b>	<b>995</b>	<b>35</b>	

**TABLE 2 (Continued from Table 1) – CHANGES TO WWTWs FROM JR07 TO AIR08**

<b>Band Size &amp; Treatment Category</b>	<b>JR 07 Number</b>	<b>AIR 08 Number</b>	<b>Difference between JR 07 &amp; AIR08 (Negative figure signifies an increased figure from 07)</b>	<b>Reason for difference</b>
Band 4 Prim	3	3	0	
Band 4 Sec Ac	15	17	-2	2 WWTWs increased in size from Band 3 to Band 4 - Drumaness, Claudy
Band 4 Sec Bio	13	13	0	
Band 4 Ter A1	2	2	0	
Band 4 Ter A2	2	2	0	
Band 4 Ter B1	8	8	0	
Band 4 Ter B2	1	1	0	
Band 4 Sea Out Pre	5	4	1	1 WWTWs now SPS- Castlerock
Band 4 Sea Out Scr	4	4	0	
Band 4 Sea Out Unsc	4	3	1	1 WWTWs now SPS- Blackcave
Band 5 Prim	0	0	0	
Band 5 Sec Ac	4	4	0	
Band 5 Sec Bio	4	1	3	1 WWTWs now SPS - Ballybrakes 1 WWTWs, Bessbrook, now gravitates to Newry 1 WWTWs, Enniskillen, moved from Sec Bio to Ter A2
Band 5 Ter A1	0	0	0	

Band 5 Ter A2	3	3	0	1 WWTWs increased in size from Band 5 to Band 6 - Larne 1 WWTWs, Enniskillen, moved from Sec Bio to Ter A2
Band 5 Ter B1	0	0	0	
Band 5 Ter B2	2	2	0	
Band 5 Sea Out Pre	2	0	2	2 WWTWs now SPS - Blackrock(Antrim), Portrush Harbour
Band 5 Sea Out Scr	0	0	0	
Band 5 Sea Out Unsc	0	0	0	
Band 6 Prim	0	0	0	
				1 WWTWs now SPS - Coleraine 1 WWTWs withdrawn as PPP site - Kinnegar 1 new WWTWs - North Coast
Band 6 Sec Ac	9	9	0	1 WWTWs, Glenstall, moved from Sec Bio to Sec Act
Band 6 Sec Bio	2	1	1	1 WWTWs, Glenstall, moved from Sec Bio to Sec Act
Band 6 Ter A1	3	3	0	
Band 6 Ter A2	6	7	-1	1 WWTWs increased in size from Band 5 to Band 6 – Larne
Band 6 Ter B1	0	0	0	
Band 6 Ter B2	1	1	0	
Band 6 Sea Out Pre	0	0	0	
Band 6 Sea Out Scr	1	1	0	
Band 6 Sea Out Unsc	0	0	0	
<b>Total</b>	<b>94</b>	<b>89</b>	<b>5</b>	

**Difference between JR07 and AIR08 for total in Table 17c (column 11, row 7)**

<b>Total Number of Works from Tables 1 and 2 above for JR 07 -</b>	<b>1124</b>
<b>Total Number of Works from Tables 1 and 2 above for AIR 08 -</b>	<b>1084</b>
<b>Total Difference -</b>	<b>40</b>

With reference to lines 8 and 9, data regarding the ammonia consents of the Small WWTWs was obtained from a spreadsheet of standards obtained from Dave McCrum, as issued by EHS in April 2008. Discussions are ongoing between EHS and NIW with reference to the stringent nature of some of these standards.

Changes to lines 8 and 9 of this table, from JR07 to present are summarised below:

**Difference in Table 17C - Line 8**

<b>Name of Works</b>	<b>JR07 Ammonia Limit</b>	<b>AIR08 Ammonia Limit</b>	<b>Change in Overall No. Of WWTWs with Ammonia Consents (5-10mg/l)</b>	<b>Reason for change</b>
Ballybrakes	10	N/A	-1	Ballybrakes now pumps away to Glenstall
Bonnanaboigh	10	N/A	-1	This works has no longer got a Ammonia consent
Bushmills	10	N/A	-1	This works has no longer got a Ammonia consent
Desertmartin	10	N/A	-1	This works has no longer got a Ammonia consent
Jonesborough	7.5	5	-1	This works now has a limit less or equal than 5
Mayobridge	10	N/A	-1	This is a pumpaway to Newry
Pomeroy	7.5	3	-1	This works now has a limit less or equal than 5
Poyntzpass	7.5	5	-1	This works now has a limit less or equal than 5
Roughfort	7.5	N/A	-1	This works has no longer got a Ammonia consent
Straid(Ballyclare)	10	N/A	-1	This is a pumpaway to Ballyclare but the Pe was included in the 07 Pe figure for Ballyclare
Beragh	N/A	7.5	1	This works has a Ammonia consent for the first time
Cabragh	N/A	10	1	This works has a Ammonia consent for the first time
Claudy	N/A	10	1	This works has a Ammonia consent for the first time
Cluntoe(Richardson)	N/A	10	1	This works has a Ammonia consent for the first time
Derryhale	N/A	7	1	This works has a Ammonia consent for the first time
Fintona	N/A	7.5	1	This works has a Ammonia consent for the first time
Liscloman	N/A	7.5	1	This works has a Ammonia consent for the first time
Maghera(L/Derry)	N/A	10	1	This works has a Ammonia consent for the first time
Magheralin	N/A	10	1	This works has a Ammonia consent for the first time
Markethill	N/A	7.5	1	This works has a Ammonia consent for the first time
Mountnorris	N/A	10	1	This works has a Ammonia consent for the first time
<b>Total Difference between 07 and 08 return</b>			<b>1</b>	
		Total Line 8 (pe) AIR08 -		45
		Total Line 8 (pe)JR07 -		44
		Total Difference -		1

**Difference in Table 17C - Line 9**

<b>Name of Works</b>	<b>JR07 Ammonia Limit</b>	<b>AIR08 Ammonia Limit</b>	<b>Change in Overall No. Of WWTWs with Ammonia Consents (&lt;=5mg/l)</b>	<b>Reason for change</b>
Ballynure	5	N/A	-1	This WWTWs now pumps to Ballyclare
Spa	5	N/A	-1	This WWTWs now pumps to Drumaness
Ballinmallard	N/A	5	1	This works has a Ammonia consent for the first time
Jonesborough	7.5	5	1	This WWTWs had a consent greater than 5 and less than equal to 10, was between 0 and 5 last year.
Killinchy	N/A	5	1	This works has a Ammonia consent for the first time
Moneyreagh	N/A	2	1	This works has a Ammonia consent for the first time
Pomeroy	7.5	3	1	This WWTWs had a consent greater than 5 and less than equal to 10, was between 0 and 5 last year.
Poyntzpass	7.5	5	1	This WWTWs had a consent greater than 5 and less than equal to 10, was between 0 and 5 last year.
Tandragee	N/A	3	1	This works has a Ammonia consent for the first time
<b>Total Difference between 07 and 08 return</b>			<b>5</b>	

Total Line 9 (pe) AIR08 -	25
Total Line 9 (pe) JR07 -	20
Total Difference -	5

**Table 17c PPP**

Information has been provided for Kinnegar WwTW only. Kinnegar was the only PPP facility operated in 2007-08. All non-financial references in AIR08 refer to Kinnegar only. The financial tables make limited reference to both Kinnegar and North Down as money was accrued in 2007-08 for the operation of North Down in 2008-09. Table 17a,b,f,&g do not include costs for Kinnegar or North Down, these are referred to in Table 22.

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17D SEWERAGE EXPLANATORY FACTORS  
SEWAGE TREATMENT WORKS - LOADS

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11		
			TREATMENT CATEGORY										TOTAL	CG	
			PRIMARY	SECONDARY		TERTIARY				SEA OUTFALLS					
				ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED			
<b>A SMALL WORKS</b>															
1	Load received by STWs in size band 1	kg BOD <sub>5</sub> /day	0	168	336	1146	19	9	33	12	0	13	60	1796	C3
2	Load received by STWs in size band 2	kg BOD <sub>5</sub> /day	0	30	334	653	110	0	164	46	23	0	0	1360	C3
3	Load received by STWs in size band 3	kg BOD <sub>5</sub> /day	0	56	1882	2695	198	148	433	221	32	215	359	6239	C3
4	Load received by STWs in size band 4	kg BOD <sub>5</sub> /day	0	1067	4136	2988	283	996	1915	319	1161	817	829	14511	C3
5	Load received by STWs in size band 5	kg BOD <sub>5</sub> /day	0	0	3791	890	0	3629	0	2665	0	0	0	10975	C3
<b>B LARGE WORKS</b>															
6	Load received by STWs in size band 6	kg BOD <sub>5</sub> /day	0	0	49206	3636	10256	23849	0	2702	0	3900	0	93549	C3
7	Total loads rec'd (daily average all size bands)	kg BOD <sub>5</sub> /day	0	1321	59685	12008	10866	28631	2545	5965	1216	4945	1248	128430	C3
<b>C SMALL WORKS WITH AMMONIA CONSENTS</b>															
8	Load rec'd by small STW w. NH <sub>3</sub> consent (5 - 10mg/l)	kg BOD <sub>5</sub> /day	0	5389											
9	Load rec'd by small STW w. NH <sub>3</sub> consents (< = 5mg/l)	kg BOD <sub>5</sub> /day	0	6457											

NORTHERN IRELAND WATER LIMITED- ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN - TABLE 17D SEWERAGE EXPLANATORY FACTORS  
SEWERAGE TREATMENT WORKS - LOADS (PPP)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	10	11	
			TREATMENT CATEGORY										TOTAL	CG
			PRIMARY	SECONDARY	TERTIARY		SEA OUTFALLS							
	ACTIVATED SLUDGE	BIOLOGICAL	A1	A2	B1	B2	PRELIMINARY TREATMENT	SCREENED	UNSCREENED					
<b>A SMALL WORKS</b>														
1	Load received by STWs in size band 1	kg BOD5/day	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
2	Load received by STWs in size band 2	kg BOD5/day	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
3	Load received by STWs in size band 3	kg BOD5/day	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
4	Load received by STWs in size band 4	kg BOD5/day	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
5	Load received by STWs in size band 5	kg BOD5/day	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
<b>B LARGE WORKS</b>														
6	Load received by STWs in size band 6	kg BOD5/day	0	N/C	5640	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
7	Total loads rec'd (daily average all size bands)	kg BOD5/day	0	N/C	5640	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	5640
<b>C SMALL WORKS WITH AMMONIA CONSENTS</b>														
8	Load rec'd by small STW w. NH3 consent (5 - 10mg/l)	kg BOD5/day	0	N/C										
9	Load rec'd by small STW w. NH3 consents (<= 5mg/l)	kg BOD5/day	0	N/C										

## Table 17d - Sewage Treatment Works – Loads

It should be noted that the banding of works has been based on Population Equivalents ascertained in 2001/2002 for NIAMP2, with some updates carried out in 2004, with some additional updates during the past year. Population Equivalents for some WWTWs are up to 6 years old.

The PEs which have been used for AIR08 largely reflects those which were submitted to EHS in Nov.2007 for the determination of the sampling schedule. Changes to the latter only occur where rationalisation of works has since occurred.

Rationalisation of WWTWs has been ongoing, with up to 40 WWTWs being pumped away or gravitated to larger works prior during the past financial year. However it should be noted, as previously pointed out, that the actual PEs for a number of WWTWs are up to 6 years old.

We have assumed the Bands to be:

### **Small works**

size band 1  $\leq 15$ kg BOD5/day (population equivalent: 0 - 250)

size band 2  $>15$  but  $\leq 30$ kg BOD5/day (population equivalent: 251 - 500)

size band 3  $>30$  but  $\leq 120$ kg BOD5/day (population equivalent: 501 – 2,000)

size band 4  $>120$  but  $\leq 600$ kg BOD5/day (population equivalent: 2,001 – 10,000)

size band 5  $>600$  but  $\leq 1500$ kg BOD5/day (population equivalent: 10,001 – 25,000)

### **Large Works**

size band 6  $> 1500$ kg BOD5/day. (population equivalent:  $> 25,000$ )

Kinnegar WWTWs is included in the PPP section of Table 17c. .

- North Coast WWTWs is a new works which did not feature in 2007-08.
- Although North Down WWTWs is a PPP project, and has been constructed, it is not being included in the AIR08 by NI Water, as the 3 original works Bangor, Donaghadee and Millisle were in operation for the majority of this reporting period by NIW, and hence are included in this return. In addition North Down WWTWs is still undergoing Preliminary Acceptance Testing.

The total number of WWTWs in Table 17C line 7 is the total of all works in this table i.e. 1084 including the screened outfalls (9 No.) and the unscreened outfalls (17 No.).

The confidence grade of the data in lines 1-7 remain as C3, as in JR03, as the virtually all the PEs are on the same basis as JR08.

Changes to lines 1 to 7, from JR07 to present are summarised below:

**TABLE 1 –CHANGES TO LOADS AT WWTWS - FROM JR07 TO AIR08**

Band Size & Treatment Category	JR 07 BOD Loading	AIR 08 BOD Loading	Difference in BOD Loading between JR07 & AIR08 (Negative figure signifies an increased figure from 07)	Difference in PE between JR07 & AIR08 (Negative figure signifies an increased figure from 07)	Reason for difference (if any)
Band 1 Prim	175	168	7	117	4 WWTWs now SPS's, therefore Pe decreased - Ballytober Rd (6pe), Lenagh Terrace (30pe), Derryleckagh (30pe), Killycor (75pe). 1 WWTWs, Cornamuck (27), moved from Sec Bio to Prim thus increasing Pe. Total PE = 114pe
Band 1 Sec Ac	342	336	6	100	2 WWTWs now SPS's, therefore Pe decreased - Magheratimpany (53), Derrylee (50). Total Pe = 103
Band 1 Sec Bio	1188	1146	42	700	11 WWTWs now SPS's, therefore Pe decreased - Ballynagross(45), Creevery(50), Dundoonan(45), Ashtree Cottages(42), Aughlish(50), Ballylisk(150), Clontyclay(17), Crown Bridge(67), Old Mill Rd(17), Clagan(L'Derry)(50), Kinculbrack(172) 1 WWTWs, Morrows Terrace(37), now gravitates to Bullays Hill therefore Pe decreased The Pe at Kilmachugh decreased by 15 and Pe at Milltown(Benburb) Pe increased by 53. 1 WWTWs, Cornamuck (27), moved from Sec Bio to Prim thus decreasing Pe. Total = 729
Band 1 Ter A1	19	19	0	0	
Band 1 Ter A2	9	9	0	0	
Band 1 Ter B1	51	33	18	300	1 WWTWs now SPS, therefore Pe decreased - Sixmilecross (433) The Pe at Derrycrin increased by 126. Total = 307
Band 1 Ter B2	12	12	0	0	
Band 1 Sea Out Pre	0	0	0	0	
Band 1 Sea Out Scr	13	13	0	0	
Band 1 Sea Out Unsc	60	60	0	0	
Band 2 Prim	30	30	0	0	
Band 2 Sec Ac	380	334	46	767	2 WWTWs now SPS's, therefore Pe decreased - Saval Beg (320), Scarva (417). The Pe at Lisbarnet reduced by 18. Total = 755

Band 2 Sec Bio					2 WWTWs now SPS's, therefore Pe decreased - Straid (Ballyclare) (407), Derryvale (283) The Pe at Tamnamore increased by 67. 1 WWTWs, Edenderry (Antrim) (377) moved from Sec Bio to Ter B1 thus decreasing Pe. Total = 1000
	713	653	60	1000	
Band 2 Ter A1	138	110	28	467	1 WWTWs now SPS, therefore Pe decreased - Carnbane (450). Total = 450
Band 2 Ter A2					1 WWTWs, Mountfield (412), moved from Ter A2 to Ter B2 thus decreasing Pe. Total = 412
	25	0	25	417	
Band 2 Ter B1					1 WWTWs now SPS, therefore Pe decreased - Lenaderg (410). 1 WWTWs, Edenderry(Antrim)(377) moved from Sec Bio to Ter B1 thus increasing Pe Total = 33
	166	164	2	33	
Band 2 Ter B2	21	46	-25	-417	1 WWTWs, Mountfield (412), moved from Ter A2 to Ter B2 thus increasing Pe. Total = -412
Band 2 Sea Out Pre	23	23	0	0	
Band 2 Sea Out Scr	0	0	0	0	
Band 2 Sea Out Unsc	0	0	0	0	
Band 3 Prim	144	56	88	1467	1 WWTWs now SPS, therefore Pe decreased - Damolly (1459). Total = 1459
Band 3 Sec Ac					1 WWTWs now SPS, therefore Pe decreased - Clady (503) 2 WWTWs increased in size from Band 3 to Band 4 - Drumaness, (1805,), Claudy, (1883). Total = 4191
	2134	1882	252	4200	
Band 3 Sec Bio					3 WWTWs now SPS, therefore Pe decreased - Articlave (1107), Ballynure (1262), Mayobridge (1183). The Pe increased at Ravarnet (32), Caledon (873), Beragh (433) and Clady (Tyrone) (503). The Pe decreased at Mountnorris (22). Total = 1733
	2799	2695	104	1733	
Band 3 Ter A1	198	198	0	0	
Band 3 Ter A2					
	148	148	0	0	

Band 3 Ter B1	591	433	158	2633	3 WWTWs now SPS, therefore Pe decreased - Spa (719), Laurelvale (1317), Seapatrick (602). Total = 2638
Band 3 Ter B2	221	221	0	0	
Band 3 Sea Out Pre	32	32	0	0	
Band 3 Sea Out Scr	215	215	0	0	
Band 3 Sea Out Unsc	359	359	0	0	
Total	10206	9395	<b>811</b>	13517	

**TABLE 2 (continued from Table 1) – CHANGES TO LOADS AT WWTWS - FROM JR07 TO AIR08**

Band Size & Treatment Category	JR07 BOD Loading	AIR 08 BOD Loading	Difference in BOD Loading between JR07 & AIR08 (Negative figure signifies an increased figure from 07)	Difference in PE between JR07 & AIR08 (Negative figure signifies an increased figure from 07)	Reason for difference (If any)
Band 4 Prim	1067	1067	0	0	
Band 4 Sec Ac	3803	4136	-333	-5550	2 WWTWs increased in size from Band 3 to Band 4 - Drumaness (1805), Claudy (1883) The Pe increased at Drumaness (363), Claudy (871), Irvinestown (617). Total = -5539
Band 4 Sec Bio	2985	2988	-3	-50	The pe decreased at Fintona (123), Fivemiletown (116) The Pe increased at Coalisland (283). Total = -44
Band 4 Ter A1	283	283	0	0	
Band 4 Ter A2	901	996	-95	-1583	The Pe increased at Tandragee (1574). Total = 1574
Band 4 Ter B1	1915	1915	0	0	
Band 4 Ter B2	319	319	0	0	
Band 4 Sea Out Pre	1385	1161	224	3733	1 WWTWs now SPS, therefore Pe decreased- Castlerock (3733). Total = 3733
Band 4 Sea Out Scr	817	817	0	0	
Band 4 Sea Out Unsc	1286	829	457	7617	1 WWTWs now SPS, therefore Pe decreased- Blackcave (7611). Total = 7611
Band 5 Prim	0	0	0	0	
Band 5 Sec Ac	3789	3791	-2	-33	The Pe increased at Downpatrick (45). Total = 45

Band 5 Sec Bio					1 WWTWs now SPS, therefore Pe decreased - Ballybrakes (11021) 1 WWTWs, Bessbrook (12159), now gravitates to Newry, therefore Pe decreased. 1 WWTWs, Enniskillen (23255), moved from Sec Bio to Ter A2 thus decreasing Pe. Total = 46435
	3676	890	2786	46433	
Band 5 Ter A1	0	0	0	0	
Band 5 Ter A2					1 WWTWs increased in size from Band 5 to Band 6 - Larne (19485), therefore Pe decreased. The Pe increased at Ballyclare (1262), Banbridge (1012). 1 WWTWs, Enniskillen(23255), moved from Sec Bio to Ter A2 thus increasing Pe Total = -6044
	3267	3629	-362	-6033	
Band 5 Ter B1	0	0	0	0	
Band 5 Ter B2	2665	2665	0	0	
Band 5 Sea Out Pre	1942	0	1942	32367	2 WWTWs now SPS, therefore Pe decreased - Blackrock (Antrim) (14117), Portrush Harbour (18250). Total = 32367
Band 5 Sea Out Scr	0	0	0	0	
Band 5 Sea Out Unsc	0	0	0	0	
Band 6 Prim	0	0	0	0	
Band 6 Sec Ac					1 WWTWs now SPS, therefore Pe decreased - Coleraine(44900) 1 WWTWs withdrawn as PPP site, therefore Pe decreased - Kinnegar(102679) 1 new WWTWs, therefore Pe increased - North Coast(87331) The Pe increased at Newry(15710), Culmore(20283). 1 WWTWs, Glenstall (27217), moved from Sec Bio to Sec Act thus Pe increased. The Pe increased at Glenstall (11021). Total = -13983
	48367	49206	-839	-13983	
Band 6 Sec Bio					1 WWTWs, Glenstall (27217), moved from Sec Bio to Sec Act thus Pe decreased. Total = 27217
	5269	3636	1633	27217	
Band 6 Ter A1	10895	10256	639	10650	The Pe decreased at Dunmurry (10656). Total = 10656
Band 6 Ter A2					1 WWTWs increased in size from Band 5 to Band 6, therefore Pe increased - Larne (28439) The Pe increased at Antrim (80). Total = 28519
	22138	23849	-1711	-28517	

Band 6 Ter B1	0	0	0	0	
Band 6 Ter B2	2700	2702	-2	-33	The Pe increased at Bullays Hill (37). Total = 37
Band 6 Sea Out Pre	0	0	0	0	
Band 6 Sea Out Scr	3900	3900	0	0	
Band 6 Sea Out Unsc	0	0	0	0	
Total	123369	119035	<b>4334</b>	72233	

**Difference between JR07 and AIR08 for total in Table 17d (column 11, row 7)**

<b>Total Loads received at WWTWs from Tables 1 and 2 above for JR 07 -</b>	133575
<b>Total Loads received at WWTWs from Tables 1 and 2 above for AIR 08 -</b>	128430
<b>Total Difference -</b>	<b>5145</b>

The interpretation of the treatment categories is as below:

<b>AIR08 Treatment Category</b>	<b>Highest Form of Treatment at WWTWs</b>	<b>Treatment Category Abbreviation</b>
Primary	Primary Settlement Septic Tank	Prim
Secondary Activated Sludge (Whether followed by Final settlement or not)	Oxidation Ditch Extended Aeration Activated Sludge SAF BAF MBR SBR	Sec Act
Secondary Biological (Whether followed by Final settlement or not)	Biological Filter RBC RBC Package Bioclere Package ; Submerged Aeration Filters Reed Bed (If used as secondary treatment stage)	Sec Bio
Tertiary A1	Secondary Activated Sludge processes whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), drum filters, microstrainers, slow sand filters, tertiary nitrifying filters, Lockertex screens, gravel clarifiers, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage;	Ter A1
Tertiary A2	Secondary Activated Sludge processes whose methods also include phosphorous reduction, rapid-gravity sand filters, moving bed filters, pressure filters, nutrient control using physico-chemical and biological methods, disinfection, hard COD and colour removal and MBRs where used as a tertiary treatment stage;	Ter A2
Tertiary B1	Secondary Biological processes whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), drum filters, microstrainers, slow sand filters, tertiary nitrifying filters, Lockertex screens, gravel clarifiers, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage;	Ter B1
Tertiary B2	Secondary Biological processes whose methods also include phosphorous reduction, rapid-gravity sand filters, moving bed filters, pressure filters, nutrient control using physico-chemical and biological methods, disinfection, hard COD and colour removal and MBRs where used as a tertiary treatment stage;	Ter B2

Sea Outfalls	Where a load is discharged to sea having received only Preliminary treatment (including Grit removal and screenings conditioning) or simple screening (Bar Screen) or no screening or no treatment (Includes Retention Tanks)	Sea Out Prel  Sea Out Screen  Sea Out Unscreen
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With reference to lines 8 and 9, data regarding the ammonia consents of the Small WWTWs was obtained from a spreadsheet of standards obtained from Dave McCrum, as issued by EHS in April 2008. Discussions are ongoing between EHS and NIW with reference to the stringent nature of some of these standards.

Changes to lines 8 and 9 of this table, from JR07 to present are summarised below:

### Difference in Table 17D - Line 8

Name of Works	Change in Overall Pe from 07 to 08 (Negative signifies a decrease)	Reason for change
Ballybrakes	-11021	Ballybrakes now pumps away to Glenstall
Bonnanaboigh	-306	This works has no longer got a Ammonia consent
Bushmills	-2439	This works has no longer got a Ammonia consent
Desertmartin	-327	This works has no longer got a Ammonia consent
Jonesborough	-583	This works now has a limit less or equal than 5
Mayobridge	-1183	This is a pumpaway to Newry
Pomeroy	-1148	This works now has a limit less or equal than 5
Poyntzpass	-750	This works now has a limit less or equal than 5
Roughfort	-650	This works has no longer got a Ammonia consent
Straid(Ballyclare)	-407	This is a pumpaway to Ballyclare but the Pe was included in the 07 Pe figure for Ballyclare
Beragh	1248	This works has a Ammonia consent for the first time
Cabragh	483	This works has a Ammonia consent for the first time
Claudy	2754	This works has a Ammonia consent for the first time
Cluntoe(Richardson)	434	This works has a Ammonia consent for the first time
Derryhale	957	This works has a Ammonia consent for the first time
Fintona	2030	This works has a Ammonia consent for the first time
Liscloman	317	This works has a Ammonia consent for the first time
Maghera(L/Derry)	4811	This works has a Ammonia consent for the first time
Magheralin	1700	This works has a Ammonia consent for the first time
Markethill	2200	This works has a Ammonia consent for the first time
Mountnorris	972	This works has a Ammonia consent for the first time
Coalisland	283	The pe increased by 283 as Derryvale now pumps to it
<b>Total Difference between 07 and 08 return</b>	<b>-625</b>	

Total Line 8 (pe) JR07 -	90450
Total Line 8 (pe) AIR08 -	89820
<b>Total Difference -</b>	<b>630</b>

Total Line 8 (load) JR07 -	5427
Total Line 8 (load) AIR08 -	5389.2
<b>Total Difference -</b>	<b>37.8</b>

<b>Name of Works</b>	<b>Change in Overall Pe from 07 to 08 (Negative signifies a decrease)</b>	<b>Reason for change</b>
Ballynure	-1262	This WWTWs now pumps to Ballyclare
Spa	-719	This WWTWs now pumps to Drumaness
Ballinmallard	1807	This works has a Ammonia consent for the first time
Jonesborough	583	This WWTWs had a consent greater than 5 and less than equal to 10
Killinchy	1698	This works has a Ammonia consent for the first time
Moneyreagh	1783	This works has a Ammonia consent for the first time
Pomeroy	1148	This WWTWs had a consent greater than 5 and less than equal to 10
Poyntzpass	750	This WWTWs had a consent greater than 5 and less than equal to 10
Tandragee	8590	This works has a Ammonia consent for the first time
Ballyclare	1262	Ballynure(1262) now pumps to this WWTWs
Banbridge	1012	Lenaderg(410) and Seapattrick(602) now pumps to this works
Downpatrick	45	Ballynagross(45) now pumps to this works
Drumaness	363	Magheratimpany (53) and Spa (719) now pump to Drumaness. Overall Pe reduced by 409 as new information received.
Lisbarnet	-18	Pe updated as a Pe study carried out in area during 07/08
<b>Total Difference between 07 and 08 return</b>	<b>17042</b>	

**Table 17d PPP**

Information has been provided for the Kinnegar WwTW only.



## **Table 17f - Sewage Treatment Works – Costs**

### **A Small Works**

#### **Line 1-4**

The Treatment works falling in these categories cannot be identified separately, however it is possible to calculate the total for small works and a total in Column 11 has been entered.

The total costs were taken as the Total Direct Costs relating to Sewage Treatment (Activity 510) less those identified in Line 5 and line 6.

#### **Line 5**

The direct costs were split across the locations and a total taken for each type of treatments. The direct costs include Power, Contractors, Materials, Chemicals, Direct Labour (611X and 612X-Wages overheads).

### **B Large Works**

#### **Line 6**

The direct costs were split across the locations and a total taken for each type of treatments. The direct costs include Power, Contractors, Materials, Chemicals, Direct Labour (611X and 612X-Wages overheads). This line agrees with Line 9 in Table 17b. This line does not include the Kinnegar (£1,692,660, Activated Sludge) as this was a PPP site in 2007-08. Accrued costs for the prospective PPP site, North Down (£1,179,000, Screened) is also excluded.

### **C All Works**

#### **Line 7**

The small works (Line 1-4) cannot be split so a total figure is given in this line in Column 11. This total agrees with the Table 22 Line 9, Column 2.

#### **Line 9**

These costs are the total of activity 510 (Sewage Treatment) + £235 in 591 incorrectly coded. As above, 2 sites have not been included - Kinnegar W08 £1,692,660 and North Down £1,179,000 W58. Direct Costs includes all Power, Contractors, Materials, Chemicals, Direct Labour (611X and 612X-Wages overheads). The figure agrees to Table 22 Line 9 Column 2. There is one electricity meter at Duncrue street which includes costs for the Belfast WWTW's (W10) and the Incinerator (W01). The total of these power costs are allocated to the Incinerator and included in Table 17g.

**Line 10**

The total power costs coded to Activity 510 (Sewage Treatment). There is no split of these Power costs between Sludge Treatment and Sewage Treatment, at most sites there is only one electric meter. The figure agrees to Table 22 Line 2 Column 2. As above, there is one meter at Duncrue Street so the power costs for the Belfast WWTW's have been coded to the Incinerator and included in Table 17g.

**Line 12**

The Total General & Support expenditure was taken directly from Table 22 Line 10 Column 2 - see Table 22 assumptions. No Costs have been allocated to the PPP site.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 17G SEWERAGE EXPLANATORY FACTORS  
SLUDGE TREATMENT AND DISPOSAL INFORMATION

DESCRIPTION	UNITS	DP	1		2		3		4		5		6		7		8		9	
			FARMLAND UNTREATED	CG	FARMLAND CONVENTIONAL	CG	FARMLAND ADVANCED	CG	INCINERATION	CG	LANDFILL	CG	COMPOSTED	CG	LAND RECLAMATION	CG	OTHER	CG	TOTAL	CG
1 Resident population served	000	1							874.3	B3	28.2	B2					836.0	B2	1764.2	A3
2 Amount of sewage sludge	ttds	1			25.8	B2			19.0	B3	0.6	B2					18.2	B2	38.4	B2
3 Sludge treatment: direct costs	£000	3	N/C		N/C				3015.370		N/C		N/C				913.175		3,928.545	
4 Sludge disposal: direct costs	£000	3	N/C		51.644				518.913		165.065		N/C				5916.448		6,652.070	
5 Sludge treatment & disposal: direct costs	£000	3			51.644				3,534.283		165.065						6,829.623		10,580.615	
6 Sludge treatment & disposal: power costs	£000	3	N/C		N/C				1621.606		N/C		N/C				N/C		1,621.606	
7 Sludge treatment & disposal: service charges	£000	3	N/C		N/C				N/C		N/C		N/C				N/C		0.000	
8 Sludge treatment & disposal: general & support exp.	£000	3	N/C		N/C				779.379		N/C		N/C				1061.078		1,840.457	
9 Sludge treatment & disposal: functional expenditure	£000	3			51.644				5,935.268		165.065						7,890.701		12,421.072	

## Table 17g - Sludge Treatment and Disposal Information

### Line 1

Resident population served: WW Services does not have access to this data, rather Population Equivalent (PE) only which is discounted in guidance notes.

To complete the AIR 08 return an estimated total resident population for Northern Ireland of 1,763,987\* has been used for “Total” value in column 9, with an A3 CG.

*\* WW Services has used the T7: L17 value as previously submitted by HO. The total population’s sewage is treated at NI Water’s WwTWs, regardless of whether the sewage is derived from the public sewers or septic tanks.*

Line 1 in columns 2, 4, 5 & 8 has been estimated using a pro-rata value based on the total sewage sludge disposal data from OMIS; CGs vary based on accuracy of data for each disposal method, (B2 & B3).

### Line 2

Line 2 in columns 2, 4, 5 & 8 has been based on the total sewage sludge disposal data from OMIS; CGs vary based on accuracy of data for each disposal method, (B2 & B3).

### Line 3

Sludge treatment activities are identified separately by activity 621 and 636. The total costs coded to 621 are included in other; Column 8 and 636 Sludge Treatment at the Incinerator are included in Column 4. These figures include the costs of sludge treated from the Kinnegar (and North Down) works.

### Line 4

Sludge disposal costs can be identified separately by activities;

Farmland Conventional - all direct costs coded to activity 630

Incineration - all direct costs coded to activity 638 (Cake Disposal) and 639 (Ash Disposal)

Landfill - all direct costs coded to activity 633

Other - all direct costs relating to sludge tankering, activity 620,632, 635, 637.

These figures include the costs of sludge disposal from the Kinnegar (and North Down) works.

### Line 6

There is no split of Power costs between Sludge Treatment and Sewage Treatment, at most sites there is only one electric meter. All costs currently go to Sewage Treatment. There is one electricity meter at Duncrue Street which includes costs for the Belfast WWTW’s (W10) and the Incinerator (W01). The total of these power costs are allocated to the Incinerator and included in Table 17g.

**Line 8**

This figure agrees to Table 22, line 10, Column 3 - see table 22 assumptions. £1,840,457 was apportioned across the activities based on direct labour costs (611X and 612X - Wages overheads).

**Table 17g PPP**

Further breakdown of the PPP costs / volumes is unobtainable at this time

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 18 REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)  
PROFIT AND LOSS ACCOUNT FOR YEAR ENDING 31 MARCH**

DESCRIPTION				1		2	
				2006-07		2007-08	
	UNITS	DP					
1	Turnover	£m	3	N/C			294.056
2	Operating costs (excluding HCD)	£m	3	N/C			-219.063
3	Historical cost depreciation	£m	3	N/C			-12.343
4	Operating income	£m	3	N/C			-0.031
5	Operating profit	£m	3	N/C			62.619
6	Other income	£m	3	N/C			0
7	Net interest receivable less payable	£m	3	N/C			-7.113
8	Profit on ordinary activities before taxation	£m	3	N/C			55.506
9	Current tax	£m	3	N/C			0
10	Deferred tax	£m	3	N/C			-15.562
11	Profit on ordinary activities after taxation	£m	3	N/C			39.944
12	Extraordinary items	£m	3	N/C			0
13	Profit for the year	£m	3	N/C			39.944
14	Dividends	£m	3	N/C			-33.538
15	Retained profit for the year	£m	3	N/C			6.406

## Table 18 - Regulatory Accounts – Profit & Loss for Year End

Results of unappointed activities are shown separately in the published regulatory accounts.

Exceptional charges during the year include:

- a. Voluntary early retirement costs:
    - Pension related ( past service costs) £3.6m
    - Non pension lump sum payments £0.8m
- a. £4.4m**

*Included in staff costs in P&L account*

- b. Business improvement costs of £8.115m within P&L expense headings as follows:

<b>P&amp;L Expense</b>	<b>£m</b>
Staff costs	0.500
Hired and contracted	7.410
Other operating costs	0.205
<b>Total</b>	<b>8.115</b>

No minority interests exist.

PPP charges within operating costs can be summarized as follows:

	<b>Gross Charge</b>	<b>Residual interest credit to P&amp;L</b>	<b>Net P&amp;L charge</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>
Kinnegar	1.913	-0.221	1.692
Omega	1.482	-0.303	1.179
Total	3.395	-0.524	2.871

Published Statutory Accounts '**Note 11- Taxation**' attached shows basis of deferred tax computation and reconciliation of effective tax rate and standard tax rate.

An allocation of the deferred tax charge has been made to unappointed activities in proportion to turnover from these activities.

Published Statutory Accounts '**Note 26- Pension scheme**' attached shows actuarial assumptions underpinning the FRS17 valuation of the company defined benefit pension scheme. This shows that the opening pension deficit at 1 April 2007 of £7.519m (net of tax asset) became a pension surplus at 31 March 2008 of £5.619m ( net of tax liability). This primarily arose as a result of a significant actuarial gain experienced in year. This is the first year of the company scheme and contribution levels were constant during the year ( approximately 29.3% of pensionable pay).

This is the first year of operations of the company and therefore comparators with 2006-2007 are not available.

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 18C REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)  
STATEMENT OF TOTAL RECOGNISED GAINS AND LOSSES**

DESCRIPTION				1		2	
				2006-07		2007-08	
UNITS	DP						
<b>A CAPITAL EXPENDITURE CATEGORIES</b>							
1	Profit for the year	£m	3	N/C	39.944		
2	Actuarial gains/losses on post employment plans	£m	3	N/C	14.962		
3	Other gains and losses	£m	3	N/C	0.000		
4	Total recognised gains and losses for the year	£m	3	N/C	54.906		

**Table 18c - Regulatory Accounts (Historical Cost Accounting) Statement of Total Recognised Gains and Losses**

There are no 'other' gains and losses shown for 2007-2008.

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 18d REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)  
ALLOCATION OF CAPITAL EXPENDITURE FOR TAX PURPOSES**

DESCRIPTION		UNITS	DP	1	2
				2006-07	2007-08
<b>A DIVIDEND ANALYSIS</b>					
1	Dividends in respect of a financial re-organisation	£m	3	N/C	0.000
2	Other ordinary dividends	£m	3	N/C	-33.538
3	Total dividends	£m	3	N/C	-33.538
<b>B INTEREST ANALYSIS</b>					
4	Interest receivable/payable on intercompany balances	£m	3	N/C	0.000
5	Interest receivable/payable in respect of a financial re-organisation	£m	3	N/C	0.000
6	Indexation element of index-linked bonds	£m	3	N/C	0.000
7	Preference share dividends	£m	3	N/C	0.000
8	Other interest receivable	£m	3	N/C	2.208
9	Other interest payable	£m	3	N/C	-9.741
10	Other finance charges - post employment costs	£m	3	N/C	0.420
11	Other finance charges	£m	3	N/C	0.000
12	Total net interest	£m	3	N/C	-7.113

## **Table 18d – Allocation of Capital Expenditure for Tax Purposes**

The company became operational on 1 April 2007. The interest payable shown in table of £9.741m is payable as follows:

- DRD shareholder - £9.712m for interest on capital loan notes issued during the year and
- DRD shareholder - £0.027m for a working capital facility.
- Interest payable to third parties for cash bonds held £ 0.002m

The dividend is payable to the shareholder (DRD) and the £33.538m shown in table 18d is in relation to appointed activities with £0.418m attributed to non-appointed activities – **total dividend due to shareholder for 2007-2008 - £33.956m.**

There is no PPP aspect to interest charges.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 19 REGULATORY ACCOUNTS (HISTORICAL COST ACCOUNTING)  
BALANCE SHEET AS AT 31 MARCH

DESCRIPTION	UNITS	DP	1	2	
			2006-07	2007-08	
<b>A FIXED ASSETS</b>					
1	Tangible fixed assets	£m	3	N/C	1103.597
2	Investment - loan to group company	£m	3	N/C	0.000
3	Investment - other	£m	3	N/C	0.106
4	Total fixed assets	£m	3	N/C	1103.703
<b>B CURRENT ASSETS</b>					
5	Stocks	£m	3	N/C	2.400
6	Debtors	£m	3	N/C	30.570
7	Cash	£m	3	N/C	2.843
8	Short term deposits	£m	3	N/C	54.000
9	Infrastructure renewals prepayment	£m	3	N/C	0.000
10	Total current assets	£m	3	N/C	89.813
<b>C CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR</b>					
11	Overdrafts	£m	3	N/C	0.000
12	Infrastructure renewals accrual	£m	3	N/C	-9.695
13	Creditors	£m	3	N/C	-110.408
14	Borrowings	£m	3	N/C	0.000
15	Corporation tax payable	£m	3	N/C	0.000
16	Ordinary share dividends payable	£m	3	N/C	-33.538
17	Preference share dividends payable	£m	3	N/C	0.000
18	Total creditors	£m	3	N/C	-153.641
19	Net current assets	£m	3	N/C	-63.828
<b>D CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR</b>					
20	Borrowings	£m	3	N/C	-307.560
21	Other creditors	£m	3	N/C	-3.422
22	Total creditors	£m	3	N/C	-310.982
<b>E PROVISION FOR LIABILITIES AND CHARGES</b>					
23	Deferred tax provision	£m	3	N/C	-16.566
24	Deferred income - grants and contributions	£m	3	N/C	-9.757
25	Post employment asset / (liabilities)	£m	3	N/C	5.619
26	Other provisions	£m	3	N/C	-15.131
<b>F PREFERENCE SHARE CAPITAL</b>					
27	Preference share capital	£m	3	N/C	0.000
28	Net assets employed	£m	3	N/C	693.058
<b>G CAPITAL AND RESERVES</b>					
29	Called up share capital	£m	3	N/C	500.000
30	Share premium	£m	3	N/C	0.000
31	Profit and loss account	£m	3	N/C	21.368
32	Other reserves	£m	3	N/C	171.690
33	Capital and reserves	£m	3	N/C	693.058

## Table 19 – Historical Costs Balance Sheet

The balance sheet in the published regulatory accounts includes a separate analysis of unappointed activities.

There are no group companies.

The movement in P&L account is the retained profit for the year.

No minority interests exist.

Within the fixed assets at 31 March 2008 the following items are included that relate to the residual interest assets created in PPP ‘off-balance sheet’ transactions:

Kinnegar	£1.528m
Omega	£0.303m
<b>Total</b>	<b>£1.831m</b>

This is the first year of operations of the company and therefore comparators with 2006-2007 are not available.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 19a ANALYSIS OF BORROWINGS DUE AFTER MORE THAN ONE YEAR (HISTORICAL COST ACCOUNTING)  
BALANCE SHEET AS AT 31 MARCH

	1	2	3	4	5	6	7	8	9
	DESCRIPTION	YEARS TO MATURITY	PRINCIPAL SUM £m 3dp	Years to maturity x principle sum	REAL COUPON %	NOMINAL INTEREST RATE %	FULL YEAR EQUIVALENT NOMINAL INTEREST COST £m 3dp	FULL YEAR EQUIVALENT REAL CASH INTEREST PAYMENT £m 3dp	CARRYING VALUE £m 3dp
<b>A</b>	<b>BORROWINGS IN HEDGING RELATIONSHIPS</b>								
<b>A1</b>	<b>Fixed rate instruments</b>								
1				0.000	0.00%		0.000	0.000	
+				0.000	0.00%		0.000	0.000	
50				0.000	0.00%		0.000	0.000	
<b>A2</b>	<b>Floating rate instruments</b>								
51				0.000	0.00%		0.000	0.000	
+				0.000	0.00%		0.000	0.000	
100				0.000	0.00%		0.000	0.000	
<b>A3</b>	<b>Index linked instruments</b>								
101				0.000		0.00%	0.000	0.000	
+				0.000		0.00%	0.000	0.000	
150				0.000		0.00%	0.000	0.000	
	<b>TOTAL FOR HEDGING INSTRUMENTS</b>		0.000				0.000	0.000	0.000
<b>B</b>	<b>BORROWINGS DESIGNATED AT FAIR VALUE THROUGH PROFIT AND LOSS</b>								
<b>B1</b>	<b>Fixed rate instruments</b>								
151					0.00%		0.000	0.000	
+					0.00%		0.000	0.000	
200				0.000	0.00%		0.000	0.000	
<b>B2</b>	<b>Floating rate instruments</b>								
201				0.000	0.00%		0.000	0.000	
+				0.000	0.00%		0.000	0.000	
250				0.000	0.00%		0.000	0.000	
<b>B3</b>	<b>Index linked instruments</b>								
251				0.000		0.00%	0.000	0.000	
+				0.000		0.00%	0.000	0.000	
300				0.000		0.00%	0.000	0.000	
	<b>TOTAL FOR BORROWINGS DESIGNATED AT FAIR VALUE THROUGH PROFIT AND LOSS</b>		0.000				0.000	0.000	0.000
<b>C</b>	<b>OTHER BORROWINGS</b>								
<b>C1</b>	<b>Fixed rate instruments</b>								
301		19	307.560	5843.640	2.75%	5.25%	16.147	16.147	307.560
+				0.000	0.00%		0.000	0.000	
350				0.000	0.00%		0.000	0.000	
<b>C2</b>	<b>Floating rate instruments</b>								
351				0.000	0.00%		0.000	0.000	
+				0.000	0.00%		0.000	0.000	
400				0.000	0.00%		0.000	0.000	
<b>C3</b>	<b>Index linked instruments</b>								
401				0.000		0.00%	0.000	0.000	
+				0.000		0.00%	0.000	0.000	
450				0.000		0.00%	0.000	0.000	
	<b>TOTAL FOR OTHER BORROWINGS</b>		307.560		2.75%	5.25%	16.147	16.147	307.560
<b>D</b>	<b>TOTALS</b>		307.560	5843.640			16.147	16.147	307.560
<b>E</b>	<b>RPI assumption</b>		2.50%						
	<b>ANALYSIS</b>								
<b>F</b>	<b>INDICATIVE INTEREST RATES</b>								
F1	Nominal interest		5.25%						
F2	Cash interest		5.25%						
<b>G</b>	<b>INDICATIVE DEBT PORTFOLIO BREAKDOWN</b>								
G1	Floating rate debt as percentage of total debt		0%						
G2	Fixed rate debt as percentage of total debt		100%						
G3	Index linked debt as percentage of total debt		0%						
G4	Fixed rate debt and index linked debt as percentage of total debt		100%						
G5	Weighted average years to maturity		19						

## Table 19a - Analysis of Borrowings Due After More Than One Year

At 31 March 2008 NIW borrowings related to Capital Loan notes issued under a £1,280,200,000 Fixed Coupon Unsecured Loan note 2027. Further loan notes may be issued under this facility in the period to 31 March 2014. This facility is available to provide finance for capital investment only.

The loan notes in issue and those issued before 31 March 2010 carry a fixed rate of interest of 5.25%. Loan notes issued after this date carry fixed interest rates based on a margin of 0.85% above the reference gilt rate published by UK HM Government Debt Management Office on the date of issue of the loan note. At 31 March 2008 the gilt reference rate was 4.5708% equating to an equivalent borrowing rate of 5.4208%

In 2007/08 Capital loan notes were accounted for as held to maturity borrowings.

In addition to the capital loan note instrument NIW has committed facilities available in a £20m overdraft facility and a £55m Revolving Credit facility. These facilities were not utilised at 31 March 2008.

The **Overdraft facility**, for £20m, provides financing for working capital requirements of NIW. This is available until 31 March 2014 at a cost of Libor + 0.35%.

The **Revolving credit facility (RCF)** was established to finance unanticipated costs incurred by NIW.

The facility is split into two branches,

- Facility A which provides finance for costs classed as notifiable to the Regulator and recoverable from users, on which interest is charged at Market rate Libor + 0.35%; and
- Facility B which provides finance for costs classed as unrecoverable from users, on which interest is charged at Market rate LIBOR +2.0%.

This facility is available until 31 March 2014, increasing from a commitment of £34m in 2007/08 to £55m for 2008/09 to 2013/14.

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

**ANNUAL INFORMATION RETURN - TABLE 20 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)  
PROFIT AND LOSS ACCOUNT FOR YEAR ENDING 31 MARCH 2008**

				1	2
				2006-07	2007-08
DESCRIPTION		UNITS	DP		
1	Turnover	£m	3	N/C	294.056
2	Current cost operating costs (including CCD & IRC)	£m	3	N/C	-278.250
3	Operating income	£m	3	N/C	-0.056
4	Working capital adjustment	£m	3	N/C	1.327
5	Current cost operating profit	£m	3	N/C	17.077
6	Other income	£m	3	N/C	0.000
7	Net interest receivable less payable	£m	3	N/C	-7.113
8	Financing adjustment	£m	3	N/C	6.543
9	Current cost profit before taxation	£m	3	N/C	16.507
10	Current tax	£m	3	N/C	0.000
11	Deferred tax	£m	3	N/C	-15.562
12	Current cost profit on ordinary activities	£m	3	N/C	0.945
13	Extraordinary items	£m	3	N/C	0.000
14	Current cost profit attributable to shareholders	£m	3	N/C	0.945
15	Dividends	£m	3	N/C	-33.538
16	Current cost profit retained	£m	3	N/C	-32.593

## Table 20 – Current Cost Accounting Profit & Loss Account

Exceptional charges during the year include:

Voluntary early retirement costs:

Pension related ( past service costs) £3.6m

Non pension lump sum payments £0.8m

**£4.4m**

*Included in staff costs in P&L account*

Business improvement costs of £8.115m within P&L expense headings as follows:

<b>P&amp;L Expense</b>	<b>£m</b>
Staff costs	0.500
Hired and contracted	7.410
Other operating costs	0.205
<b>Total</b>	<b>8.115</b>

No minority interests exist.

PPP charges within operating costs can be summarized as follows:

	<b>Gross Charge</b>	<b>Residual interest credit to P&amp;L</b>	<b>Net P&amp;L charge</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>
Kinnegar	1.913	-0.221	1.692
Omega	1.482	-0.303	1.179
Total	3.395	-0.524	2.871

This is the first year of operations of the company and therefore comparators with 2006-2007 are not available.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 21 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)  
ACTIVITY COSTING ANALYSIS - WATER SERVICE (incl. PPP)

DESCRIPTION	UNITS	DP	1	2	3	
			WATER RESOURCES & TREATMENT	WATER DISTRIBUTION	WATER SERVICE TOTAL	
<b>SERVICE ANALYSIS - WATER</b>						
<b>A DIRECT COSTS</b>						
1	Employment costs	£m	3	5.711	15.100	20.811
2	Power	£m	3	6.939	2.245	9.184
3	Agencies	£m	3	0.000	0.000	0.000
4	Hired and contracted services	£m	3	3.311	4.689	8.000
5	Associated companies	£m	3	0.000	0.000	0.000
6	Materials and consumables	£m	3	4.659	2.332	6.992
7	Service charges	£m	3	0.000	0.000	0.000
8	Bulk supply imports	£m	3	0.000	0.000	0.000
9	Other direct costs	£m	3	0.715	0.167	0.882
10	Total direct costs	£m	3	21.335	24.533	45.868
11	General and support expenditure	£m	3	7.672	23.481	31.153
12	Functional expenditure	£m	3	29.008	48.014	77.021
<b>B OPERATING EXPENDITURE</b>						
13	Customer services	£m	3			8.832
14	Scientific services	£m	3			1.637
15	Other business activities	£m	3			1.206
16	Total business activities	£m	3			11.675
17	Rates	£m	3			5.949
18	Doubtful debts	£m	3			-0.544
19	Exceptional items	£m	3			0.000
20	Total opex less third party services	£m	3			94.101
21	Third party services - opex	£m	3			1.252
21a	Total PPP Unitary Charges	£m	3			0.000
22	Total operating expenditure	£m	3			95.353
<b>C REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)</b>						
23	Reactive and planned maintenance infrastructure	£m	3	0.000	11.434	11.434
24	Reactive and planned maintenance non-infrastructure	£m	3	0.000	5.321	5.321
<b>D CAPITAL MAINTENANCE</b>						
25	Infrastructure renewals charge (excluding third party services)	£m	3	0.000	0.000	27.277
26	Current cost depreciation (allocated)	£m	3	13.828	15.477	29.305
27	Amortisation of deferred credits	£m	3	0.000	0.000	-0.241
28	Amortisation of intangible assets	£m	3			0.000
29	Business activities current cost depreciation (non-allocated)	£m	3			0.000
30	Capital maintenance excluding third party services	£m	3			56.341
31	Third party services - current cost depreciation	£m	3			0.000
32	Third party services - infrastructure renewals charge	£m	3			0.000
33	Total capital maintenance	£m	3			56.341
34	Total operating costs	£m	3			151.694

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 22 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)  
ACTIVITY COSTING ANALYSIS - SEWERAGE SERVICE (incl. PPP)

DESCRIPTION	UNITS	DP	1	2	3	4
			SEWERAGE	SEWAGE TREATMENT	SLUDGE TREATMENT & DISPOSAL	SEWERAGE SERVICE TOTAL
<b>SERVICE ANALYSIS - SEWERAGE</b>						
<b>A DIRECT COSTS</b>						
1 Employment costs	£m	3	5.157	5.876	1.277	12.309
2 Power	£m	3	4.540	6.506	1.621	12.667
3 Agencies	£m	3	0.000	0.000	0.000	0.000
4 Hired and contracted services	£m	3	8.399	3.003	6.657	18.059
5 Associated companies	£m	3	0.000	0.000	0.000	0.000
6 Materials and consumables	£m	3	0.709	1.313	0.845	2.868
7 Service charges	£m	3	0.000	0.000	0.000	0.000
8 Other direct costs	£m	3	0.290	0.434	0.181	0.904
9 Total direct costs	£m	3	19.095	17.132	10.581	46.807
10 General and support expenditure	£m	3	11.156	8.417	1.840	21.413
11 Functional expenditure	£m	3	30.251	25.549	12.421	68.221
<b>B OPERATING EXPENDITURE</b>						
12 Customer services	£m	3				8.747
13 Scientific services	£m	3				1.622
14 Other business activities	£m	3				1.194
15 Total business activities	£m	3				11.564
16 Rates	£m	3				5.739
17 Doubtful debts	£m	3				0.000
18 Exceptional items	£m	3				0.000
19 Total opex less third party services	£m	3				85.523
20 Third party services - opex	£m	3				0.000
20a Total PPP Unitary Charges	£m	3				2.872
21 Total operating expenditure	£m	3				88.395
<b>C REACTIVE AND PLANNED MAINTENANCE (INCLUDING OPEX)</b>						
22 Reactive and planned maintenance infrastructure	£m	3	7.659	0.000	0.000	7.659
23 Reactive and planned maintenance non-infrastructure	£m	3	11.432	0.000	0.000	11.432
<b>D CAPITAL MAINTENANCE</b>						
24 Infrastructure renewals charge (excluding third party services)	£m	3	0.000		0.000	8.391
25 Current cost depreciation (allocated)	£m	3	30.308		1.736	32.044
26 Amortisation of deferred credits	£m	3	0.000	0.000	0.000	-2.274
27 Amortisation of intangible assets	£m	3				0.000
28 Business activities current cost depreciation (non-allocated)	£m	3				0.000
29 Capital maintenance excluding third party services	£m	3				38.161
30 Third party services - current cost depreciation	£m	3				0.000
31 Third party services - infrastructure renewals charge	£m	3				0.000
32 Total capital maintenance	£m	3				38.161
33 Total operating costs	£m	3				126.556

## Table 21 & 22 Activity Costing Analysis – Water & Sewerage Service

Tables 21 & 22 in 2006/07 were only completed at a total level making any comparison with 2007/08 meaningless although some explanation on movement is included in the commentary below.

### Allocation of costs between expenditure types:

Expenditure is classified as capital expenditure' if it satisfies the following criteria:

- it exceeds the threshold limit set at £3,000.(Note, land has a capital threshold of zero.) and
- it was used for one of the following purposes:
  - initial construction or purchase of a fixed asset (e.g. land, buildings, vehicles, plant, computers);
  - extension of a fixed asset which increases its size or operating capacity;
  - improvement of a fixed asset beyond the assets original condition on construction or acquisition;
  - to substantially extend the original life of a fixed asset.
  - to renew or replace an existing fixed asset;
  - contributions paid to another body towards the cost of work that would be fixed asset expenditure were it undertaken by NI Water, provided that the resultant ownership of the assets is vested in NI Water.

Some items, individually, may be valued at less than £3,000 but because they form part of an operational configuration they should be capitalised; for example workstations which comprise a monitor, keyboard, central processor, mouse and printer should be capitalised.

Cost includes own work capitalised comprising the direct costs of materials, labour and applicable overheads. Interest costs relating to the acquisition of fixed assets have not been capitalised.

Fixed assets comprise:

#### (i) Infrastructure assets

Infrastructure assets comprise a network of systems consisting of mains and sewers, impounding and pumped raw water storage reservoirs, sludge pipelines and sea outfalls. The infrastructure renewals charge for infrastructure assets is included in tables 21 and 22 and is the estimated level of annual expenditure required to maintain the operating capability of the network, which is based on the Company's Asset Management Plan.

#### (ii) Other assets

Other assets comprise a) land and non operational buildings, b) operational assets (comprising sites used for water and wastewater treatment, pumping or storage where not classified as infrastructure) and c) vehicles, mobile plant and equipment.

### Allocation of costs between service areas

All costs entered to NI Waters Oracle general ledger (GL) have a 4-segment coding combination (account, cost centre, service activity and project). For the purpose of Tables 21 & 22 opex costs from the general ledger have been allocated between water and sewerage services and between service areas

within the water and sewerage activities by mapping NI Water’s Oracle general ledger to the tables using the coding structure.

The Services activities segment are mapped to the NIAUR service areas– **appendix 1** provides details of this mapping.

Expense Groups are mapped to the NIAUR cost categories – **appendix 2** provides details of this mapping.

The only exception to this is indirect General & Support expenditure, which can relate to more than one service area or activity. These costs are collated into 4 separate ‘overhead pots’ and are apportioned either on the basis of the directly coded spend or on the basis of the direct labour charge. The table below shows the basis of apportionment of ‘indirect’ general and support expenditure between service activities.

Allocation of General and Support

Description	Amount £	Water		Sewerage			Comments
		R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp	
<b>BASIS - Costed wage charge by Function</b>	£ 13,748,908	16.1%	44.5%	15.4%	19.7%	4.3%	Overhead allocation driver
G&S Overhead Pot 1 - General	35,712,300	16.1%	44.5%	15.4%	19.7%	4.3%	Non ops general spend. Excludes CS, SS & Regulation
G&S Overhead Pot 2 - Water only	6,502,945	26.6%	73.4%	0.0%	0.0%	0.0%	Water related activities only
G&S Overhead Pot 3 - Sewerage only	2,752,165	0.0%	0.0%	39.0%	50.0%	10.9%	Sewerage activities only
G&S Overhead Pot 4- networks water & sewerage	6,209,086	0.0%	26.0%	74.0%	0.0%	0.0%	Water and sewerage network spend only. Split based on analysis on costs

### Allocation of costs to business activities and rates

All costs which relate to business activities e.g. customer services, scientific services and other, were collated using the relevant cost centre segment from the Oracle General Ledger. The total expenditure attributable to this activities are apportioned to water and sewerage on the basis of the directly coded spend. The table below shows the basis of apportionment.

Apportionment of business activities

Description	Total £	Water		Sewerage		
		R&T	Distribution	Sewerage	Sewage Treatment	Sludge Treatment & Disp
<b>BASIS - Total direct spend</b>	94,066,526	22.9%	27.4%	20.3%	18.2%	11.2%
<b>Apportionment</b>						
Water / Sewerage split	100%	50.2%		49.8%		

### Allocation of costs to unappointed activities

A final allocation of costs has been made to unappointed activities based on an assumption that these activities are either charged on a full cost recovery basis (and thus costs broadly mirror income generated e.g. ) or the income does not give rise to any operational costs ( e.g. rents received, aerial mast income, fishing rights).

### Atypical costs and provisions:

Atypical costs included within reported totals on Tables 21 and 22 are provided in the table below.

Description	Amount	Table 21/22 location
Increase in River Strule provision	£2.3m	General & support – water activities
Increase in Carmoney provision.	£0.25m	General & support – water activities
Increase in Ballinacor provision	£0.8m	General & support – water activities
Increase in flooding provision.	£0.17m	General and support – all activities
<b>Total</b>	<b>£3.52m</b>	

#### *Increase in River Strule provision*

This relates to a claim by the Loughs Agency in respect of fish re-stocking costs relating to five pollution incidents between 5 July 1999 to 3/4 of August 2004 at Hunters Crescent WWTW Omagh. The initial claim was for £667k and this was provided for in Water Service Accounts to 31 March 2007. Further claims were made up increasing the total to £17m for regenerating the River Strule as a salmon river. CCU has reviewed the claims and at 31 March 2008 stated that in its view the amount of £3m should be provided. The provision was therefore increased by £2,333k in the year to 31 March 2008.

#### *Increase in Carmoney provision.*

This relates to a claim arising from serious injuries sustained by a contractor who was blown from the roof following an explosion at Carmoney WWTW on 2 June 2005. The claim has been dealt with DRD's Compensation and Claim's Unit (CCU) which provides NIW with a monthly schedule of the outstanding claims. In 2006-07 Water Service on the basis of information provided by CCU had provided for £500k. In April 2008 CCU raised the estimate to £1m. NIW has provided for an additional £250k in its accounts to 31 March 2008 (thereby increasing the provision to £750k). The view was taken (on the basis of previous estimates and settlements) that the full £1m should not be provided for.

#### *Increase in Ballinacor provision.*

Water Service used sewage sludge lagoons at Ballinacor to deposit sludge. An Environmental Risk and Liability Assessment was carried out as part of the Due Diligence exercise in the run up to the formation of NIW. This identified that work was required at the Ballinacor site. Upon further investigation it was found that extensive work was required to be carried out to the site to desludge and clean up the lagoons. An estimated cost of £6.7m was provided for in Water Service 2006-07 accounts. Glen Water has now been awarded the contract to remove the sludge at a capped cost of £7,503,000. Therefore an additional provision of £800k has been provided in NIW's 2007-08 accounts.

#### *Increase in flooding provision.*

On 12 June 2007 there was a flooding incident in East Belfast involving a number of residential properties. An amount of £170k has been provided for legal costs in defending potential claims.

## Reorganisation costs:

Reorganisation costs included within reported totals on Tables 21 and 22 are provided in the table below.

Description	Amount	Table 21/22 location
Business Improvement programme	£8.1m	General & support – all activities
Voluntary Early Retirement Scheme (VER)	£4.56m	General & support – all activities
<b>Total</b>	<b>£12.66m</b>	

### *Business Improvement Programme*

The Business Improvement Programme (“BIP”) consists of a series of major projects running up to 2010 which aims to help NI Water exceed the performance levels of similar companies in England and Wales. More information on the BIP is contained within pages 41 to 42 of the Annual Report.

### *Voluntary Early Retirement*

The company’s desire to be more effective in what we do to deliver an efficient and improved service for our customers resulted in the release of a Voluntary Early Retirement scheme to support the achievement of staff reductions. Detail on this staff reduction programme is contained on page 30 of the Annual Report.

The cost of £4.56m shown above can be broken down as follows:

<i>Pension related VER past service costs</i>	<i>£3.80m</i>
<i>Non pension lump sums</i>	<i>£0.76m</i>
<i>Total</i>	<i>£4.56m</i>

Of the above £0.375m was paid during 2007-2008 with the balance accrued at year end.

## Cost performance;

### Changes in costs:

The overall approach and allocation process for tables 21 and 22 has been significantly refined and improved since the 2007 return. In 2008 it has been possible to increase the amount of cost allocation reducing the amounts that were included in “Other direct costs”. However as a result it is very difficult to compare the tables for the two years, and due to the changes in the allocation process, movements will be significant.

The only level of detail that can be provided in costs movements is at a total organisational level i.e. combining the total costs for tables 21 and 22. On this basis the total costs have increased by circa £21M to circa £184M in 2008. The main factors resulting in this increase are detailed below.

- The main individual driver is an increase in staff costs of circa £11M. This includes costs in relation to a VER scheme of £4.5M, additional pension costs of £4.5M, and £2M for performance pay and changes to terms and conditions. There were also inflationary increases and efficiencies included within the overall increase.
- Contractors had increased by circa £4M. The main drivers were additional Opex meter maintenance costs of circa £1M, Ballinacor liability provision of circa £1M, and new property unit costs of circa £1M. The new property unit costs are a result of the GoCo but were previously treated as notional charges. There was also a significant uplift in costs due to inflationary pressures.
- Outsourcing costs had increased by circa £9M. This is the result of 2007 being the first year to have a full year's costs of Crystal Alliance.
- Regulatory costs increased by circa £2M. This is due to costs incurred as a direct result of the change in status of NIW to a GoCo.
- Insurance costs, including Public Liability and Employer's Liability, fell by circa £3M. New GoCo costs of £1.5M were offset by a reduction in provisions of circa £4M. The Ballinacor provision of circa £6M was held within Insurance in 2007, but was significantly reduced and transferred to Contractors in 2008. A provision of circa £2M was included in 2008 in for the River Stroule.
- PPP costs have increased by circa £1M as a result of North Down WWTW incurring costs from January 2008.
- Accommodation costs have increased by circa £1.5M due to the change in status to GoCo. Accommodation costs were previously included in notional costs.
- Notional costs have reduced by circa £5M, as they are now split out across different lines as a result of the transfer to GoCo.
- The 2007/08 pension costs of over £11M is significantly higher than the 2006/07 costs. The uplift of circa £4.5M relates to the increase in pension contributions to almost 30%. The Trustees have still to confirm the projected 2008/09 position, but it is not expected that this would be significantly lower than the 2007/08 outturn.

**Leakage costs:**

Operating costs relating to leakage amounted to circa £4M in 2007/08. Although the operating costs are lower than the 2006/07 spend, the capital expenditure had increased to circa £6.5M.

Leakage has been reducing over the past few years with the objective of reaching the Economic Level of Leakage by March 2010. In order to achieve these reductions, with active leakage control programme, external specialist support has been utilised as well as infrastructure investment through the use of capital expenditure. This has been in addition to the use of internal resources (primarily staff costs) which are treated as operating expenditure. Until the Economic Level of Leakage is reached all external resources and infrastructure investment are being capitalised.

**PPP Costs:**

**Kinnegar**

A contract with Coastal Clearwater Ltd was signed on 30 April 1999 for the provision of sewerage treatment which covered the upgrading of the Kinnegar Waste Treatment Works with a capital cost in the region of £11m. The contract is for 25 years with an end date of 30 April 2024.

The PFI property involved is not an asset of NIW but the assets will revert to NIW at the end of the contract. In 2007-08 the charge to the Operating Costs Statement in respect of Kinnegar was £1,692,660. The unitary payment was £1,913,256 with £220,596 capitalised in relation to the residual interest asset.

### **Omega**

A contract with Glen Water Ltd was signed on 6 March 2007 for the provision of sewerage treatment and sludge disposal at five sites with a capital cost in the region of £122m. The contract is for 25 years with an end date of 5 March 2032.

The PFI property involved is not an asset of NIW but since the assets will revert to NIW at the end of the contract part of the unitary charge has been capitalised as a residual interest asset. In 2007-08 £1,179,000 was accrued in respect of Omega. The unitary payment accrued was £1,482,000 with £303,000 capitalised in relation to the residual interest asset.

In addition to the unitary charges mentioned above NIW incurred costs of £2.3m in relation to the administration of the PPP projects (Staff Costs £331k, Consultants Fees £1.9m, Other admin costs £48k).

There were no power costs incurred by NIW in 2007/08 in relation to the PPP operations. For Kinnegar power costs are built into the unitary charge by the PPP operator. For Alpha and Omega a power pass through arrangement is in place where NIW will pay for the power utilised at the various sites. This will commence in 2008/09.

### **Reactive and planned maintenance**

The overall approach and allocation process for tables 21 and 22 has been significantly refined and improved since the 2007 return. As a result it is now possible to populate Section C of the returns. Reactive & Planned maintenance Infrastructure and Non Infrastructure has been split based on activity costs for the company. Infrastructure relates to be that below the ground (e.g. underground water pipes) and Non Infrastructure that above the ground (e.g. pumping stations). Activities have been assigned where it is evident from the guidance that they are linked directly to the definitions. However there still remain some limitations to the coding which means that some expenditure, for example building and ground maintenance, cannot be split separately.

### **Pensions**

Total pension costs of £14,488k were charged to the profit and loss account. This is made up of current service costs of £10,688k and past service costs of £3,800k. These costs have been included in employment costs in Tables 21 and 22 on the basis outlined in the cost allocation section above.

The employer pension contributions for the year were £11,240k.

These costs have been included in employment costs in Tables 21 and 22. Pension costs for those employees who can be directly attributed to service or business activities will be mapped directly to these areas via the wages and salaries codes as outlined in the cost allocation methodology. Pension costs that relate to either employees not engaged directly on service/business activities or that relate to past service costs (i.e. provision) will be apportioned to activities in line with the treatment of general and support expenditure as detailed in the cost methodology.

The employer pension contributions for the year were £11,240k. The actual percentage contribution level of approx. 29.3% of pensionable pay for 2007-2008 within the profit and loss account is the same level used in the Integrated Financial Model that supported the final agreed SBP.

Pension's costs and finance charges associated with employees involved with unappointed activities have not been specifically excluded from pension figures within the profit and loss account. However as noted in the costing section above an estimate of the costs of unappointed activities has been adjusted for during the costs allocation process and it has been assumed that an element of this allocation would cover pension costs.

Further disclosures on pensions are contained at note 26 to the statutory accounts which are based on the company's actuarial report at 31 March 2008.

### **Third party costs**

Third party costs relate primarily to services recharged to third parties. These costs include labour, materials, vehicles and overheads to reflect a best estimate of the full cost to the company of supplying these services. These services include unplanned work (e.g. repairs to rectify damage by third parties to company assets) and planned work (requests for the company to carry out small works). The associated income is reported in Table 23 as third party income.

### **Infrastructure Renewals Charge ( IRC)**

The IRC calculation for 07/08 is based on a look back over 5 years to 02/03 and a look forward to 11/12.

The look back relies upon data captured in 01/02 as actual expenditure. This information is captured from a 'June Return' completed by Water Service. A return was completed for 01/02 which was subject to audit but not a full reporter review. A QBEG allocation was completed for the largest projects in the capital programme which constituted 80% of the total value of the programmes. It is recognised that this approach is not as robust as would be liked, and likely to deliver a lower value of IRE as Maintenance (IRE) projects are largely completed within smaller capital projects. However, given the lack of historical information on IRE no better solution can be provided to provide a reasonable calculation of IRC.

The look forward to 11/12 was calculated directly from the SBP base spreadsheets. The 3 base spreadsheets contributing to the E & P Capital programme were examined and where base expenditure was allocated via QBEG this was defined as either IRE or MNI at a project level. The IRE, MNI figures were carried forward to a separate spreadsheet where the analysis was completed. A review was completed of Drainage Area Plans (DAP's) following the initial assessment to correct for Sewerage Pumping stations as they are designated as non infrastructure (MNI). Initially DAP's were noted as infrastructure so the correction removed anticipated costs for Sewerage Pumping stations from IRE to MNI. Separate analysis was completed of all remaining Capital and is summarised as follows:

- a. Wastewater Treatment – assumed as 100% MNI as these are above ground assets.
- b. Water Supply – assumed as 100% MNI as these are above ground assets.

- c. Networks – an analysis was completed of expenditure in the first 6 months of 06/07 and a QBEG allocation was completed on each project. The IRE output from this is 38% of networks expenditure (14% water and 24% sewerage) and 18% MNI. The balance of 44% is allocated to Capital Enhancement.
- d. Leakage – assumed as 100% IRE.
- e. The remaining areas of Capital investment have been allocated 100% to MNI based on a split of 41% water and 59% sewerage. This split was derived from the SBP allocation within the Base Spreadsheets for the SBP. Typical examples include investment in Asset Management and Head office areas which are clearly not infrastructure.

The final output from the above is an average over the first 5 years. This is actual predictions of investment based on historical unit costs as applied in the SBP re-costing exercise and verified by the interim reporter. NB the Base spreadsheets used for the SBP had the 06/07 programme included. Whilst not part of the final SBP the 06/07 data was used for the IRC calculation process.

The blank years between 02/03 and 06/07 were populated using extrapolation from the 01/02 analysis. The extrapolation provided for an increasing IRE in Water and a decreasing IRE in Sewerage. Since no historical data was available no alternative mechanism was available. As a consequence the IRC calculation has a degree of uncertainty attached to it but by completing comparisons with England and Wales IRE programmes it was deemed to be reasonable. Table 1 below shows the summary output as agreed with interim reporter. This demonstrates that the IRE figure for NIW is at the higher end of the England and Wales numbers when compared on a like for like basis. It should be noted that Backlog Base was not included in the NIW determination of IRC. In summary the IRC was last calculated as part of the SBP process in 2007.

Table 1: Comparison with E & W IRE figures.

Service Area	England & Wales Benchmarks AMP4 (Post-efficiency) (£m)			Base Expenditure	NIW (Post-efficiency) (£m)			
	Min	Ave	Max		3yr Ave	5yr Ave	9yr Ave	
Water IRE	8.8	14	17.6	Water IRE	25.0	22.6	26.3	adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data
				Backlog Base	4.0	5.9	6.7	
				Water IRE + BB	29.0	28.5	33.0	
Wastewater IRE	4.8	6.7	10.7	Wastewater IRE	9.2	9.1	10.8	adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data
				Backlog Base	4.8	6.6	5.3	
				Wastewater IRE + BB	14.0	15.7	16.1	

The difference between the IRE and IRC is treated as an accrual or prepayment.

Based on the information available management has not finalised its view of IRC due to the uncertainty around the base data, to ensure it reflects the medium to long term view of the maintenance needs of its infrastructure assets. IRC is towards the maximum when compared to E & W but this is necessary to counteract the historical under investment.

The Infrastructure Renewals expenditure in 07/08 gave rise to an infrastructure renewals accrual. It is not anticipated that this will be reversed in the SBP period as the Capital programme is mainly driven by the Enhancement programme to meet Quality obligations and Development/Supply Demand Balance requirements. As a result the Base investment is lower than the IRC. The longer term future view within the SBP indicates that the IRC will rise in future years. As this is the first year of full IRE reporting the confidence grades have been allocated to take account of developing systems and an element of uncertainty.

There is no difference between the IRC in the Statutory accounts and the IRC in the regulatory accounts.

## Appendix 1 – Expense group mapping.

Expense Group	Description	Table 21 & 22 mapping
511X	Industrial Wages	1 Employment
513X	Other Wage Costs	1 Employment
514X	Other Costs of Employment	1 Employment
515X	Salaries	1 Employment
516X	Non-Industrial Expenses	1 Employment
517X	Temporary Support Staff	1 Employment
611X	Costed Wages Charge	1 Employment
612X	Wages Overheads	1 Employment
613X	Costed Wages Recovery	1 Employment
614X	Costed Wages Overhead Recovery	1 Employment
521X	Power	2 Power
531X	Operational Contractors	4 Hired and Contracted
532X	Other Contractors	4 Hired and Contracted
534X	Out sourcing	4 Hired and Contracted
538X	Consultants Fees	4 Hired and Contracted
541X	Materials and Equipment	6 Materials & consumables
544X	Non Operations Materials	6 Materials & consumables
547X	Stock Adjustments	6 Materials & consumables
548X	Chemicals	6 Materials & consumables
536X	Office and Computer Services	9 other direct costs
537X	Legal and other professional fees	9 other direct costs
551X	Accommodation	9 other direct costs
553X	Insurance - Premiums	9 other direct costs
553Y	Insurance - Claims	9 other direct costs
554X	Public Liability	9 other direct costs
555X	Employer's Liability	9 other direct costs
616X	Vehicle and Plant Charges	9 other direct costs
695X	Management Task	9 other direct costs
759X	Overheads Capitalised	9 other direct costs
518X	Staff Training & Hospitality	11 General & support
533X	V&P repairs	11 General & support
539X	Audit	11 General & support
546X	Mobile V&P Charges	11 General & support
552X	Communication	11 General & support
556X	Other Grants and Subscriptions	11 General & support
557X	Advertising and Publicity	11 General & support
641X	Intra Departmental Notionals	11 General & support
651X	Inter Departmental Notionals	11 General & support
775X	Discount Allowed	13 Customer services
556Y	Regulatory Costs	15 Other Business Activities
558X	Rates	17 Rates
772X	Bad Debts	18 Doubtful debts
534Y	PPP	20/21a PPP unitary charge

## Appendix 2 – Service activity mapping

NIW Service Activity	Service Activity description	Table 21/22 mapping
310	Pumping (Inc Highlift at WTW)	<b>Water Distribution</b>
311	Service Resv Wat Tower Tanks	
312	Service Resv cleaning	
313	Distribution and Water Operations	
320	Repair and Maintenance (Mains Repair)	
321	Repair and Maintenance (Service Repair)	
322	Repair and Maintenance (Hydrant & Valve Repairs)	
324	Repair and Maintenance (Mains Cleansing)	
326	Repair and Maintenance (Lead Replacement)	
331	Repair and Maintenance of 'Street Furniture' (Water)	
340	Leakage - Monitoring	
341	Leakage - Detection	
351	Consumer Meter Repair & Maintenance	
360	Investigations	
362	Customer Contacts excluding meter query	
363	Regulatory Plumbing Inspection	
380	'In House' Investigations and Attendance	
385	Health & Safety - Networks	
391	Networks Function Activity -Query	
399	Networks Stores	
910	Rechargeable Work	
920	Connection (Water)	
110	Impounding Reservoir	<b>Water Resource &amp; Treatment</b>
111	Loughs	
112	River Intakes	
113	Boreholes, Springs & Wells	
120	Repairs & Maint A/duct/Main	
140	Recreation & Amenity	
150	Water Treatment	
151	Water Sludge Treatment	
152	Water Sludge Disposal	
185	Health & Safety - Supply	
190	Supply Function Activity	
191	Supply Function Activity - Query	
410	Repair & Maintenance of Sewers	<b>Sewerage - Sewerage</b>
411	Blockage	
412	Desilting	
413	Inspection of Sewers	
414	Repair and Maintenance of 'Street Furniture' (Sewerage)	
430	Pumping (Foul & Combined)	
431	Pumping (Surface Water)	
460	'In House' Investigations and Attendance	
462	Rodent Control	
940	Rechargeable (Sewerage)	
950	Connection (Sewerage)	
510	Sewage Treatment	<b>Sewerage - Sewage Treatment</b>
591	Waste Water Function Activity - Query	
620	Sludge Treatment - Tankering Between Works	<b>Sewerage - Sludge Treatment</b>
621	Sludge Treatment	
630	Sludge Disposal to Agricultural Land Transportation	
631	Sludge Disposal to Agricultural Land Spreading/Injection	
632	Sludge Cake Transportation to Landfill	
633	Sludge Cake Disposal to Landfill	
635	Sludge Logger Maintenance (Contract)	
636	Incinerator Sludge Treatment	
637	Sludge Disposal Tankering from Strategic Collection Centres to Dewatering Centres	
638	Sludge Cake Disposal to Incinerator	
639	Incinerator Ash Disposal to Landfill	
640	Private Septic Tank Desludging	<b>Customer Services</b>
710	General	
711	Customer Services (Meter Read & Customer Queries)	
712	Disconnection / Reconnection	
714	Consumer Meters Repair And Maintenance	
790	Customer Services Function Activity	
730	Water Analysis	<b>Scientific Services</b>
731	Sewerage General	
732	Labs Water & Sewerage General	
733	Sampling	
734	Labs Sewage Sampling	
735	Trade Effluent	
003	Rates DRC - Water	<b>Rates</b>
013	Rates DRC - Sewerage	
000	Default	<b>Overhead pot 1 - General</b>
021	GAE	
023	Invest to Save Revenue	
810	Vehicle & Plant Maintenance	
811	Vehicle & Plant Accident Repair	
812	Garage Overheads	
813	Roads Service	
820	Telemetry	
890	TMG Function Activity	
050	Ops & Maint General (Water)	<b>Overhead pot 2 - Water</b>
822	Radio & Monitoring Water Supply	
055	Ops & Maint General (Sewerage)	<b>Overhead pot 2 - Sewerage</b>
590	Waste Water Function Activity	
821	Radio & Monitoring Wastewater	
585	Health & Safety - WW	
390	Networks Function Activity	<b>Overhead pot 3 - Networks water &amp; sewerage</b>

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 23 REGULATORY ACCOUNTS  
ANALYSIS OF TURNOVER AND OPERATING INCOME

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	
			2006-07			2007-08			
			WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	WATER SERVICES	SEWERAGE SERVICES	APPOINTED BUSINESS	
<b>A TURNOVER</b>									
1	Unmeasured - household	£m	3	N/C	N/C	N/C	104.560	99.245	203.805
2	Unmeasured - non- household	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
3	Unmeasured	£m	3	N/C	N/C	N/C	104.560	99.245	203.805
4	Measured - household	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
5	Measured - non- household	£m	3	N/C	N/C	N/C	40.623	37.164	77.787
6	Measured	£m	3	N/C	N/C	N/C	40.623	37.164	77.787
7	Trade effluent	£m	3	N/C	N/C	N/C	0.000	5.471	5.471
8	Large user and special agreement	£m	3	N/C	N/C	N/C	5.863	0.000	5.863
9	Revenue grants	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
10	Non potable water large user and special agreements	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
11	Rechargeable works	£m	3	N/C	N/C	N/C	0.307	0.000	0.307
12	Bulk supplies/inter company payments	£m	3	N/C	N/C	N/C	0.000		0.000
13	Other appointed business (third party)	£m	3	N/C	N/C	N/C	0.557	0.267	0.824
14	Third party services (excluding non-potable water)	£m	3	N/C	N/C	N/C	0.864	0.267	1.131
15	Other sources (excluding large users, third parties and special agreemen	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
16	Total turnover	£m	3	N/C	N/C	N/C	151.910	142.147	294.057
									0.000
									0.000
<b>B OPERATING INCOME</b>									
17	Current cost profit or loss on sale of fixed assets	£m	3	N/C	N/C	N/C	0.021	-0.077	-0.056
18	Exceptional items	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
19	Other operating income	£m	3	N/C	N/C	N/C	0.000	0.000	0.000
20	Total operating income	£m	3	N/C	N/C	N/C	0.021	-0.077	-0.056
<b>C WORKING CAPITAL ADJUSTMENT</b>									
21	Working capital adjustment	£m	3	N/C	N/C	N/C	1.327	0.000	1.327

## Table 23 - Analysis of Turnover and Operating Income

The working capital adjustment is as outlined in table 27. This has not been calculated for water and sewerage separately.

During 2007-2008 **86%** of the total revenue of £294.1m was derived from revenue subsidy from DRD. The various levels of subsidy were agreed with DRD for 2007-2008 by the customer type that the subsidy was in relation to and as such Table 23 analyses e.g. £204m to unmeasured households although no domestic charging was in place these subsidy monies related directly to this customer class. The following table summarises the subsidy position:

	<b>Direct from customer</b>	<b>Subsidy</b>	<b>Total in Table</b>
	<b>£m</b>	<b>£m</b>	<b>£m</b>
Unmeasured household	0	203.8	203.8
Unmeasured non- household	0	0	0
Measured household	0	0	0
Measured non-household	35.5	48.2	83.7
Trade Effluent	5.5	0	5.5
Other	1.1	0	1.1
<b>Total</b>	<b>42.1</b>	<b>252.0</b>	<b>294.1</b>

### Monitoring of customer income

Subsidy income forms the most significant element of revenue and this is agreed at the start of the year with DRD and invoiced on a monthly basis.

Measured non-household and trade effluent revenue is monitored against the budgetary position on a monthly basis and variances investigated. This monitoring is undertaken jointly by Management Accounts Customer Services Business Partner and the Customer Services Directorate. The outsourced billing partner will also assist in this monthly monitoring process to determine the reasons for material variations in billed income against budget.

Although this is the first year of operations of the company budgeted non-household and trade effluent revenue for 2007-2008 was set with reference to trends in the revenues accruing to Water Service. In 2007-2008 measured water and trade effluent income was £5.3m below budget (11.5% on a budget of £46.4m). Although the underlying consumption data indicated a downward trend for measured water usage a thorough understanding of the variances arising has been somewhat hampered by a lack of more detailed consumption data underpinning the financial information. However reports will be available in 2008-2009 to allow this volume/ price analysis to be carried out. Forecast revenues during the year were adjusted where required in light of investigation of variances found.

The accrual calculations for measured water and trade effluent in 2007-2008 are based on reports from the billing system and are on the same basis as that adopted by Water Service.

The following table shows a comparison of 2006-2007 and 2007-2008 in terms of revenue and accrued income for measured water and trade effluent:

	<b>2007-2008</b>	<b>2006-2007</b>
<b>ME/TE Income</b>	£40.9m	£37.8m
<b>Yr end accrued income</b>	£7.8m	£9.9m
<b>Accrual as % of turnover</b>	19%	26%

There was insufficient information available in 2007-2008 to determine the reasons for the variation in the relative value of accrued income to turnover from 2006-2007. However for the forthcoming year the calculation and reporting of accrued income has been refined and this will allow a better understanding of the information being provided.

The company was not able to do a comparison of the accrued income at year end 31 March 2006 with the associated amounts invoiced in 2007-2008. As the information on accrued income is being refined this reconciliation will be carried out for 2008-2009.

For the 2007-2008 year the company is not able to complete a reconciliation of billed amounts and turnover. The company is working with the service provider to more fully understand the system adjustments to allow this reconciliation to take place. However the company is confident from the debtors reconciliation work carried out at year end that turnover for the year represents invoiced amounts together with an estimate of the accrued income at year end.

Other income is monitored on a monthly basis by Management Accounts and Financial Accounts together with variance analysis against budget and input into forecasts going forward.

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 24 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING) BALANCE SHEET AS AT 31 MARCH 2008**

DESCRIPTION			UNITS		DP		1	2
							2006-07	2007-08
<b>A FIXED ASSETS</b>								
1	Tangible assets	£m	3	N/C			6,689.435	
2	Third party contributions	£m	3	N/C			-91.814	
<b>B OTHER OPERATING ASSETS AND LIABILITIES</b>								
3	Working capital	£m	3	N/C			-77.318	
4	Cash	£m	3	N/C			2.844	
5	Short term deposits	£m	3	N/C			54.000	
6	Overdrafts	£m	3	N/C			0.000	
7	Infrastructure renewals prepayment/(accrual)	£m	3	N/C			-9.695	
8	Net operating assets	£m	3	N/C			-30.169	
<b>C NON-OPERATING ASSETS AND LIABILITIES</b>								
9	Borrowings	£m	3	N/C			0.000	
10	Non-trade debtors	£m	3	N/C			1.490	
11	Non-trade creditors due within one year	£m	3	N/C			-1.610	
12	Investment - loan to group company	£m	3	N/C			0.000	
13	Investment - other	£m	3	N/C			0.106	
14	Corporation tax payable	£m	3	N/C			0.000	
15	Ordinary share dividends payable	£m	3	N/C			-33.538	
16	Preference share dividends payable	£m	3	N/C			0.000	
<b>D CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR</b>								
17	Borrowings	£m	3	N/C			-307.560	
18	Other creditors	£m	3	N/C			-3.422	
<b>E PROVISION FOR LIABILITIES AND CHARGES</b>								
19	Deferred tax provision	£m	3	N/C			-16.566	
20	Post employment asset / (liabilities)	£m	3	N/C			5.619	
21	Other provisions	£m	3	N/C			-15.131	
<b>F PREFERENCE SHARE CAPITAL</b>								
22	Preference share capital	£m	3	N/C			0.000	
23	Net assets employed	£m	3	N/C			6,196.840	
<b>G CAPITAL AND RESERVES</b>								
24	Called up share capital	£m	3	N/C			500.000	
25	Share premium	£m	3	N/C			0.000	
26	Profit and loss account	£m	3	N/C			-17.632	
27	Current cost reserve at 31 March	£m	3	N/C			5,542.782	
28	Other reserves	£m	3	N/C			171.690	
29	Total capital and reserves	£m	3	N/C			6,196.840	

## Table 24 – Current Cost Accounting Balance Sheet

The movement in P&L account is the retained profit for the year.

No minority interests exist.

Within the fixed assets at 31 March 2008 the following items are included that relate to the residual interest assets created in PPP ‘off-balance sheet’ transactions:

Kinnegar	£1.577m
Omega	£0.303m
<b>Total</b>	<b>£1.880m</b>

*This is the same as HC fixed assets for PPP residual assets with the addition of £0.049m to Kinnegar to index the opening balance at 1 April 2007 for this asset.*

This is the first year of operations of the company and therefore comparators with 2006-2007 are not available.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 25 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)  
ANALYSIS OF FIXED ASSETS BY ASSET TYPE (incl. PPP)

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	7	8	9	
			WATER SERVICE				SEWERAGE SERVICE				TOTAL	
			INFRASTRUCTURE ASSETS	OPERATIONAL ASSETS	OTHER TANGIBLE ASSETS	SUBTOTAL	INFRASTRUCTURE ASSETS	OPERATIONAL ASSETS	OTHER TANGIBLE ASSETS	SUBTOTAL		
<b>A GROSS REPLACEMENT COST</b>												
1	Gross replacement cost at 1 April	£m	3	2475.027	649.954	17.59	3142.571	2286.163	823.236	28.308	3137.707	6280.278
2	AMP adjustment	£m	3	0	0	0	0	0	0	0	0	0
3	RPI adjustment	£m	3	91.856	20.726	0.432	113.014	84.092	22.126	0.871	107.089	220.103
4	Disposals	£m	3	0	0.008	0.306	0.314	0	0.001	0.116	0.117	0.431
5	Additions	£m	3	43.6	9.883	5.259	58.742	96.33	92.932	2.822	192.084	250.826
6	Gross replacement cost at 31 March	£m	3	2610.483	680.555	22.975	3314.013	2466.585	938.293	31.885	3436.763	6750.776
<b>B DEPRECIATION</b>												
7	Depreciation at 1 April	£m	3	0	0	0	0	0	0	0	0	0
8	AMP adjustment	£m	3	0	0	0	0	0	0	0	0	0
9	AMP adjustment - gross MEA revaluation	£m	3	0	0	0	0	0	0	0	0	0
10	AMP adjmt - amendment to remaining useful econ. lives	£m	3	0	0	0	0	0	0	0	0	0
11	RPI adjustment	£m	3	0	0	0	0	0	0	0	0	0
12	Disposals	£m	3	0	0.003	0.003	0.003	0	0.004	0.004	0.004	0.007
13	Charge for year	£m	3	26.504	2.801	29.305	29.305	29.629	2.415	32.044	61.349	61.349
14	Depreciation at 31 March	£m	3	26.504	2.798	29.302	29.302	29.629	2.411	32.040	61.342	61.342
15	Net book amount at 31 March	£m	3	2610.483	654.051	20.177	3284.711	2466.585	908.664	29.474	3404.723	6689.434
16	Net book amount at 1 April	£m	3	2475.027	649.954	17.59	3142.571	2286.163	823.236	28.308	3137.707	6280.278

## **Table 25 – Analysis of Fixed Assets by Asset Type**

### **Commentary and Methodology**

#### **Methodology**

The following asset categories have been analysed in the table as follows:

**Infrastructure assets** include infrastructure assets only.

**Non-specialised operational assets** include active market value land, buildings and civils.

**Specialised operational assets** include land, buildings, civils and fixed plant.

**Other tangible assets** include surplus land, buildings and civils, mobile plant and IT.

#### **Gross Replacement Cost at 1 April and Depreciation at 1 April**

The total opening balances for gross replacement cost and depreciation at 1 April 2007 has been agreed with the Regulator following the guidance issued on 2 July 2008 in respect of opening tangible fixed assets brought forward into NIW books. The opening balances are based on the closing balances of fixed assets in NI Water Service at 31 March 2007 pre impairment. The analysis across asset categories is based on analysis within the fixed asset register. In addition to the points stated in the Regulatory Accounting Guideline, there was also an adjustment in relation to assets decommissioned and relifed totalling £185.5m.

#### **AMP Adjustment**

There was no AMP adjustment during the year. The next AMP adjustment is planned to report in 2009/10.

#### **RPI Adjustment**

In April 2007, all assets in the Fixed Asset Register (FAR) were indexed up using year end Retail Price Index (RPI) to be consistent with OFWAT. This was adjusted for assets disposed of in April 2007 as they were not indexed.

#### **Disposals**

Disposals during the year mainly consisted of surplus land and mobile plants (lorries and vans). All disposals have depreciation in the month of disposal.

#### **Additions**

Additions during the year consisted of assets that have been brought into use during the year from assets in the course of construction (AICC) and adopted sewers. All additions during the year were depreciated the month after it was brought into the FAR.

## **PPP Assets**

During the year, there were no on-balance sheet additions to PPP assets. Therefore, there was no element in the table relating to PPP assets.

However, there is a residual interest for PFI Kinnegar asset and Omega asset totalling £1,831,000 which is included in Table 25 under specialised operational civil.

## **Depreciation Charge for Year**

Current cost depreciation charge during the year was calculated based on the opening GCRC at 1 April 2007. Additions and disposals during the year were taken into account in calculating the depreciation charge.

## **Commentary**

All assets were analysed to each of their respective asset categories and service activities to identify the water and sewerage services. The management and general service activity totalling £54,805,539.48 could not be readily identified as water and sewerage services and have used the following percentages split as per IFM: Water 41% and Sewerage 59%.

Table 25 has also been adjusted to include only the appointed business and exclude the unappointed business relating to vehicle maintenance carried out for third parties. This has been adjusted through Water Services – Other Assets.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 26 REGULATORY ACCOUNTS  
WORKING CAPITAL

DESCRIPTION				1		2	
				2006-07		2007-08	
	UNITS	DP					
1	Stocks	£m	3	2.404		2.400	
2	Trade debtors - measured household	£m	3	0.000		0.000	
3	Trade debtors - unmeasured household	£m	3	0.000		0.000	
4	Trade debtors - measured non household	£m	3	5.194		4.459	
5	Trade debtors - unmeasured non household	£m	3	0.000		0.000	
6	Other trade debtors	£m	3	2.666		2.021	
7	Measured income accrual	£m	3	9.202		6.674	
8	Prepayments and other debtors	£m	3	14.815		15.926	
9	Trade creditors	£m	3	-14.722		-26.515	
10	Deferred income - customer advance receipts	£m	3	-1.027		-1.717	
11	Short term capital creditors	£m	3	-36.407		-51.952	
12	Accruals and other creditors	£m	3	-17.344		-28.614	
13	Total working capital	£m	3	-35.219		-77.318	

## **Table 26 - Working Capital**

Other trade debtors includes:

- a. Trade Effluent debtors ( less provision for bad debt and discounts);
- b. Rechargeables debtors ( less provision for bad debts);
- c. Trade Effluent accrued income;
- d. Rechargeables accrued income.

PPP accruals at the year end for unitary charges are included in 'accruals and other creditors'. The year end accrual at 31 March 2008 for unitary charges was £2.969m (Kinnegar £1.487m, Omega £1.482m).

This is the first year of operations of the company and therefore comparators with 2006-2007 are not available.

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 27 REGULATORY ACCOUNTS  
MOVEMENT ON CURRENT COST RESERVE**

DESCRIPTION		UNITS	DP	1	2
				2006-07	2007-08
1	Current cost reserve at 1 April	£m	3	0.000	5332.978
2	AMP adjustment	£m	3	0.000	0.000
<b>A RPI ADJUSTMENTS</b>					
3	Fixed assets	£m	3	5390.652	220.187
4	Working capital adjustment	£m	3	0.000	-1.327
5	Financing adjustment	£m	3	0.000	-6.543
6	Grants and third party contributions	£m	3	-57.674	-2.513
7	Current cost reserve at 31 March	£m	3	5332.978	5542.782

## **Table 27 - Movement on Current Cost Reserve**

The working capital adjustment is based on the change in RPI during 2007-2008 applied to the opening balance for working capital ( working capital as defined in the Regulatory Accounting Guidelines). Although the company only commenced operations in 2007-2008 the opening working capital was based on the assets acquired by the company from DRD Water Service as detailed in the attached note. The following adjustments were made to the current assets and current liabilities before the calculation of working capital:

- a. The stock, debtors and creditors attributable to unappointed activities were eliminated;
- b. The balance of monies in debtors and creditors relating to the EU grant receivable and payable ( both £1.4m opening and closing balance) was eliminated;
- c. In 2007-2008 the balance due on interest received and the balances payable for dividend, interest and deferred grants & contributions (less than one year) were eliminated.

The financing adjustment was calculated based on the change in RPI during 2007-2008 applied to the opening net assets as defined in the RAGs).

There is no prior year end closing balance for the company.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 28 REGULATORY ACCOUNTS  
CASH FLOW STATEMENT FOR YEAR ENDING 31 MARCH

				1	2
DESCRIPTION				2006-07	2007-08
	UNITS	DP			
1	Net cashflow from operating activities	£m	3	N/C	142.202
<b>A RETURN ON INVESTMENTS &amp; SERVICING OF FINANCE</b>					
2	Interest received	£m	3	N/C	2.228
3	Interest paid	£m	3	N/C	-9.613
4	Interest in finance lease rentals	£m	3	N/C	0.000
5	Non-equity dividends paid	£m	3	N/C	0.000
6	Net cashflow from returns on investments & servicing of finance	£m	3	N/C	-7.385
<b>B TAXATION</b>					
7	Taxation (paid)/received	£m	3	N/C	0.000
<b>C CAPITAL EXPENDITURE AND FINANCIAL INVESTMENT</b>					
8	Gross cost of purchase of fixed assets	£m	3	N/C	-214.427
9	Receipts of grants and contributions	£m	3	N/C	3.703
10	Infrastructure renewals expenditure	£m	3	N/C	-24.431
11	Disposal of fixed assets	£m	3	N/C	0.379
12	Movements on long term loans to group companies	£m	3	N/C	0.000
13	Net cashflow from investing activities	£m	3	N/C	-234.776
<b>D ACQUISITIONS AND DISPOSALS</b>					
14	Acquisitions and disposals	£m	3	N/C	0.000
<b>E EQUITY DIVIDENDS</b>					
15	Equity dividends paid	£m	3	N/C	0.000
<b>F MANAGEMENT OF LIQUID RESOURCES</b>					
16	Net cashflow from management of liquid resources	£m	3	N/C	-54.000
17	Net cashflow before financing	£m	3	N/C	-153.959
<b>G FINANCING</b>					
18	Capital in finance lease rentals	£m	3	N/C	0.000
19	New bank loans taken out	£m	3	N/C	157.560
20	Repayment of bank loans	£m	3	N/C	0.000
21	Proceeds from share issues	£m	3	N/C	0.000
22	Net cash inflow from financing	£m	3	N/C	157.560
23	Increase/(decrease) in cash in the year	£m	3	N/C	3.601

## **Table 28 - Cashflow Statement**

The company has borrowed from DRD on the capital loan note facility £157.56m during the year. The associated interest payable is included in section A ‘ Return On Investments and Servicing of Finance’.

Cash holdings include £54m in short-term deposits shown in Section F.

‘Management of Liquid Resources’ with associated interest received shown in Section A ‘ Return On Investments and Servicing of Finance’.

There is no PPP aspect to the cashflow beyond the charge to P&L and working capital creditor included within the calculation of Net Cashflow from Operating Activities.

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 29 REGULATORY ACCOUNTS (CURRENT COST ACCOUNTING)  
RECONCILIATION OF OPERATING PROFIT TO NET CASH FLOW FROM OPERATING ACTIVITIES**

DESCRIPTION				1	2
				2006-07	2007-08
1	Current cost operating profit	£m	3	N/C	17.077
2	Working capital adjustment	£m	3	N/C	-1.327
3	Movement in working capital	£m	3	N/C	26.554
4	Receipts from other income	£m	3	N/C	0.000
5	Depreciation	£m	3	N/C	58.834
6	Current cost profit on sale of fixed assets	£m	3	N/C	0.056
7	Infrastructure renewals charge	£m	3	N/C	35.668
8	Other non-cash profit and loss items	£m	3	N/C	5.34
9	Net cash flow from operating activities	£m	3	N/C	142.202

**Table 29 - Reconciliation of Operating Profit to Net Cashflow from Operating Activities.**

No commentary required by guidance.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 32 FINANCIAL MEASURES  
ANALYSIS OF FIXED ASSET ADDITIONS AND ASSET MAINTENANCE BY ASSET TYPE (CURRENT COST ACCOUNTING)

DESCRIPTION	UNITS	DP	1			2			3			4			5			6			7
			WATER SERVICE			SEWERAGE SERVICE			TOTAL												
			INFRASTRUCTURE ASSETS	NON-INFRASTRUCTURE ASSETS	SUBTOTAL	TOTAL															
<b>A ADDITIONS - NEW ASSETS (ENHANCEMENT)</b>																					
1	Water resource facilities	£m	3	0.006	0.078	0.084													0.084		
2	Water treatment works	£m	3		3.672	3.672													3.672		
3	Water distribution mains	£m	3	31.401	0.690	32.091													32.091		
4	Service reservoirs and water towers	£m	3		0.640	0.640													0.640		
5	Pumping stations	£m	3		0.324	0.324													0.324		
6	Water management and general	£m	3	0.021	4.427	4.448													4.448		
7	Sewerage	£m	3				94.332	3.762	98.094										98.094		
8	Sea outfalls and headworks	£m	3				0.227	0.138	0.365										0.365		
9	Sewage treatment works	£m	3					44.051	44.051										44.051		
10	Sludge treatment works	£m	3					1.680	1.680										1.680		
11	Sludge disposal	£m	3				0.000	0.000	0.000										0.000		
12	In-line pumping stations	£m	3					10.610	10.610										10.610		
13	Terminal pumping stations	£m	3					6.681	6.681										6.681		
14	Sewerage management and general	£m	3				0.000	2.782	2.782										2.782		
15	Total infrastructure additions (Enhancement)	£m	3	31.428		31.428	94.560		94.560										125.988		
16	Total non-infrastructure additions (Enhancement)	£m	3		9.832	9.832		69.703	69.703										79.535		
17	Total additions (Enhancement)	£m	3	31.428	9.832	41.260	94.560	69.703	164.263										205.523		
<b>B BASE SERVICE PROVISION</b>																					
18	Water resource facilities	£m	3	0.026	0.388	0.414													0.414		
19	Water treatment works	£m	3		1.826	1.826													1.826		
20	Water distribution mains	£m	3	19.752	0.002	19.754													19.754		
21	Service reservoirs and water towers	£m	3		4.750	4.750													4.750		
22	Pumping stations	£m	3		0.503	0.503													0.503		
23	Water management and general	£m	3	0.000	11.887	11.887													11.887		
24	Sewerage	£m	3				5.900	0.191	6.091										6.091		
25	Sea outfalls and headworks	£m	3				0.295	0.032	0.327										0.327		
26	Sewage treatment works	£m	3					11.917	11.917										11.917		
27	Sludge treatment works	£m	3					0.395	0.395										0.395		
28	Sludge disposal	£m	3				0.000	0.868	0.868										0.868		
29	In-line pumping stations	£m	3					6.489	6.489										6.489		
30	Terminal pumping stations	£m	3					1.217	1.217										1.217		
31	Sewerage management and general	£m	3				0.000	2.188	2.188										2.188		
32	Total infrastructure renewals (Base)	£m	3	19.778		19.778	6.195		6.195										25.973		
33	Total non-infrastructure expenditure (Base)	£m	3		19.356	19.356		23.297	23.297										42.653		
34	Total expenditure (Base service provision)	£m	3	19.778	19.356	39.134	6.195	23.297	29.492										68.626		

## **Table 32 -Analysis of Fixed Asset Additions and Asset Maintenance by Asset Type**

The main types of new assets constructed in the year were distribution mains, sewerage assets and waste water treatment works to ensure compliance with obligations to improve quality standards as agreed with the Drinking Water Inspectorate and the Environmental and Heritage Service. A large portion of this investment is the result of a legacy of under funding in the former Water Service.

The majority of asset maintenance expenditure related to water distribution mains (Water rehabilitation projects), sewerage assets (Drainage Area studies) and wastewater treatment works in order to maintain the serviceability of the asset base for customers.

The Capital investment Driver allocation methodology has changed significantly since the SBP. The Methodology is explained in Chapter 34.

The allocation methodology for Management and General expenditure is reflective of that included within the 'Strategic Business Plan' (SBP) allocation at 41%:59% (Water/Sewerage). This is only applied when projects have not already been allocated within Management and General to either Water or Sewerage within individual projects. This was adopted to apportion £1.2million of the £21.3million M & G expenditure.

Expenditure for Zonal Study investigations has been allocated to M & G Base Expenditure for 07/08 reporting. This has been adopted since stated in RAG 2.03 page 14 under Water Distribution Mains. It is noted that this is reported in the wrong service area i.e. M & G rather than Water Distribution Mains and this will be corrected for 08/09 reporting. This misclassification amounts to £7.953m in 07/08. The analysis of this £7.953m infrastructure expenditure between base and enhancement expenditure has not yet been quantified but to the extent that a proportion of this total would have been allocated to infrastructure base this would have increased the IRE for 2007-2008. Any such reallocation of an element of this difference would have impacted on the Infrastructure renewals accrual in the regulatory accounts (a balance sheet impact only).

A difference has arisen for total additions for Water and Sewerage between Table 32 (which uses the CIDA system to populate the table) and the Regulatory Accounts (which derives information from the Fixed Asset system). This difference has led to water services additions being higher and sewerage services additions being £4m lower in the tables compared to the figures in the regulatory accounts. The difference relates only to the analysis between categories and the sum total for both services is the same in both tables and accounts. The ongoing systems development in this area will continue to be progressed to ensure such differences are eliminated going forward.

Sewer adoptions paid by third parties of £19.859m are included in column 4, line 7 of Table 32 within Sewerage infrastructure enhancements.

The calculation of gross asset valuation for adopted sewerage assets is based on the unit costs derived for the SBP which was indexed to 07/08 prices by RPI. The unit costs are applied by diameter banding and total lengths laid. The unit costs adopted in the SBP were developed from historic actual costs of projects completed by NI Water Service and reported in 06/07 prices.

Of the total capital expenditure of £274.149m (net of grants and contributions on infrastructure maintenance expenditure and inclusive of sewerage adoptions), £68.626m (25%) related to base service position.

In all the Capex Financial tables Backlog Base as defined in the SBP has been allocated consistently as per the SBP. This amounts to £0.99m for water service and £35.86m for sewerage service as is allocated to 'Enhanced Service Levels'.

Infrastructure Renewals expenditure has been reported net of any grants and contributions in this table. Grants and contributions (Infrastructure Charges) have been apportioned 59% IRE and 41% MNI for both Water and Sewerage for 07/08 reporting. The apportionment has been derived from the SBP predictions. This will be reviewed for 08/09 reporting as the apportionment may need to be different for water and sewerage.

In 07/08 the only PPP is for Sewerage Service. The amount capitalised is 524k made up as follows, Kinnegar £221k and Omega 303k totalling to £524k. CIDA has not been completed on these projects to date and due to the small value the £524k has not been allocated in this Table.

In 07/08 £15.4million has been spent on projects which commenced before the SBP period and had no SBP funding. This is included in Table 32 in the relevant categories. The main types of projects contributing to this figure are as follows:

- Water infra – Watermain rehabilitation projects
- Water non infra- Main expenditure on two Water Treatment works
- Sewerage infra – Main expenditure on projects for new development
- Sewerage non infra – 44 contributing projects with 4 WwTW sites with expenditure >£0.5m

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 32A FINANCIAL MEASURES**

**SEWERAGE SERVICE BASE SERVICE MAINTENANCE EXPENDITURE  
DATA FOR CAPITAL MAINTENANCE ECONOMETRICS (CCA) (excl. PPP)**

				1
				2007-08
DESCRIPTION	UNITS	DP		
<b>A SEWERAGE INFRASTRUCTURE</b>				
1	Sub-regional area 1	£m	3	
2	Sub-regional area 2	£m	3	
3	Sub-regional area 3	£m	3	
4	Sub-regional area 4	£m	3	
5	Sub-regional area 5	£m	3	
6	Sub-regional area 6	£m	3	
7	Sub-regional area 7	£m	3	
8	Sub-regional area 8	£m	3	
9	Sub-regional area 9	£m	3	
10	Sub-regional area 10	£m	3	
11	Sub-regional area 11	£m	3	
12	Total	£m	3	5.900
<b>B SEWERAGE NON - INFRASTRUCTURE</b>				
13	Sub-regional area 1	£m	3	
14	Sub-regional area 2	£m	3	
15	Sub-regional area 3	£m	3	
16	Sub-regional area 4	£m	3	
17	Sub-regional area 5	£m	3	
18	Sub-regional area 6	£m	3	
19	Sub-regional area 7	£m	3	
20	Sub-regional area 8	£m	3	
21	Sub-regional area 9	£m	3	
22	Sub-regional area 10	£m	3	
23	Sub-regional area 11	£m	3	
24	Total	£m	3	6.679
<b>C SEWAGE TREATMENT</b>				
25	Sub-regional area 1	£m	3	
26	Sub-regional area 2	£m	3	
27	Sub-regional area 3	£m	3	
28	Sub-regional area 4	£m	3	
29	Sub-regional area 5	£m	3	
30	Sub-regional area 6	£m	3	
31	Sub-regional area 7	£m	3	
32	Sub-regional area 8	£m	3	
33	Sub-regional area 9	£m	3	
34	Sub-regional area 10	£m	3	
35	Sub-regional area 11	£m	3	
36	Total	£m	3	13.461
<b>D SLUDGE TREATMENT AND DISPOSAL</b>				
37	Sub-regional area 1	£m	3	
38	Sub-regional area 2	£m	3	
39	Sub-regional area 3	£m	3	
40	Sub-regional area 4	£m	3	
41	Sub-regional area 5	£m	3	
42	Sub-regional area 6	£m	3	
43	Sub-regional area 7	£m	3	
44	Sub-regional area 8	£m	3	
45	Sub-regional area 9	£m	3	
46	Sub-regional area 10	£m	3	
47	Sub-regional area 11	£m	3	
48	Total	£m	3	1.263

**Table 32a - Sewerage Service; Base service maintenance expenditure data for capital maintenance econometrics (current cost accounting)**

NIW is unable to report by sub-region for 07/08. Internal systems are currently being developed to allow for full sub-regional reporting in 2 defined areas for 08/09 financial year.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 33 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)  
DEPRECIATION CHARGE BY ASSET TYPE

DESCRIPTION	UNITS	DP	1	2	3	4	5	6	
			WATER SERVICE		SERERAGE SERVICE		TOTAL		
			BASE YEAR SBP 2006-07	REPORT YEAR 2007-08	REPORT YEAR - 1 2006-07	REPORT YEAR 2007-08	REPORT YEAR - 1 2006-07	REPORT YEAR 2007-08	
<b>A DEPRECIATION CHARGE FOR THE YEAR</b>									
1	CCD on enhancement assets	£m	3	N/C	9.776	N/C	24.017	N/C	33.793
2	CCD on MNI assets	£m	3	N/C	19.529	N/C	8.027	N/C	27.556
3	Total depreciation charge for the year	£m	3	N/C	29.305	N/C	32.044	N/C	61.349
<b>B INFRASTRUCTURE RENEWALS CHARGES, EXPENDITURE AND PROVISION</b>									
4	Infrastructure renewals expenditure	£m	3	N/C	19.778	N/C	6.195	N/C	25.973
5	Infrastructure renewals charges	£m	3	N/C	27.277	N/C	8.391	N/C	35.668
6	Infrastructure renewals prepayment/ (accrual)	£m	3	N/C	-7.499	N/C	-2.196	N/C	-9.695

## **Table 33 – Depreciation Charge by Asset Type & Infrastructure Renewals Charge**

### **Commentary and Methodology**

#### **Methodology**

##### **Current Cost Depreciation (CCD) Charge**

The depreciation charge for the year has been populated using the same methodology used to populate Table 25. Current cost depreciation was calculated using the Fixed Asset Register (Real Asset Management). The Fixed Asset Register holds two sets of books (HCA and CCA books) which calculate depreciation using different gross book value (GBV) and gross current replacement cost (GCRC) figures. The CCA books have been used for Table 25.

The final depreciation report from the CCA book was then analysed to each of their respective asset categories and service activities to identify the water and sewerage services. The management and general service activity could not be readily identified as water and sewerage services and have used the following percentages split as per IFM: Water 41% and Sewerage 59%.

Historical data to provide the split between Base Service Provision (BSP) and Enhancement (E) is not available for assets in existence at 01/04/07. In addition to this most of the assets commissioned in 07/08 have had no former CIDA completed and thus no data is available to complete the split between BSP and E. In order to populate the tables the split is derived from Table 34 as follows:

- Water, Enhancement (33.2%), Base Service Provision (66.7%)
- Sewerage, Enhancement (75%), Base Service Provision (25%)

With respect to Confidence Grades this is reported as DX for CCD. This is the case as no historical data is available to provide a robust analysis.

Assets to be decommissioned or written off would create accelerated depreciation in the year it is decommissioned. However there were no decommissioned assets during the year. Therefore there was no element of accelerated depreciation relating to decommissioned assets in Table 33.

During the year, there were no on-balance sheet additions to PPP assets. Therefore, there was no element of depreciation in the table relating to PPP assets.

The asset lives used in calculating depreciation are consistent with those that have been used to populate Table 34. The asset lives used to calculate depreciation in the Fixed Asset Register are the same in both the HCA and CCA books.

Table 33 has also been adjusted to include only the appointed business and exclude the unappointed business relating to vehicle maintenance carried out for third parties. The depreciation charge relating to this has been adjusted through Water Services – CCD on MNI assets. This is the only adjustment made in populating Table 33.

There were some limitations within the CCD process as it was based on the last asset management plan (AMP) survey of existing assets at 1 September 2001. NI Water plans to address this limitation by preparing the next AMP which is planned to report in 2009/2010.

There were no MEA revaluation during the year and therefore no impact on CCD charge in the year.

### **Infrastructure Renewals Accounting**

The IRC calculation for 07/08 is based on a look back over 5 years to 02/03 and a look forward to 11/12.

The look back relies upon data captured in 01/02 as actual expenditure. This information is captured from a 'June Return' completed by Water Service. A return was completed for 01/02 which was subject to audit but not a full reporter review. A QBEG allocation was completed for the largest projects in the capital programme which constituted 80% of the total value of the programmes. It is recognised that this approach is not as robust as would be liked, and likely to deliver a lower value of IRE as Maintenance (IRE) projects are largely completed within smaller capital projects. However, given the lack of historical information on IRE no better solution can be provided to provide a reasonable calculation of IRC.

The look forward to 11/12 was calculated directly from the SBP base spreadsheets. The 3 base spreadsheets contributing to the E & P Capital programme were examined and where base expenditure was allocated via QBEG this was defined as either IRE or MNI at a project level. The IRE, MNI figures were carried forward to a separate spreadsheet where the analysis was completed. A review was completed of Drainage Area Plans (DAP's) following the initial assessment to correct for Sewerage Pumping stations as they are designated as non infrastructure (MNI). Initially DAP's were noted as infrastructure so the correction removed anticipated costs for Sewerage Pumping stations from IRE to MNI. Separate analysis was completed of all remaining Capital and is summarised as follows:

- Wastewater Treatment – assumed as 100% MNI as these are above ground assets.
- Water Supply – assumed as 100% MNI as these are above ground assets.
- Networks – an analysis was completed of expenditure in the first 6 months of 06/07 and a QBEG allocation was completed on each project. The IRE output from this is 38% of networks expenditure (14% water and 24% sewerage) and 18% MNI. The balance of 44% is allocated to Capital Enhancement.
- Leakage – assumed as 100% IRE.
- The remaining areas of Capital investment have been allocated 100% to MNI based on a split of 41% water and 59% sewerage. This split was derived from the SBP allocation within the Base Spreadsheets for the SBP. Typical examples include investment in Asset Management and Head office areas which are clearly not infrastructure.

The final output from the above is an average over the first 5 years. This is actual predictions of investment based on historical unit costs as applied in the SBP re-costing exercise and verified by the interim reporter. NB the Base spreadsheets used for the SBP had the 06/07 programme included. Whilst not part of the final SBP the 06/07 data was used for the IRC calculation process.

The blank years between 02/03 and 06/07 were populated using extrapolation from the 01/02 analysis. The extrapolation provided for an increasing IRE in Water and a decreasing IRE in Sewerage. Since no historical data was available no alternative mechanism was available. As a consequence the IRC calculation has a degree of uncertainty attached to it but by completing comparisons with England and Wales IRE programmes it was deemed to be reasonable. Table 1 below shows the summary output as agreed with interim reporter. This demonstrates that the IRE figure for NIW is at the higher end of the England and Wales numbers when compared on a like for like basis. It should be noted that Backlog Base was not included in the NIW determination of IRC. In summary the IRC was last calculated as part of the SBP process in 2007.

Table 1: Comparison with E & W IRE figures.

Service Area	England & Wales Benchmarks AMP4 (Post-efficiency) (£m)			Base Expenditure	NIW (Post-efficiency) (£m)			
	Min	Ave	Max		3yr Ave	5yr Ave	9yr Ave	
Water IRE	8.8	14	17.6	Water IRE	25.0	22.6	26.3	adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data
				Backlog Base	4.0	5.9	6.7	
				Water IRE + BB	29.0	28.5	33.0	
Wastewater IRE	4.8	6.7	10.7	Wastewater IRE	9.2	9.1	10.8	adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data adjusted to post-efficiency figures from above data
				Backlog Base	4.8	6.6	5.3	
				Wastewater IRE + BB	14.0	15.7	16.1	

The difference between the IRE and IRC is treated as an accrual or prepayment.

Based on the information available management has not finalised its view of IRC due to the uncertainty around the base data, to ensure it reflects the medium to long term view of the maintenance needs of its infrastructure assets. IRC is towards the maximum when compared to E & W but this is necessary to counteract the historical under investment.

The Infrastructure Renewals expenditure in 07/08 gave rise to an infrastructure renewals accrual. It is not anticipated that this will be reversed in the SBP period as the Capital programme is mainly driven by the Enhancement programme to meet Quality obligations and Development/Supply Demand Balance requirements. As a result the Base investment is lower than the IRC. The longer term future view within the SBP indicates that the IRC will rise in future years. As this is the first year of full IRE reporting the confidence grades have been allocated to take account of developing systems and an element of uncertainty.

There is no difference between the IRC in the Statutory accounts and the IRC in the regulatory accounts.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 34 FINANCIAL MEASURES (CURRENT COST ACCOUNTING)  
ANALYSIS OF NON-INFRASTRUCTURE FIXED ASSET ADDITIONS BY LIFE CATEGORIES

DESCRIPTION	UNITS	DP	1	2	3	4	
			WATER SERVICE		SEWERAGE SERVICE		
			BASE YEAR SBP 2006-07	REPORT YEAR 2007- 08	BASE YEAR SBP 2006-07	REPORT YEAR 2007- 08	
<b>ACCOUNTING FIXED ASSET ADDITIONS</b>							
<b>A NON-INFRASTRUCTURE ASSET ADDITIONS (ENHANCEMENT) BY ASSET LIFE</b>							
1	Very Short	£m	3	N/C	0.000	N/C	0.000
2	Short	£m	3	N/C	4.797	N/C	6.206
3	Medium	£m	3	N/C	2.146	N/C	27.800
4	Medium long	£m	3	N/C	0.000	N/C	0.000
5	Long	£m	3	N/C	2.210	N/C	32.290
6	Land	£m	3	N/C	0.678	N/C	3.406
7	Land Disposals	£m	3	N/C	-0.199	N/C	-0.003
8	Total	£m	3	N/C	9.632	N/C	69.700
<b>B NON-INFRASTRUCTURE ASSET ADDITIONS (BASE SERVICE) BY ASSET LIFE</b>							
9	Very Short	£m	3	N/C	0.000	N/C	0.000
10	Short	£m	3	N/C	11.578	N/C	5.859
11	Medium	£m	3	N/C	1.851	N/C	6.460
12	Medium long	£m	3	N/C	0.000	N/C	0.000
13	Long	£m	3	N/C	5.928	N/C	10.978
14	Total	£m	3	N/C	19.356	N/C	23.297
<b>C NON-INFRASTRUCTURE ADDITIONS AVERAGE LIFE (YEARS)</b>							
15	Very Short	years	0	N/C	0	N/C	0
16	Short	years	0	N/C	10	N/C	10
17	Medium	years	0	N/C	20	N/C	20
18	Medium long	years	0	N/C	0	N/C	0
19	Long	years	0	N/C	60	N/C	60

## **Table 34-Analysis of Non-Infrastructure Fixed Asset Additions by Life Categories**

### **Commentary and methodology**

#### **Methodology**

All the capital expenditure tables have been populated using project data extracted from the company's core project control system (CAPTRAX), as well as ORACLE (Financial management system). Capital investment driver allocation (CIDA) data has been captured off line from these mains systems and in conjunction with the financial data from CAPTRAX and ORACLE this has been loaded into an Access Database in order that the data can be analysed in the formats required within the AIR. The information is reconciled to ORACLE, the business' core accounting and reporting system.

Capital investment Driver Allocation (CIDA) methodology has changed significantly since the Strategic Business Plan (SBP).

Within the SBP QBEG was allocated based on project samples in each of the 4 main investment areas, water infra, water non infra, sewerage infra and sewerage non infra. The average QBEG outputs were generally applied to all projects in the SBP in each of the 4 areas. Allocations at project level in the SBP were limited to Zonal studies and some Wastewater Treatment works.

Following the SBP a manual has been written entitled 'Capital investment Driver allocation Manual' which is the manual being used as the basis for allocations for project reporting in 07/08 and future years.

Internal training has been provided for all Engineering and Procurement Staff during July/August 2007 on the CIDA manual and general AIR reporting requirements. Senior Operational staff have also completed training.

All projects spending in 07/08 with an accrual projected of more than 10% of project value and an accrual >40K have had a CIDA completed. Approx 4% of the Capital works programme (CWP) accrual for 07/08 had no allocation completed as a result. Of a total number of projects (1195) that accrued spend in the CWP 640 have had the CIDA allocation completed. So in order to reduce the 4% figure to zero a further 555 allocations would have had to be completed. These expenditures are very small on projects largely completed as part of the former company Water Service. Typical projects contributing to this are watermain projects completed in 05/06 and 06/07 and indeed in earlier years, where wayleave compensation has only been agreed in 07/08. This % will be further reduced in 08/09. NB The projects with no CIDA completed are mainly large projects (Rehab projects etc) with small expenditure in the current year which would take considerable time to analyse for CIDA. They are not to be confused with projects less than £100k which have had allocations completed.

CIDA allocations were completed on the 640 projects by two systems with the outputs all collated on a CIDA master spreadsheet. This spreadsheet will eventually be

transferred to CAPTRAX to eliminate the need for merging of spreadsheets for reporting.

Method 1 – For projects <100k as per RAG 2 allocation was completed with only the main driver recorded.

Method 2 – For projects >100k a CIDA calculation spreadsheet is completed. These templates extract physical engineering data about the project and with outline costs translate this into CIDA allocations using the CIDA manual methodology. This process has been developed in phases in 07/08 and as a result the confidence grades allocated in the tables will improve in 08/09. The outline of development is as follows:

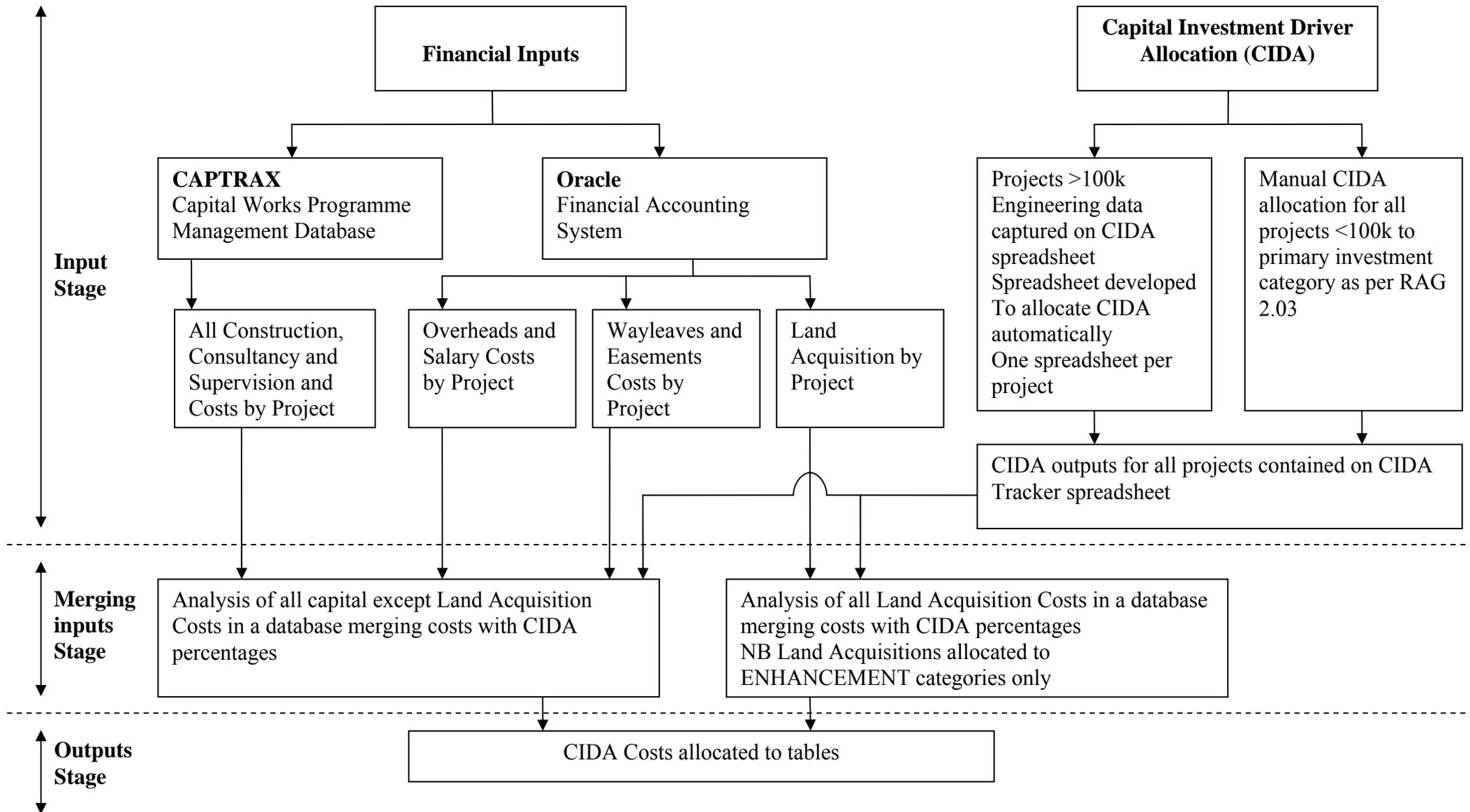
- a) in Aug/Sept 07 initial spreadsheet developed to capture relevant Engineering data to complete CIDA calculations.
- b) Sept 07/Oct 07 Engineering data captured from Project Managers on CIDA template.
- c) Oct/Nov 07 Initial CIDA calculations completed manually in accordance with the manual by 2 Jacobs staff members ensuring consistency. This manual exercise had to be completed as the development of automatic calcs had to have careful planning and the manual exercise clarified the different scenarios that were needed, as well as providing data for reporting for the shareholder etc.
- d) Oct 07 – Jan 08 Calculation section of the spreadsheet developed
- e) Feb 08. Capture of outstanding projects for 07/08 reporting.
- f) March 08. Final CIDA spreadsheet completed and preparation work for development in CAPTRX commenced.

For all Capital projects not on the CWP (herein referred to Operating Capital expenditure) the CIDA information has been captured on the Project Setup form at Project approval and recorded on a Database. This information has been analysed separately from the CWP and merged on the final output tables.

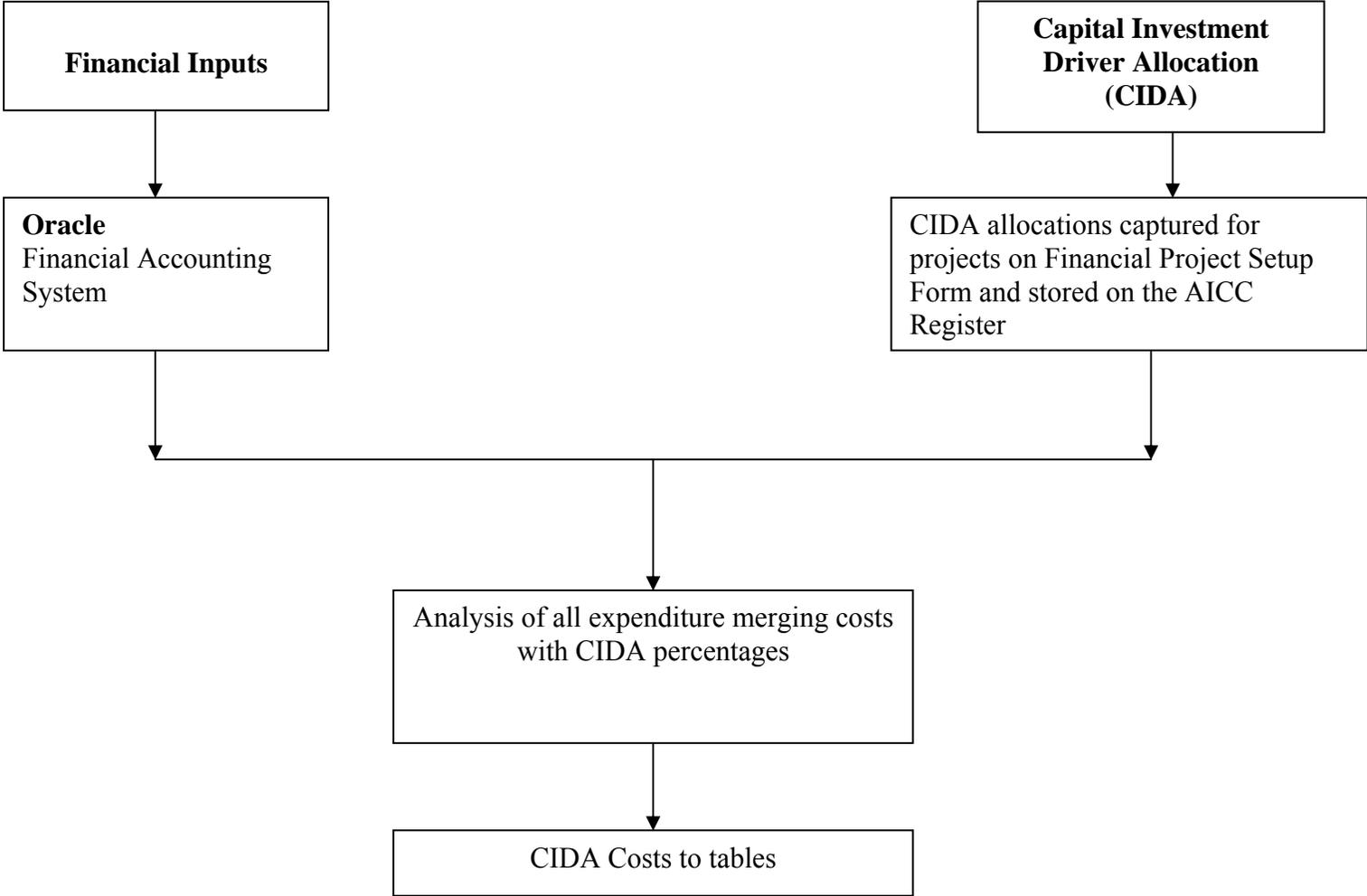
Data used in the population of the table is based on data extracted from the company's core systems and no assumptions are made in the allocation of project expenditure to the lines in the tables for all the expenditure with CIDA directly attributed. For the 4% unallocated CWP expenditure and the 10% Operational Capital expenditure this is apportioned in each table in equal portions to the allocated expenditure.

Process diagrams below show the process for completing the tables.

**Process for completion of Capex Financial tables for all Non – Engineering Procurement Expenditure**



Process for Completion of Capex financial tables for Engineering Procurement Expenditure



**Reconciliation  
statement**

	£
Total Capital expenditure allocated on AIR08 Financial Tables	<b>254,289,879.76</b>
30k extra allocated by CIDA due to rounding errors	-30,348.40
157k extra on CAPTRAX which is WIP in progress on posted to ORACLE at year end as projects not set up on ORACLE	-157,000.00
Rounding errors in CAPTRAX as recorded to nearest £k.	39,000.00
non reconcilable item	39,994.46
Total Capital expenditure on Oracle	<b>254,181,525.82</b>

## Commentary

The allocation methodology for Management and General expenditure is reflective of that included within the 'Strategic Business Plan' (SBP) allocation at 41%:59% (Water/Sewerage). This is only applied when projects have not already been allocated within Management and General to either Water or Sewerage within individual projects. This was adopted to apportion £1.2million of the £21.3million M & G expenditure.

The asset lives adopted for Regulatory reporting are consistent with those in the fixed Asset Register. The links for reporting purposes is outlined in the Capital investment Driver allocation manual.

The last comprehensive review of asset lives was completed as part of NAIMP2 in 2001. NIW are currently developing systems that a full review of asset lives can be reviewed in the future.

Expenditure is charged to individual projects and these are assigned individual asset lives for regulatory reporting

This table is consistent with the analysis in Table 32 and the following two points should be noted:

As indicated in the Table 32 commentary the CIDA classification has led to a difference arising between total additions for Water and Sewerage as per the Fixed Assets system (the basis of the Regulatory Accounts) when compared to the CIDA system (used to populate the AIR fixed asset tables). This difference has led to water services additions being £4m higher and sewerage services additions being £4m lower in the tables compared to the figures in the regulatory accounts. The difference relates only to the analysis between categories and the sum total for additions for both services is the same in both tables and accounts.

Furthermore the CIDA analysis allocated expenditure on Zonal study investigations to M & G Base Expenditure for 07/08 reporting. This is reported in the wrong service area i.e. M & G rather than Water Distribution Mains and this will be corrected for 08/09 reporting. This amounts to £7.953m in 07/08 and has led to lines 10 and 14 in Table 34 being overstated by this amount. *The analysis of this £7.953m infrastructure expenditure to base and enhancement has not yet been quantified but to the extent that a proportion of this would have been allocated to infrastructure base this would have increased the IRE for 2007-2008. Any such reallocation of an element of this difference would have impacted on the Infrastructure renewals accrual in the regulatory accounts ( a balance sheet impact only).*

The ongoing systems development in this area will continue to be progressed to ensure such differences are eliminated going forward.

All expenditure reported in Table 34 is in outturn prices, gross of grants and contributions.

No assets are fully depreciated but still in use at the year end.

No assets have been written off or replaced in the year, without being written off.

In 07/08 the only PPP is for Sewerage Service. The amount capitalised is 524k made up as follows, Kinnegar £221k and Omega 303k totalling to £524k. CIDA has not been completed on these projects to date and due to the small value the £524k has not been allocated in this Table.

In 07/08 £8.56million has been spent on non-infra projects which commenced before the SBP period and had no SBP funding. This is included in Table 34 in the relevant categories. The main types of projects contributing to this figure are as follows:

- Water non infra- Main expenditure on two Water Treatment works
- Sewerage non infra – 44 contributing projects with 4 WwTW sites with expenditure >£0.5m

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 35 FINANCIAL MEASURES  
WATER SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)**

DESCRIPTION	UNITS	DP	1		2	
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG
<b>A BASE SERVICE PROVISION</b>						
1 Base operating expenditure	£m	3	N/C		95.308	B4
2 Infrastructure renewals expenditure (net)	£m	3	N/C		19.778	B3
3 MNI - gross of grants and contributions	£m	3	15.030		19.356	B3
4 MNI - grants and contributions	£m	3	N/C		0.000	
5 MNI - net of grants and contributions	£m	3	15.030		19.356	B3
6 Infrastructure renewals expenditure (Gross)	£m	3	35.730		19.778	
<b>B QUALITY ENHANCEMENTS</b>						
7 Capex: Total quality enhancement programme	£m	3	23.790		15.714	B3
8 Opex: Total quality enhancement programme	£m	3	N/C		0.050	B4
<b>C ENHANCED SERVICE LEVELS</b>						
9 Capital expenditure - customer service	£m	3	4.370		5.930	B3
10 Additional operating expenditure - customer service	£m	3	N/C		0.000	B4
<b>D MAINTAINING AND IMPROVING SUPPLY/DEMAND</b>						
11 Capital expenditure supply/demand balance	£m	3	16.530		18.069	B3
12 Capex - new development	£m	3	N/C		17.758	B3
13 Capex - growth	£m	3	N/C		0.311	B3
14 Capex - free meter "selective and optants"	£m	3	N/C		0.000	
15 Additional operating expenditure supply/demand balance	£m	3	N/C		0.000	
16 Capital expenditure - security of supply	£m	3	N/C		1.541	B3
17 Additional operating expenditure - security of supply	£m	3	N/C		0.000	B4
<b>E NEW OUTPUTS/OBLIGATIONS SINCE THE SBP</b>						
18 New outputs/obligations - capex	£m	3	N/C		0.000	
19 New outputs/obligations - opex	£m	3	N/C		0.000	
<b>F GRANTS, CAPITAL CONTRIBUTIONS AND INFRASTRUCTURE CHARGES RECEIPTS FOR NEW CONNECTIONS</b>						
20 Infrastructure charge receipts - new connections	£m	3	N/C		1.486	
21 Enhancement requisitions, grants and contributions	£m	3	N/C		2.504	
<b>G ADOPTED ASSETS, NIL COST ASSETS</b>						
22 Assets adopted or acquired at nil cost	£m	3	N/C		0.000	
23 Adopted assets in return for a payment	£m	3	N/C		0.000	
<b>H EXPENDITURE TOTALS</b>						
24 Total operating expenditure	£m	3	N/C		95.358	
25 Infrastructure renewals expenditure (net)	£m	3	N/C		19.778	
26 Total asset additions	£m	3	N/C		60.611	B3
27 Total enhancement capital contributions	£m	3	N/C		3.990	B3
28 Total capital expenditure (excl. adopted and nil cost assets)	£m	3	N/C		80.389	B3

**Table 35**  
**Water service – Expenditure by purpose**

**Capital expenditure (Capex)**

In 2007/08 NIW invested £80.389m capital expenditure in water service activities and outputs. Investment has been allocated to purpose categories in line with the CIDAM manual and the methodology as outlined in Chapter 34. Detailed explanations of the expenditure and achievements are set out by purpose category below.

**Capex: base service provision – infrastructure renewals.**

In 2007/08 NIW invested £19.8m (net) in water service infrastructure renewals. In doing so the company has:

Renewed 136km of mains (including mains renewed for ENHANCMENT)

Replaced 4,716 communication pipes (not including lead replacement)

**Serviceability**

The number of bursts decreased to 195 per 1,000km in 2007/08 per 1,000 from 139 1,000km in 2007/08.

**Capex: base service provision-maintenance non-infrastructure**

In 2007/08 NIW invested £19.4m (gross) in the maintenance of water non-infrastructure assets. In doing so the company has:

- Invested at many sites/assets under our refurbishment programme. The Service reservoir rehab programme is the main highlight in this area for 07/08. Twelve service reservoirs and water towers have been refurbished in 07/08.
- Invested £11.9m in Management and General activities (water), to maintain non-operational assets. In line with the SBP costs have been allocated in the proportions 41% water: 59% sewerage where not directly allocated to either Water or Sewerage by the Project Managers within CIDA. This was adopted to apportion £0.51million of the £16.3million M & G expenditure for water.
- Expenditure for Zonal Study investigations has been allocated to M & G Base Expenditure for 07/08 reporting. This has been adopted since stated in RAG 2.03 page14 under Water Distribution Mains. It is noted that this is reported in the wrong service area i.e. under M & G rather than Water Distribution Mains and this will be corrected for 08/09 reporting.

Serviceability. In 2007/08 NIW has improved performance on all water quality parameters measures at the exit from the water treatment works. Water quality exiting works out turned at 99.92% against a target of 99.8%. Following asset improvement during the current and previous

years, bacteriological compliance at our WTW's continued to show improvement.

### **Expenditure to reduce leakage.**

Operational leakage expenditure in 2007/08 was £4.35m

The following table shows the breakdown of leakage expenditure in 2007/08

**Table 1 – Leakage expenditure**

<b>Expenditure category (£m outturn prices)</b>	<b>2007/08 £m</b>
<b>Total Capex</b>	6.44
<b>Total Opex</b>	4.21
<b>Total Expenditure</b>	<b>10.65</b>

The leakage function has been restructured in 07/08 and has resulted in a reduction in OPEX.

Capex within leakage includes for the following 3 contracts: leakage detection contract, Leakage repair contract and Leakage Management Services Contract and capitalised salaries for internal staff associated with these contracts. In addition there is capex for work in relation to meters, PRVs etc as well as leakage infrastructure work associated with pressure management, DMA optimisation, and meter replacement/installation. There is also some CAPEX for DG2 pressure/flow monitoring equipment. Investment in this area has been mainly allocated to Supply/Demand Balance.

Opex expenditure is mainly contributed to from staff costs, premises costs at 2 depots and Roads Service fees for Road opening permits (moleseye).

The above reported expenditure excludes the following which may have a contribution to leakage reduction

- Bursts repaired by Networks function
- Capital investment completed in the Capital programme for replacement watermains as part of the Watermain Rehabilitation Programme.

The economic level of leakage by March 2010 is 135Ml/d.

### **Capex: quality enhancements**

In 2007/08 NIW invested £41.3m in water service quality programmes. In doing so the company has:

- Renewed 116.3 km of mains as part of the water rehabilitation programme. The main driver for this programme is quality enhancement.
- Upsized mains as part of the water rehabilitation programme. Some of this work is also driven by the quality programme.

- Completed work at the following WTW sites as part of the quality improvement programme agreed with DWI as part of the SBP
  1. Carran Hill WTW
- A more detailed review of the quality programme accompanies Table 37.

### **Capex: new obligations**

NIW have not completed any new obligations that were not listed in the SBP CWP in 2007/08.

### **Capex: supply-demand balance**

In 2007/08 NIW invested £1.54m providing security of supply projects and £0.3m on growth projects as part of the supply-demand balance. This expenditure results partially from proportional expenditure to this service area from delivery of the Quality enhancement programme as well as security of supply projects resulting from the Water Resource Strategy.

In 2007/08 NIW also invested £17.7m in water services supply/demand programme relating to new development (provision on new supplies/connections). In doing so it has:

- Connected 9077 new properties; (7595,household and 1482 non-household)

### **Operating Expenditure (opex)**

#### **Opex: Base Service Provision (line 1)**

The Opex in Base Service provision is taken as the Total Base Opex from Table 21 minus the Opex from Capex calculated for Enhancements.

#### **Base Service Provision: IRE and MNI (lines 2-6)**

##### **IRE**

There are no grants for IRE in 2007-08.

IRE related contributions would be those contributions from third parties towards work carried out on base projects e.g. diversions of water mains. This is shown as zero for 2007-2008 as this income is currently not shown in the accounts as a capital contribution but will be classified as such from 2008-2009 onwards.

Thus IRE gross and IRE net are the same - lines 2 and 6.

##### **MNI**

There are no contributions or grants for non infrastructure base projects in 2007-2008.

Thus MNI gross and MNI net are the same - lines 3 and 5 and line 4 – MNI grants and contributions is zero.

## Opex from Capex

Opex from Capex has been calculated directly from the accounting general ledger for those sites identified as becoming operational during 2007/08. A direct comparison has been completed on a site by site basis of expenditure on the relevant sites pre Capex investment (2006/07 costs) and the current year expenditures which includes the post investment element (2007/08). After adjusting for inflationary rises the difference is recorded as Opex from Capex.

This is the first time NIW has reported OPEX from CAPEX and the company has progressed significantly in 07/08 to be able to complete this information. During 08/09 further development will take place to improve the accuracy of this reporting.

Apportionment within the Table has been completed in accordance with CIDA apportionments to ENHANCEMENT. A separate database has been developed to analyse these smaller number of projects using the CIDA ENHANCEMENT outputs (rebalanced to 100%) from the original Capital project to apportion the OPEX from CAPEX.

## Grants, capital contributions and infrastructure charge receipts for new connections (lines 20-21).

Infrastructure charge receipts for the year are £1.486m (line 20). This represents the total receipts for water infrastructure charges before any apportionment of an element of these receipts to 'non-infrastructure' capital expenditure. *(The apportionment applied to this in the regulatory accounts is 59% Infrastructure and 41% non-infrastructure for both Water and Sewerage for 07/08 reporting. The apportionment has been derived from the SBP assumptions. This will be reviewed for 08/09 reporting as the apportionment may need to be different for water and sewerage).*

Receipts of £2.50m on line 21 are as defined in the guidance - 'capital contributions other than from infrastructure charges' and can be summarised as follows:

Receipts for connections to the water network	- £2.25m
Requisitions for watermain extensions	- £0.25m
<b>Total</b>	<b>- £2.50m</b>

Total asset additions – Processing rule. The processing rule for row 26 is not reconcilable for the following reason. Row 7 is copied from Table 37 but does not capture all the quality expenditure as row 9 on Table 37 is omitted in sum of total quality expenditure (line 18) on Table 37 accordance with the guidance. As a result the check to Table 32 is not able to be completed.

Total asset additions – Check to Table 25 line 5 col 4. For AIR 08 the reported numbers in these two tables are as follows:

Table 25 – £58.742m

Table 35 - £60.611m

The difference is explained for the following reasons.

- Table 25 includes for Infrastructure charge receipts- new connections and Enhancement requisitions, grants and contributions but are excluded from the sum on Table 35 in accordance with the guidance in the relevant chapters.
- The process for completing these tables is from two different source systems for Engineering and Procurement projects which are not currently linked. Tables 32, 34, 35, 36, 37 and 38 have all been derived via ‘Capital investment driver allocation’ with the methodology explained in Table 34.

Table 25 has been completed from Engineering Project Set-up forms and Commissioning forms.

The information for all non – E & P projects is consistent as the CIDA information for these projects is captured on the project set-up form.

It is not possible to capture CIDA for E & P projects via the project set-up form as many E & P projects have multiple asset types and the resultant set-up form is too complex.

- It is planned that in 08/09 the CIDA information capture will directly inform the project set-up form with the relevant information ensuring that both systems have the same information.

Confidence Grades – Due the development of CIDA allocation in 07/08 with some manual intervention in the early stages all CAPEX categories have been allocated to B3. For OPEX as a result of CAPEX B4 has been assigned to all categories.

## **PPP**

In 07/08 there is no PPP Capital attributed to Water Service.

## **Pre SBP Projects (Water Service)**

In 07/08 NIW has spent £5.5million on projects which commenced before the SBP period and had no SBP funding. The main types of projects contributing to this figure are as follows

- a) Water infra – Watermain rehabilitation projects. These projects are combination of ENHANCEMENT and Base Service Provision.(£3.76m)
- b) Water non Infra – Main expenditure on two Water Treatment works with Enhancement being the main driver with Quality Enhancement and Supply Demand Balance elements. These is also a Base Service Provision element as the projects have multiple drivers (£1.74m)

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 35A FINANCIAL MEASURES  
WATER SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)

RPI Inflator (Operating Expenditure) base year to report year prices  
COPI Inflator (Capital Expenditure) base year to report year prices

DESCRIPTION	UNITS	DP	1	2	3	4	5		
			SBP PROJECTIONS FOR 2007/08	SBP PROJECTIONS UPLIFTED FOR RPI AND COPI	ACTUAL 2007/08 OUTTURN	DIFFERENCE FROM REVISED SBP FIGURES	% DIFFERENCE FROM REVISED SBP FIGURES	DP	2
<b>A BASE SERVICE PROVISION</b>									
1	Base operating expenditure	£m	3		95 308	95.308			
2	Infrastructure renewals expenditure (net)	£m	3	23.970	19.778	-5.407	-21.47		
3	MNI (gross of grants and contributions)	£m	3	18.803	19.356	-0.400	-2.02		
4	MNI grants- grants and contributions	£m	3		0 000	0.000			
5	MNI (net of grants and contributions)	£m	3	18.803	19.756	19.356	-0.400	-2.02	
<b>B QUALITY ENHANCEMENTS</b>									
6	Capex - total quality enhancement programme	£m	3	10.011	10.518	15.714	5.196	49.39	
7	Opex - total quality enhancement programme	£m	3			0 050	0.050		
<b>C ENHANCED SERVICE LEVELS</b>									
8	Capital expenditure - customer service	£m	3	3.906	4.104	5 930	1.826	44.49	
9	Additional operating expenditure - customer service	£m	3			0 000	0.000		
<b>D MAINTAINING AND IMPROVING SUPPLY/DEMAND BALANCE</b>									
10	Capital expenditure supply/demand balance	£m	3	7.224	7.591	18 069	10.478	138.04	
11	Total enhancement capital contributions	£m	3			3 990	3.990		
12	Capex net of enhancement capital contributions	£m	3	7.224	7.591	14 079	6.488	85.48	
13	Additional operating expenditure supply/demand balance	£m	3			0 000	0.000		
14	Capital expenditure - security of supply	£m	3			1 541	1.541		
15	Additional operating expenditure - security of supply	£m	3			0 000	0.000		
<b>E EXPENDITURE TOTALS</b>									
16	Total gross capex - gross of grants (ire net) and excluding new outputs	£m	3	63.914	67.155	80 388	13.233	19.71	
17	Total opex excluding new outputs	£m	3	0.000	0.000	95 358	95.358		
18	Total gross capex - gross of grants (ire net) and including new outputs	£m	3	63.914	67.155	80 389	13.234	19.71	
19	Total opex including new outputs	£m	3	0.000		95 358	95.358		

### **Table 35a – Water Service – Expenditure comparisons by purpose**

The Strategic Business Plan was not structured using the PR process and as a result the data used and the systems adopted for the SBP analysis are not easily utilised to populate this table accurately. The reported SBP figures should not be treated as either accurate or robust.

It is difficult to report on the variations as noted on this table as the reporting methodology of the QBEG in the SBP and the CIDA allocation in 07/08 reporting year are derived differently. The variations are best examined on a project by project basis using the CIM template.

The Weighted average COPI factor adopted in the SBP Financial model of 5.07% has been adopted to determine the 07/08 figures

Figures reported in Columns 1 and 2 of this table are post efficiency.

Opex figures have not been reported for columns 1 and 2 as these figures were not proportionally allocated for the SBP

#### **Line 6**

The quality enhancement programme spent more than the SBP predictions as there was expenditure on WTW and Watermain rehab projects that had been assumed in the SBP to have been completed in 06/07. This contributes to a significant portion of the £5.1m increase in the 07/08 spend in this area.

#### **Line 16**

The total SBP Water predicted expenditure as per the table is £74.7m in 07/08 prices. The actual expenditure was £93.5m. The main variation is in supply demand balance where there has been major investment for new development in 07/08 which was not captured in the SBP.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 36 FINANCIAL MEASURES  
SEWERAGE SERVICE - EXPENDITURE BY PURPOSE (not including PPP)

DESCRIPTION	UNITS	DP	1		2		
			BASE		REPORTING		
			2006-07	CG	YEAR 2007-08	CG	
<b>A BASE SERVICE PROVISION</b>							
1	Base operating expenditure	£m	3	N/C		87.703	B4
2	Infrastructure renewals expenditure (net)	£m	3	N/C		6.195	B3
3	MNI (gross of grants and contributions)	£m	3	25.980		23.297	B3
4	MNI - grants and contributions	£m	3	N/C		0.000	
5	MNI - net of grants and contributions	£m	3	25.980		23.297	B3
6	Infrastructure renewals expenditure (Gross)	£m	3	9.640		6.195	
<b>B QUALITY ENHANCEMENTS</b>							
7	Capex - total quality enhancement programme	£m	3	43.930		49.426	B3
8	Opex - total quality enhancement programme	£m	3	N/C		0.096	B4
<b>C ENHANCED SERVICE LEVELS</b>							
9	Capital expenditure - customer service	£m	3	17.210		49.691	B3
10	Additional operating expenditure - customer service	£m	3	N/C		0.000	B4
<b>D IMPROVING SUPPLY/DEMAND BALANCE</b>							
11	Capital expenditure supply/demand balance	£m	3	50.470		45.287	B3
12	Capex - new development	£m	3	N/C		19.875	B3
13	Capex - growth - sewage	£m	3			6.550	B3
14	Capex - growth - sewage treatment	£m	3			18.862	B3
15	Additional operating expenditure supply/demand balance	£m	3	N/C		0.596	B4
<b>E NEW OUTPUTS/OBLIGATIONS SINCE THE SBP</b>							
16	New outputs/obligations - capex	£m	3	N/C		0.000	B3
17	New outputs/obligations - opex	£m	3	N/C		0.000	B4
<b>F GRANTS, CAPITAL CONTRIBUTIONS AND INFRASTRUCTURE CHARGES RECEIPTS FOR NEW CONNECTIONS</b>							
18	Infrastructure charge receipts - new connections	£m	3	N/C		1.132	
19	Enhancement requisitions, grants and contributions	£m	3	N/C		0.124	
<b>G ADOPTED ASSETS, NIL COST ASSETS</b>							
20	Assets adopted or acquired at nil cost	£m	3	N/C		19.859	B3
<b>H EXPENDITURE TOTALS</b>							
21	Total operating expenditure	£m	3	N/C		88.395	
22	Infrastructure renewals expenditure (net)	£m	3	N/C		6.195	
23	Total asset additions	£m	3	N/C		187.560	B3
24	Total enhancement capital contributions	£m	3	N/C		1.256	B3
25	Total capital expenditure (excluding adopted and nil cost assets)	£m	3	N/C		173.896	B3

## **Table 36 -Sewerage Service – Expenditure by purpose.**

### **Capital expenditure (Capex)**

In 2007/08 NIW invested £173.9m (excluding adopted and nil cost assets) of capital expenditure in sewerage service activities and outputs. Investment has been allocated to purpose categories in line with the methodology as outlined in Chapter 34. Detailed explanations of the expenditure and achievements are set out by purpose category below.

#### **Capex: base service provision – infrastructure renewals**

In 2007/08 NIW invested £6.195m (net) in sewerage service infrastructure renewals. In doing so the company has:

- Replaced sewers primarily within Drainage Area Plan projects
- Addressed blockages, collapses etc which lead to flooding incidents
- Diverting network assets where necessary

NIW have been targeting Capital Maintenance activity during 2007/08 on both Critical and non-critical sewers in line with findings from the Drainage Area Studies.

#### **Capex: base service provision – maintenance non- infrastructure**

In 2007/08 NIW invested £23.3 million (net) in the maintenance of non-infrastructure assets.

In doing so the company has:

- Completed projects at wastewater treatment works. Refer to commentary in Chapter 38. These are quality driven projects but some contain a Base Service Provision apportionment within CIDA.
- Invested approximately £2.2million in Management and General Activities to maintain non-operational assets. In line with the SBP costs have been allocated in the proportions 41% water: 59% sewerage where not directly allocated to either Water or Sewerage by the Project Managers within CIDA. This was adopted to apportion £0.73million of the £4.97million M & G expenditure for sewerage.

#### **Capex: quality enhancements**

In 2007/08 NIW invested £49.4 million in sewerage service quality programmes. In doing so the company has:

- Completed 18 of wastewater treatment works as agreed in the SBP targets. A further 11 are reported completed earlier than the SBP targets.
- 2 projects with SBP target completions in 08/09 have been completed in 07/08

## **Capex: new obligations**

Whilst no finance has been shown on the tables the following is noted for clarity. The following 2 projects did not have SBP Finance designated to them but they are listed in the EHS prioritisation list which is the closest NIW has in terms of formal obligations.

- i. Killen WwTW (KN586) – originally programmed to be carried out with Castlederg WwTW but was removed from this project pre SBP and omitted from the SBP
- ii. Lawrencetown WwTW (KG144)

## **Opex: Base Service Provision (line 1)**

The Opex in Base Service provision is taken as the Total Base Opex from Table 21 minus the Opex from Capex calculated for Enhancements.

## **Base Service Provision: IRE and MNI (lines 2-6)**

### **IRE**

There are no grants for IRE in 2007-08.

IRE related contributions would be those contributions from third parties towards work carried out on base sewerage projects. This is zero for 2007-2008

Thus IRE gross and IRE net are the same -lines 2 and 6.

### **MNI**

There are no contributions or grants for non infrastructure base projects in 2007-2008.

Thus MNI gross and MNI net are the same - lines 3 and 5 and line 4 – MNI grants and contributions is zero.

## **Opex from Capex**

Opex from Capex has been calculated directly from the accounting general ledger for those sites identified as becoming operational during 2007/08. A direct comparison has been completed on a site by site basis of expenditure on the relevant sites pre Capex investment (2006/07 costs) and the current year expenditures which includes the post investment element (2007/08). After adjusting for inflationary rises the difference is recorded as Opex from Capex.

Two small sites do not have individual representation on the General ledger. To calculate the Opex from Capex these sites have been benchmarked against similar existing sites for which historical information is held. The full year costs of running the similar sites are then pro-rated on the number of months that the new plant was operational.

It should be noted that in some cases the entire OPEX is treated as OPEX from CAPEX as the assets are entirely new. Examples include the North Coast WwTW where no form of Treatment was provided before. As the OPEX has been taken straight from the general ledger these costs will only relate to the portion of the year that the site is operational and therefore no

apportionment is required.

This is the first time NIW has reported OPEX from CAPEX and the company has progressed significantly in 07/08 to be able to complete this information. During 08/09 further development will take place to improve the accuracy of this reporting.

Apportionment within the Table has been completed in accordance with CIDA apportionments to ENHANCEMENT. A separate database has been developed to analyse these smaller number of projects using the CIDA ENHANCEMENT outputs (rebalanced to 100%) from the original Capital project to apportion the OPEX from CAPEX.

### **Grants, capital contributions and infrastructure charge receipts for new connections (lines 18-19).**

Infrastructure charge receipts for the year are £1.132m (line 18). This represents the total receipts for sewerage infrastructure charges before any apportionment of an element of these receipts to 'non-infrastructure' capital expenditure. *(The apportionment applied to this in the regulatory accounts is 59% Infrastructure and 41% non-infrastructure for both Water and Sewerage for 07/08 reporting. The apportionment has been derived from the SBP assumptions. This will be reviewed for 08/09 reporting as the apportionment may need to be different for water and sewerage).*

Receipts of £0.124m on line 19 is as defined in the guidance - "capital contributions other than from infrastructure charges" and relate to capital contributions for requisitions for sewer extensions.

Total asset additions – Check to Table 25 line 5 col 8. For AIR 08 the reported numbers in these two tables are as follows:

Table 25 – £192.084m

Table 36 - £187.560m

The difference is explained for the following reasons.

- Table 25 includes for Infrastructure charge receipts- new connections and Enhancement requisitions, grants and contributions but are excluded from the sum on Table 35 as explained in the guidance in the relevant chapters.
- The process for completing these tables is from two different source systems for Engineering and Procurement projects which are not currently linked. Tables 32, 34, 35, 36, 37 and 38 are all been derived via 'Capital investment driver allocation' with the methodology explained in Table 34.

Table 25 has been completed from Engineering Project Set-up forms and Commissioning forms.

The information for all non – E & P projects is consistent as the CIDA information for these projects is captured on the project set-up form.

It is not possible to capture CIDA for E & P projects via the project set-up form as

many E & P projects have multiple asset types and the resultant set-up form is too complex.

It is planned that in 08/09 the CIDA information capture will directly inform the project set-up form with the relevant information ensuring that both systems have the same information.

### **PPP**

In 07/08 the only PPP is for Sewerage Service. The amount capitalised is 524k made up as follows, Kinnegar £221k and Omega 303k totalling to £524k. CIDA has not been completed on these projects to date and due to the small value the £524k has not been allocated in this Table.

### **Health and Safety**

Health and Safety Expenditure has been allocated to Base Service Provision.

### **Pre SBP Projects**

In 07/08 NIW has spent £9.85million on projects which commenced before the SBP period and had no SBP funding. The main types of projects contributing to this figure are as follows

- c) Sewerage infra – Main expenditure on projects for new development, Supply Demand Balance (£3.038m)
- d) Sewerage non Infra – Main expenditure on Wastewater Treatment works with Enhancement being the main driver with Quality Enhancement and Supply Demand Balance elements. 4 WwTW sites with expenditure >£0.5m. Most projects also have a Base Service Provision element as they have multiple drivers. (£6.814m)

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 36A FINANCIAL MEASURES  
SEWERAGE SERVICE - EXPENDITURE BY PURPOSE (incl. PPP)

RPI Inflater (Operating Expenditure) base year to report year prices  
COPI Inflater (Capital Expenditure) base year to report year prices

DESCRIPTION	UNITS	DP	1	2	3	4	5	
			SBP PROJECTIONS FOR 2007-08	SBP PROJECTIONS UNLIFTED FOR COPI AND RPI FOR 2007-08	ACTUAL 2007-08 OUTTURN	DIFFERENCE FROM REVISED SBP FIGURES	% DIFFERENCE FROM REVISED SBP FIGURES	
						DP	2	
<b>A BASE SERVICE PROVISION</b>								
1	Base operating expenditure	£m	3			87.703	87.703	
2	Infrastructure renewals expenditure (net)	£m	3	12.342	12.967	6.195	-6.772	-52.23
3	MNI (gross of grants and contributions)	£m	3	36.024	37.850	23.297	-14.553	-38.45
4	MNI - grants and contributions	£m	3			0.000	0.000	
5	MNI (net of grants and contributions)	£m	3			23.297	23.297	
<b>B QUALITY ENHANCEMENTS</b>								
6	Capex: Total quality enhancement programme	£m	3	54.369	57.146	49.426	-7.720	-13.51
7	Opex: Total quality enhancement programme	£m	3			0.096	0.096	
<b>C ENHANCED SERVICE LEVELS</b>								
8	Capital expenditure	£m	3	24.241	25.470	49.691	24.221	95.10
9	Additional operating expenditure - customer service	£m	3			0.000	0.000	
<b>D MAINTAINING SUPPLY/DEMAND BALANCE</b>								
10	Capital expenditure supply/demand balance	£m	3	69.143	72.649	45.287	-27.362	-37.66
11	Total enhancement capital contributions	£m	3			1.256	1.256	
12	Capex net of enhancement capital contributions	£m	3	69.143	72.649	44.031	-28.618	-39.39
13	Additional operating expenditure supply/demand balance	£m	3			0.596	0.596	
<b>E EXPENDITURE TOTALS</b>								
14	Total gross capex - gross of grants (ire net) and excluding new outputs	£m	3	196.136	206.083	173.896	-32.187	-15.62
15	Total opex (excluding new outputs)	£m	3			88.395	88.395	
16	Total gross capex - gross of grants (ire net) and including new outputs	£m	3			173.896	173.896	
17	Total opex including new outputs	£m	3			88.395	88.395	

### **Table 36a - Sewerage service – expenditure comparisons by purpose**

The Strategic Business Plan was not structured using the PR process and as a result the data used and the systems adopted for the SBP analysis are not easily utilised to populate this table accurately. The reported SBP figures should not be treated as either accurate or robust.

It is difficult to report on the variations as noted on this table as the reporting methodology of the QBEG in the SBP and the CIDA allocation in 07/08 reporting year are derived differently. The variations are best examined on a project by project basis using the CIM template.

The Weighted average COPI factor adopted in the SBP Financial model of 5.07% has been adopted to determine the 07/08 figures

Figures reported in Columns 1 and 2 of this table are post efficiency

Opex figures have not been reported for columns 1 and 2 as these figures were not proportionally allocated for the SBP.

#### **Line 8.**

Enhanced Service levels expenditure has increased for the following 2 main reasons.

Within the SBP all business improvement projects were allocated to Base Service Provision. These are now allocated to Enhanced Service Level (ESL) as they will contribute to a significant change within the company and deliver ESL outputs.

All structural grade 5 sewers that have been replaced have been allocated to Backlog Base which is reported as ESL. This contributes to both a reduction in Base expenditure and subsequently an increase in ESL expenditure.

#### **Line 14.**

The total SBP Sewerage predicted expenditure as per the table is £206.1m in 07/08 prices. The actual expenditure was £173.2m. The main reason for this has been a re-evaluation of the WwTW works programme and the proposed solutions to ensure they are best value as well as providing a suitable solution. This has delayed the commencement of some projects.

**NORTHERN IRELAND WATER LIMITED**

**ANNUAL INFORMATION RETURN - TABLE 37 FINANCIAL MEASURES**

**WATER COMPLIANCE - EXPENDITURE REPORT**

DESCRIPTION	UNITS	DP	1		2		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	
<b>A OBLIGATIONS PRIOR TO THE SBP</b>							
1	Capex: Completion of programme of work funded prior to the SBP	£m	3	N/C		0.000	
2	Opex: Completion of programme of work funded prior to the SBP	£m	3	N/C		0.050	B4
<b>B WATER TREATMENT</b>							
3	Capex: Nitrates	£m	3	N/C		0.000	B3
3	Capex: Pesticides	£m	3	N/C		0.000	B3
5	Capex: Cryptosporidium	£m	3	N/C		0.686	B3
6	Capex: Lead water conditioning	£m	3	N/C		0.000	B3
7	Capex : Other parameters	£m	3	N/C		2.886	B3
8	Opex: Water treatment	£m	3	N/C		0.000	B4
<b>C WATER DISTRIBUTION</b>							
9	Capex: Total S19 distribution expenditure	£m	3	N/C		0.000	B3
10	Capex: Distr bution expenditure allocated to quality	£m	3	N/C		11.675	B3
11	Capex: Lead communication pipes	£m	3	N/C		0.168	B3
12	Opex: Quality distribution	£m	3	N/C		0.000	B4
<b>D SECURITY RELATED MEASURES</b>							
13	Capex: Security-related	£m	3	N/C		0.208	B3
14	Opex: Security-related	£m	3	N/C		0.000	B4
<b>E ENVIRONMENTAL PROGRAMME</b>							
15	Capex: Investigations	£m	3	N/C		0.000	B3
16	Capex: Options appraisals/implementations	£m	3	N/C		0.090	B3
17	Opex: Environmental obligations	£m	3	N/C		0.000	B4
<b>F CAPEX &amp; OPEX TOTALS</b>							
18	Capex: Total quality enhancement (water)	£m	3			15.714	B3
19	Opex: Total quality enhancement (water)	£m	3			0.050	B4

## Table 37 - Water Compliance – Expenditure Report

The reporting of expenditure in Table 37 is consistent with the methodology outlined in Chapter 34. In summary proportional allocation is not completed at project level and not at programme level as per the SBP.

The table below shows progress that NIW is making to deliver the DWI requirements as outlined in the SBP.

Table 2

	DWI ref no	2007/08	2008/09	2009/10
<b>Planned Project completions (Agreed with DWI or SBP)</b>				
Carran Hill WTW	W2802	Sept 07		
Clay Lake WTW	W2509		Aug 08	
Seaghan WTW	W2514			Nov 09
Programme Delivery Schedule Actual/latest best estimate				
Carran Hill WTW	W2802	Aug 07		
Clay Lake WTW	W2509		July 09	
Seaghan WTW	W2514			Dec 09

Carran Hill WTW was operational earlier than planned. Clay Lake WTW was substantially completed in January 2007 but operational issues resulted in a delay of full completion. While consultation on the preferred treatment process delayed the start of the work at Seaghan WTW it is predicted that completion will be within one month of the planned date.

### Pre SBP Obligations (line 1)

NIW have not reported in the table any quality projects for either WTW or Trunk Mains in 07/08 which had no SBP funding as the projects have multiple drivers. It is noted that £1.04 million has been accrued in 07/08 against Project no JF567 – Lough Ross/Carran hill WTW. The project was listed in the Original SBP base Spreadsheets to be completed in 06/07. The outputs for Lough Ross/Carran hill WTW are reported in Water Compliance section.

JF565 Fofanny EC compliance project also was predicted to complete in 06/07 as per the SBP but it is noted as having accrued £0.66million in 07/08. The outputs are reported in the Water compliance section.

Twenty one infrastructure projects which were anticipated for completion in 06/07 and hence had no SBP funding accrued expenditure in 07/08. The following are the significant projects all with multiple driver allocations including Quality Enhancement

- Seaghan Zone Wm improvements £0.7million
- Newry Zone Wm improvements £0.7million
- Warrenpoint Zone Wm imps £0.7million

As per Table 35 commentary the total accrued on Pre SBP projects with no SBP funding for Water Service is as follows:

- Water Infra - £3.76m
- Water non infra - £1.74m

## **Water Compliance**

### **Water Treatment (lines 3 – 7)**

The water compliance programme allowed in the SBP price limits addresses the need to improve the water quality supplied from Carran Hill WTW, which was supported by DWI. For the works completed the total design flow is 6.8MI/d The main drivers for this project were as follows:99% quality Enhancement, 1% Base Service Provision.

### **Water distribution (Lines 9 – 11)**

#### **Mains Rehabilitation (Lines 9 – 10)**

In the twelve months to the 31st March 2008 NIW has rehabilitated a large length of ferrous mains as part of the Quality programme. The length has not been captured during 2007/08 on a routine basis and as such is not reported this year. For 2008/09 this information will be captured for reporting.

In 2007/08 NIW as has laid a total of 260.5km of mains. A large of portion of this is attributable to Quality Enhancement. The portion attributed to quality varies with each project as recorded within the Capital Investment Driver allocations.

Quality expenditure on water main rehabilitation is proportionally allocated on a project basis.

#### **Large Diameter Trunk Mains (line 10)**

Expenditure of £4.26million has taken place in 07/08 on the North Down Trunk Main project. 24% of this investment relates to Quality Enhancement.

#### **Lead communication pipes (line 11)**

The £0.168million reported on this line related to lead communication pipe replacement. NIW does not have any obligation within the SBP from DWI to replace specific lead communication pipes. The finance reported here is a result of lead comm. Pipes replaced in conjunction with the watermain rehabilitation programme and individual homes replacing individual service pipe and NIW have replaced the company owned communication pipe at this connection.

#### **Security Related Measures (line 13)**

£0.2million was spent in 2007/08 to deliver work related to the Security and Emergency Measures.

**Options appraisals/implementation (line 16)**

The £90k reported on this line was spent in 2007/08 to complete Impounding Reservoir Health and Safety inspections.

**PPP**

In 07/08 there is no PPP Capital attributed to Water Service.

NORTHERN IRELAND WATER LIMITED

ANNUAL INFORMATION RETURN - TABLE 38 FINANCIAL MEASURES (not including PPP)

SEWERAGE COMPLIANCE - EXPENDITURE REPORT

DESCRIPTION	UNITS	DP	3		4	
			BASE YEAR SBP		REPORTING YEAR	
			2006-07	CG	2007-08	CG
<b>A OBLIGATIONS PRIOR TO THE SBP</b>						
1 Capex: Completion of programme of work funded prior to the SBP - continuous discharge	£m	3	N/C		0	
2 Capex: Completion of programme of work funded prior to the SBP - intermittent discharge	£m	3	N/C		0	
3 Capex: Completion of programme of work funded prior to the SBP – sewage sludge management	£m	3	N/C		0	
4 Opex: Completion of programme of work funded prior to the SBP	£m	3	N/C		0	
<b>B INTERMITTENT DISCHARGES</b>						
5 Capex: Unsatisfactory intermittent discharges	£m	3	N/C		40.614	B3
6 Opex: Unsatisfactory intermittent discharges	£m	3	N/C		0.000	B4
<b>C EU DIRECTIVES</b>						
7 Capex: Continuous discharges - UWWTD	£m	3	N/C		0.515	B3
8 Opex: Continuous discharges - UWWTD	£m	3	N/C		0.000	B4
9 Capex: Continuous and intermittent discharges – Bathing Waters Directive	£m	3	N/C		0.087	B3
10 Opex: Continuous and intermittent discharges – Bathing Waters Directive	£m	3	N/C		0.000	B4
11 Capex: Continuous and intermittent discharges – Freshwater Fish Directive	£m	3	N/C		1.865	B3
12 Opex: Continuous and intermittent discharges – Freshwater Fish Directive	£m	3	N/C		0.000	B4
13 Capex: Continuous and intermittent discharges – Habitats Directive	£m	3	N/C		0.005	B3
14 Opex: Continuous and intermittent discharges – Habitats/ Directive	£m	3	N/C		0.000	B4
15 Capex: Continuous and intermittent discharges – Other EU Directives	£m	3	N/C		5.480	B3
16 Opex: Continuous and intermittent discharges – Other EU Directives	£m	3	N/C		0.095	B4
<b>D OTHER ENVIRONMENTAL PROGRAMMES</b>						
17 Capex: First Time Sewerage	£m	3	N/C		0.860	B3
18 Opex: First Time Sewerage	£m	3	N/C		0	B4
19 Capex: CRoW Act	£m	3				
20 Opex: CRoW Act	£m	3				
21 Capex: Chemicals – endocrine disruptor schemes	£m	3	N/C		0	B3
22 Opex: Chemicals – endocrine disruptor schemes	£m	3	N/C		0	B3
23 Capex: Other cost drivers	£m	3	N/C		0	B3
24 Opex: Other cost drivers	£m	3	N/C		0	B3
<b>E INVESTIGATIONS</b>						
25 Capex: Investigations	£m	3	N/C		0	B3
26 Opex: Investigations	£m	3	N/C		0	B3
<b>F SEWAGE SLUDGE MANAGEMENT</b>						
27 Capex: Enhanced sewage sludge management	£m	3	N/C		0	B3
28 Opex: Enhanced sewage sludge management	£m	3	N/C		0	B3
<b>G CAPEX &amp; OPEX TOTALS</b>						
29 Capex: Total quality enhancement programme – sewerage service	£m	3	N/C		49.426	B3
30 Opex: Total quality enhancement programme – sewerage service	£m	3	N/C		0.095935	B4

## Table 38 - Sewerage Compliance – Expenditure report

The allocation of expenditure in Table 38 is based upon the same methodology adopted for the other CAPEX tables. The detail for quality enhancement apportionment is as follows. NB. In NIW most Wastewater Treatment projects have multiple drivers with many projects having five or more environmental drivers.

Table 5: SBP Quality Drivers

Title	Completion Date	Year to be Delivered	Quality Enhancement Driver														
			UNWTD Failures for BOD/COD 1999/2000 (U1)	UNWTD Failures for BOD/COD 2005 (U2)	Nutrient removal in existing sensitive areas (U3)	Nutrient removal in new sensitive areas (U4)	Appropriate treatment at WWTW with p.e. 250 - 2,000 Inland and - 10,000 c	Appropriate treatment for works < 250 p.e. category (U6)	Appropriate treatment for WWTWs < 250 p.e. category 2a (U7)	Hotspot falling UWWTD(HS1)	Hotspot falling RDS or public complaints (HS2)	Causing failure to comply with BMD mandatory standards(BMD)	Failure to meet Shellfish water requirements (SF)	Failure to meet Freshwater Fish Directive requirements (FF1)	Predicted failure to meet Freshwater Fish Directive requirements(FF2)	Failure to meet GOA or WFD standards (WOWWFD)	Expenditure required to remove dangerous substances (DS)
AUGHER WWTW	Aug-07																
BALLINAMALLARD WWTW	May-07																
BELCOO WWTW	Apr-07																
BELFAST LOUGH NORTH SHORE - WHITEHOUSE	Nov-07																
BELLAGHY WWTW	Sep-07																
BERAGH & SKMILECROSS WWTWS	Apr-07																
CABRAGH WWTW	Oct-07																
CLADY WWTW	Jun-07																
CLAUDY WWTW	Nov-07																
CLOUGH WWTW	Jul-07																
COOKSTOWN WWTW	Nov-07		X											X	X		
DERRYHALE WWTW	Jan-07													X	X		
DERRYNAGH WWTW	Mar-08			X										X	X		
IRVINESTOWN WWTW	Mar-08													X	X		
KILLYEA/CALEDON WWTW	Jun-07													X	X		
KILLYMAN WWTW	Jan-08													X	X		
LARNE WWTW	Aug-07		X											X	X		
LENADERG/SEAPATRICK WWTWS	Jun-07													X	X		
LOUGHGULE WWTW (INC CORKEEY)	Sep-07													X	X		
MAGHERA WWTW	Jun-07			X										X	X		
NORTH COAST WWTW	Mar-08		X											X	X		
POMEROY WWTW	Sep-07													X	X		
RASHARKE WWTW	Jul-07													X	X		
RATHFRILAND WWTW	Apr-07													X	X		
ROUGHFORT WWTW	Mar-08													X	X		
ROSEHILL WWTW	Jan-08													X	X		
ROSEHILL WWTW	Nov-07													X	X		
SANDRIDGE WWTW (INC SCARVA, AULISH & LAURALVALE)	Nov-07													X	X		
BALLYNADOLLEY WWTW	Jun-07													X	X		
BALLYNAGROSS WWTW	May-07													X	X		
DRUMNAKILLY WWTW	Feb-08													X	X		
LETTERGREEN SEWERAGE SCHEME (WWTW)	Feb-08													X	X		
MORRONS CROSS PLUMP AWAY	Jun-07													X	X		
TAMNAMORE/MULNAKILL & CLONTYCLAY RBCs	Dec-07													X	X		
ANNAHILT WWTW (including Poundsburn FA)	Mar-09													X	X		
BALLYBRAKE/SILENSTALL WWTWS	May-08		X			X								X	X		
BELLEK WWTW, NEWRY	Jul-08													X	X		
BELLANALECK WWTW	Sep-08													X	X		
BUSH WWTW	Feb-09													X	X		
DERRYLIN WWTW	Nov-08													X	X		
DROMORE WWTW	Oct-08			X										X	X		
GILFORD WWTW	Mar-09			X										X	X		
HILLTOWN WWTW	Dec-08													X	X		
KILLEN WWTW	Aug-08													X	X		
MAGHERALIN WWTW	Sep-08													X	X		
MULLAGHBOY WWTW	May-08													X	X		
NEWTOWNBREDA, DUNMURRY & NEW HOLLAND WWTWS NUTRIE	Mar-09		X			X								X	X		
PARK WWTW	Feb-09													X	X		
STRANGFORD WWTW (INC KILCLIEF RT)	Aug-08													X	X		
CARROWCLARE WWTW	Apr-08													X	X		
CRANAGH WWTW	Dec-08													X	X		
BALLYBOEY WWTW	Aug-09													X	X		
BALLYHAI BERT WWTW	Jun-09													X	X		
BALLYHASKIN WWTW	May-09													X	X		
BALLYWALTER WWTW	Aug-09													X	X		
BENBURB WWTW	Apr-09													X	X		
BENONE WWTW AND BENONE AREA SEWERAGE	Mar-10													X	X		
CASTLEWELLAN/ANNISBOROUGH WWTW	Apr-09													X	X		
CLOUGHY WWTW	May-09													X	X		
DARRAGH CROSS WWTW (in parallel with Saintfield)	Mar-10													X	X		
DONNYBREW WWTW	Sep-09													X	X		
DRAPERSTOWN WWTW	Feb-10			X										X	X		
DROMARA WWTW	Jul-09													X	X		
EDENDERRY WWTW	Oct-09													X	X		
ENNISKILLEN WWTW	Mar-10		X		X									X	X		
HAMILTONSBAWN WWTW	Apr-09													X	X		
LMAVADY WWTW	May-09		X			X								X	X		
LSBARNET WWTW	Sep-09													X	X		
LOWER BALLINDERRY WWTW	Sep-09													X	X		
LURGANARE WWTW	Feb-10													X	X		
PORTAFERRY WWTW	Feb-10													X	X		
PORTAVOOGIE WWTW	Aug-09													X	X		
RAHOLP WWTW	Jun-09													X	X		
SAINTFIELD WWTW	Mar-10			X										X	X		
SEAHILL WWTW	Feb-10													X	X		
WARRENPOINT WWTW	Aug-09													X	X		
KILLEA WWTW	Sep-09													X	X		

Table 6 SBP compared with 07/08 delivery

Project Title	SBP Completion date	Current completion date
Augher WwTW	Aug-07	Aug-07
Ballinmallard WwTW	May-07	Aug-07
Belcoo WwTW	Apr -07	Nov-07
Belfast Lough North Shore – Whitehouse	Nov-07	Oct-06
Bellaghy WwTW	Sept-07	Jan-07
Beragh and Sixemilecross WwTW's	Apr -07	May-07
Cabragh WwTW	Oct-07	Mar-08
Clady WwTW	Jun-07	Oct-07
Claudy WwTW	Nov-07	Oct-07
Clough WwTW	Jul-07	Feb-07
Cookstown WwTW	Nov-07	Nov-06
Derryhale WwTW	Jun-07	Jun-07
Irvinestown WwTW	Mar-08	Oct-07
Killylea/Caledon WwTW	Jun-07	Dec-06
Killyman WwTW	Jan-08	Jun-08
Larne WwTW	Aug-07	Jul-07
Lenaderg/Seapatrick WwTW	Jun-07	Jun-07
Loughguile WwTW (inc Corkey)	Sept-07	Nov-06
Maghera WwTW	Jun-07	Dec-06
North Coast WwTW	Mar-08	Nov-07
Pomery WwTW	Sept-07	Nov-06
Rasharkin WwTW	Jul-07	Feb-07
Rathfriland WwTW	Apr-07	Sep-07
Roughfort WwTW	Mar-08	Dec-08
Sion Mills WwTW	Jan-08	Mar-08
Tandragee Imps incl Scarva, Auglish and Lauralvale	Nov-07	Mar-07
Ballynadolley WwTW	Jun-07	Sep-05
Ballynagross WwTW	May-07	Apr-07
Drumnakilly WwTW	Feb-08	Oct-07
Letterbreen Sewerage Scheme	Feb-08	Oct-07
Morrows Cross Pump Away	Jun-07	May-08
Tamnamore/Mullnakill and Clontyclay RBC's	Dec-07	Mar-08

The general methodology for apportionment of these costs is outlined in Chapter 34. Where the scheme (or components of the scheme) have multiple Quality drivers, the costs have been split and assigned to the appropriate drivers.

The Quality portion of each scheme (or component) can be split across a maximum of 6 drivers from the following list;

- Unsatisfactory Intermittent Discharge;
- U1 - UWWTD Failures for BOD/COD 1998/2000;
- U2 - UWWTD Failures for BOD/COD 2005;
- U3 - Nutrient removal in existing sensitive areas;
- U4 - Nutrient removal in new sensitive areas;
- U5 - Appropriate treatment of WWTW with PE 250 - 2,000 inland and 10,000 coastal;
- U6 - Appropriate treatment at WWTW <250 PE Category 1;
- U7 - Appropriate treatment at WWTW <250 PE Category 2a;
- HS1 - Hotspot failing UWWTD;
- HS2 - Hotspot failing RDS or public complaints;
- BWD - Causing failure to comply with BWD mandatory standards;
- SF - Failure to meet Shellfish Water Directive requirements;
- FF1 - Failure to meet Freshwater Fish Directive requirements;
- FF2 - Predicted failure to meet Freshwater Fish Directive requirements;
- WQO / WFD - Failure to meet GQA or WFD standards;
- DS - Expenditure required to remove dangerous substances;
- HD - Responsible for breach of the Habitats Directive;
- FTS - First Time Sewerage.

The proportion assigned to each contributing driver is derived from the WWTW scores provided by EHS. Where the WWTW does not appear on the list, or where no scores are provided, the supervising Engineer responsible for the scheme has applied his / her engineering judgement and project knowledge to identify the relevant driver(s) and to assign appropriate score(s). For example, if WWTW "A" has been assigned scores of 3 for FF2 and 2 for U6, then 60% (i.e. 3/5) of its Quality cost has been allocated to the FF2 driver and 40% (i.e. 2/5) has been assigned to the U6 driver."

NIW Completed 18 of wastewater treatment works as agreed in the SBP targets. A further 11 are reported completed earlier than the SBP targets.

2 projects with SBP target completions in 08/09 have been completed in 07/08. These are Ballybrakes/Glenstall WwTW and Bush WwTW.

First Time Sewerage – The SBP had no First Time Sewerage projects listed as being required by EHS to be delivered to meet the quality programme outputs. NIW has invested capex in 07/08 on projects which are in accordance with the RAG20.03 definition of first time sewerage. This expenditure has been reported on line 17 of the Table.

## **PPP**

In 07/08 the only PPP is for Sewerage Service. The amount capitalised is 524k made up as follows, Kinnegar £221k and Omega 303k totalling to £524k. CIDA has not been completed on these projects to date and due to the small value the £524k has not been allocated in this Table.

## Pre SBP obligations

NIW have not reported in the table any quality enhancement projects for either Sewerage, Sewerage Treatment or sludge Treatment. Most of the projects which accrued expenditure in 07/08 which had been anticipated to have been completed Pre SBP have multiple drivers.

The following projects had expenditure >£0.5m in this category in 07/08

- Sewerage infra (a total of 83 projects contributed to Pre SBP category) Not all of these contain Quality Enhancement as some for sewer extensions to new developments.
  - Abbey Park, Kilkeel Sewer Replacements. (£0.5million) The Capital Investment Driver allocation for this project is as follows  
44% Base Service Provision, 28% Enhanced Service Level and 28% Supply Demand Balance.
- Sewerage non Infra (a total of 37 projects contributed to Pre SBP category with the majority having a Quality Enhancement element)
  - Tammore, Mulnakill and Clontyclay RBC's (£0.6million)
  - Culmore WWTW Sec Treatment and Pennyburn SPS (£0.8million)
  - Drumnakilly, Altamuskin and Carrowclare RBC installations (£0.7million)
  - Belfast Lough North Shore (£2.0mi)

NORTHERN IRELAND WATER LIMITED - ANNUAL INFORMATION RETURN

ANNUAL INFORMATION RETURN- TABLE 41 KEY OUTPUTS  
HEALTH & SAFETY INFORMATION (incl. PPP)

DESCRIPTION	UNITS	DP	1		2		
			BASE YEAR SBP 2006-07	CG	REPORTING YEAR 2007-08	CG	
<b>A LOST TIME DUE TO SICKNESS AND ACCIDENTS AND INCIDENCE OF OCCUPATIONAL ILL HEALTH</b>							
1	Employee total	nr	0	1709	A2	1677	A2
2	Total days lost due to sickness, accident and occupational ill health	nr	0	21871	A2	18882	A2
3	Total days lost - rate per 1000 employees	nr	2	12815.00	A2	11259.39	A2
4	Number of incidents of occupational ill health	nr	0	152	A2	172	A2
5	Incidents of occupational ill health - rate per 1000 employees	nr	2	88.96	A2	102.56	A2
<b>B RIDDOR REPORTS</b>							
6	Total RIDDOR incidents	nr	0	17	A1	16	A1
7	RIDDOR - rate per 1000 employees	nr	2	9.95	A1	9.54	A1
8	3-day accident rate per 1000 employees	nr	2	9.95	A1	9.54	A1
9	Major/fatal accident rate per 1000 employees	nr	2	0	A1	0	A1
<b>C CONTRACTORS' LOST TIME DUE TO SICKNESS AND ACCIDENTS, AND INCIDENCE OF OCCUPATIONAL ILL HEALTH</b>							
10	Contractors' employees total	nr	0			N/C	
11	Total days lost due to sickness, accident and occupational ill health	nr	0			N/C	
12	Total days lost - rate per 1000 employees	nr	2			N/C	
13	Number of incidents of occupational ill health	nr	0			N/C	
14	Incidents of occupational ill health - rate per 1000 employees	nr	2			N/C	
<b>D CONTRACTORS' RIDDOR REPORTS</b>							
15	Total RIDDOR incidents	nr	0			N/C	
16	RIDDOR - rate per 1000 contractors' employees	nr	2			N/C	
17	3-day accident rate per 1000 contractors' employees	nr	0			N/C	
18	Major/fatal accident rate per 1000 contractors' employees	nr	2			N/C	

## **Table 41 - Health & Safety Information**

### **Lines 1-5**

In 06/07 288 staff from the Water Service elected to remain with the Northern Ireland Civil Service and not join the new Government Owned Company on 1<sup>st</sup> April 2007. This had a major impact on the business in terms of resourcing, business critical posts and the restructuring of both people and processes in 2007/08.

This was further amplified in 2007/08 with the NI Water people efficiency programme in line with the Strategic Business Plan which required the removal of 112 posts from the business through Voluntary Early Retirement which concluded on the 31<sup>st</sup> March 2008.

The uncertainty generated by this transformational restructuring exercise had an adverse impact on absence figures as staff had major concerns about job security. NI Water lost 18950 total working days due to sickness absence in 07/08 which is equivalent to 11.3 days lost per employee. The Northern Ireland Civil Service average days lost due to sickness absence in 06/07 was 13.7%.

To reduce absence in 2007/08 NI Water developed a Staff Attendance KPI and linked the achievement of this target to a Corporate bonus for all staff. In the autumn of the same year a Health and Well Being Strategy was launched providing staff with a number of initiatives and interventions to support employee well being and return to work after illness.

These have delivered some success with the number of days lost to sickness absence dropping from 20812 in 2006/07 to 18950 in 2007/08

### **Line 6 – Total RIDDOR Incidents**

Northern Ireland Water (NIW) procedures for accident recording are summarised as follows:-

It is the relevant line manager's responsibility to ensure all accident details are recorded in a prescribed Accident Book and that all relevant investigation details are recorded within an accident investigation (HS1) Form.

The Line manager signs off the HS1 Form and forwards it to the HR Directorate co-ordinator (to deal with personnel issues) with a copy to the Safety Advisory Officer (SAO) for the particular function within which the accident took place. All accidents, incidents, near misses are examined by the SAO to facilitate transferable learning and for ensuring accident statistics are collected centrally for analysis by the Senior Safety Advisory Officer.

It is a legal requirement that all RIDDOR Reports must be forwarded by the Line Manager to the Health and Safety Executive Northern Ireland (HSENI) on their prescribed NI2508 Form.

The SAO's carry out routine checks to ensure all RIDDOR reports have been completed and forwarded to the HSENI and cross referenced with NIW H&S statistics. This aspect of NIW accident reporting is regularly audited. Statistical trends are examined by the Head of H&S and presented monthly at Executive Level for comment through the Safety Health & Environment (SHE) Report.

There were 16 RIDDOR reportable accidents within NIW in 2007/08 and these can be categorised as:-

- 47% attributable to “slips trips and falls”
- 40% attributable to “manual handling”
- 13% attributable to other categories.

**Line 7 – RIDDOR Rate per 1000 employees**

The information gathering process is as described for Line 6 above. The rate per 1000 employees is calculated using the figure of 1708 employees for 2006/07 and 1677 for 2007/08.

**Line 8 – 3 day accident Rate per 1000 employees**

The information gathering process is as described for Line 6 above. The information in Line 8 mirrors that of Line 7 as all RIDDOR accidents in 2007/08 were 3-day RIDDOR accidents.

**Line 9 – Major Fatal accident Rate per 1000 employees**

The information gathering process is as described for Line 6 above and no Major/ Fatal accidents were recorded in 2007/08.

**Lines 10 – 18. Contractor’s H&S Statistics.**

NIW has not historically collected these particular statistics. However, statistics are gathered on new-works and operational contractors as indicated in the 2007/08 year-end table below. This table was included with other H&S performance information to the NIW Executive Team, Board and Risk and Reputation committee in May 2008.

**Table 2 - CONTRACTOR SAFETY STATISTICS, 2007/08**

Category	Target	Year end Out-turn
All “Lost Days” Accidents	<18	11 Target achieved
No. of minor accidents (no days lost associated)	>9	10 Target achieved
Dangerous occurrences	<9	2 Target achieved
Near Miss.	>10	7 Target not achieved

It is envisaged that the level of reporting of accidents incidents and near misses will increase in the coming year following on from the steps taken in 2007/08 as listed below:-

1. the promotion of safe working through two H&S seminars, with HSE input, held by NI Water for its major contractors.
2. the setting up of regular senior management inspections of NIW Contractors sites.
3. the setting up of a new Operations Contracts Monitoring Centre.

To measure and monitor the outcome of the activity outlined above, a new and very challenging target, of 75 near-misses, has been set within the overall reporting of accidents and incidents for both NIW and contractors.

In 2008/09 contractor lost day accidents will be further analysed to provide the necessary RIDDOR statistics to complete line 15 of Table 41, for new build and operational contractors.

New processes across NI Water will be implemented in order to collect additional contractor information as listed in table 41. It is planned that NIW will contact the HSENI to discuss and determine their reporting requirements in the near and longer term in line with their particular strategies on Health, Safety and Well-being.

### **Key Events:**

Three Key Events occurred in 2007/08 which have and will continue to have a beneficial effect on reducing accidents.

#### **1. H&S Capability Audit.**

NIW initiated an H&S “Capability Audit” which was carried out by the Royal Society for the Prevention of Accidents (ROSPA). This Audit reviewed the companies H&S Management System against the HSE guidance document HS (G) 65 and made a number of recommendations for improvement to the NIW system.

The recommendations were agreed and an implementation plan initiated by November 2007. Revision of the NIW H&S manual and re-structuring of the H&S Team has been completed in line with ROSPA recommendations.

#### **2. Zero Accident Ambition.**

A Zero Accident Ambition was agreed by NIW Board and a long term strategy has been put in place to work towards this objective.

This campaign is being lead at Directorate level with regular senior management H&S site visits. “Near –miss” reporting is also being encouraged and stepped up across the organisation.

#### **3. Health and Well-being Strategy**

NIW implemented a Health and Well-being strategy aimed at informing staff of typical health hazards and improving life-styles. Health promotion events were carried out across NI with the help of medical professionals. Reduced rates at health and fitness centres were negotiated for NIW staff and promoted at these events.



## **Annual Information Return 2008**

### **Service Target Report**

**SERVICE TARGET REPORT - Table 1: Water Service**

DESCRIPTION	UNITS	DP	LAST KNOWN PERFORMANCE			2007-08 TARGET	2007-08 OUT TURN		2008-09 TARGET	2009-10 TARGET	
			Reporting Year	Outturn	CG			CG			
<b>A Providing adequate pressure</b>											
1	Percentage of NIW's connected properties experiencing inadequate pressure. (Where water pressure in a communication pipe fell below 7 metres static head on two occasions, each lasting not less than one hour, in a period of 28 consecutive days.)	%	2	N/C	N/C		None Set	N/C		None Set	None Set
2	Percentage of NIW's connected properties below the reference level of 10 metres head of pressure, at a flow of 9 litres per minute. (For ease of measurement NIW might adopt a surrogate pressure (usually 15 metres head) in the adjacent water main serving the property.)	%	2	N/C	N/C		None Set	N/C		None Set	None Set
<b>B Planned interruptions to water supply</b>											
3	Percentage of connected properties experiencing a planned interruption where the supply of water was not restored within the time period specified by NIW in its advance notice.	%	2	N/C	N/C		None Set	3.80	B3	3.42	3.08
4	Percentage of connected properties experiencing planned interruptions which lasted more than four hours, to whom NIW failed to provide adequate notification in writing at least 48 hours in advance.	%	2	N/C	N/C		None Set	6.71	B3	6.03	5.43
<b>C Unplanned interruptions to water supply</b>											
	Percentage of connected properties experiencing unplanned interruptions to their water supply of greater than:										
5	3 Hours (Note: This is based on unplanned interruptions only)	%	2	2006-07	5.19	C4	None Set	7.58	B3	6.8	6.1
6	6 Hours (Note: This is based on unplanned interruptions + third party interruptions + overruns as per NIW's own KPI definitions)	%	2	2006-07	1.45	C4	2.00	1.35	B3	1.20	1.00
7	12 Hours (Note: This is based on unplanned interruptions + third party interruptions + overruns as per NIW's own KPI definitions)	%	2	2006-07	0.12	C4	0.25	0.24	B3	0.15	0.15
8	24 Hours (Note: This is based on unplanned interruptions + third party interruptions + overruns as per NIW's own KPI definitions)	%	2	2006-07	0.02	C4	0.03	0.01	B3	0.01	0.01
9	Percentage of properties affected by an unplanned interruption due to a leak or burst on a strategic main, where the supply was not restored within 48 hours.	%	2	N/C	N/C		None Set	0.00	B3	0.55	0.49
10	Percentage of connected properties affected by an interruption (planned or unplanned) which lasted more than 24 hours who were offered alternative water supplies.	%	2	N/C	N/C		None Set	100.00	B4	77	95
<b>D Water service (infrastructure)</b>											
11	Number of mains bursts (per 1000km of main).	Nr	2	2006-07	194.75	C4	None Set	138.53	C3	136.54	134.58
12	Percentage Mean Zonal Compliance with Prescribed Concentration/Value for Iron at the tap.	%	2	N/C	N/C		None Set	98.29		None Set	None Set

<b>E Water service (non-infrastructure)</b>											
13	Water treatment works coliform non-compliance	%	2	N/C	N/C		0.20	0.12		0.20	0.20
14	Number of provisional DWI (NI) enforcement notices at NIW's water treatment works.	%	2	N/C	N/C		None Set	3		To be assessed	To be assessed
15	Number of final DWI (NI) enforcement notices at NIW's water treatment works.	%	2	N/C	N/C		None Set	0		To be assessed	To be assessed
16	Number of provisional DWI (NI) enforcement notices at NIW's service reservoirs.	%	2	N/C	N/C		None Set	0		To be assessed	To be assessed
17	Number of final DWI (NI) enforcement notices at NIW's service reservoirs.	%	2	N/C	N/C		None Set	0		To be assessed	To be assessed
18	Percentage of water treatment works with leaving water turbidity samples' 95%ile greater than or equal to 0.5 Nephelometric Turbidity Unit (NTU).	%	2	N/C	N/C		None Set	16.28		None Set	None Set
19	Percentage of water treatment works with leaving water turbidity samples' 95%ile below 0.5 Nephelometric Turbidity Unit (NTU).	%	2	N/C	N/C		None Set	83.72		None Set	None Set
<b>F Security of Supply.</b>											
20	Security of Supply Index Score (Planned).			N/C	N/C		None Set	N/C		51	77
21	Security of Supply Index Score (Reference).			2003/04	-171	B4	None Set	-26	B4	51	77
22	Security of Supply Index Score (Critical).			N/C	N/C		None Set	N/C		None Set	None Set
23	Band Achieved (Planned).			N/C	N/C		None Set	D	B4	C	C
24	Band Achieved (Reference).			2003/04	D	B4	None Set	D	B4	C	C
25	Band Achieved (Critical).			N/C	N/C		None Set	N/C		None Set	None Set
	A: No deficit against target headroom (Score 100) B: Marginal deficit against target headroom. (Score 90-99) C: Significant deficit against target headroom. (Score 50-89) D: Large deficit against target headroom (Score < 50)										
<b>G Restrictions on water use</b>											
	Percentage of population served by NIW that has experienced water usage restrictions involving:										
26	Hosepipe Restrictions	%	2	2006-07	0.00	A1	None Set	0.00	A1	None Set	None Set
27	Drought Orders	%	2	2006-07	0.00	A1	None Set	0.00	A1	None Set	None Set
28	Sprinkler Restrictions	%	2	2006-07	0.00	A1	None Set	0.00	A1	None Set	None Set
29	Average number of person weeks of hosepipe restrictions imposed by NIW over a rolling 5 year period.	Nr	2	N/C	N/C		None Set	N/C		None Set	None Set
<b>H Leakage</b>											
30	Percentage compliance with preset leakage targets over a 3 year period (ML/d)	%	2	2006-07	0.00	A1	157	0.00		146	135.5
<b>I Drinking water quality</b>											
31	Mean Zonal Compliance (All parameters)	%	2	N/C	N/C		99.44	99.30		99.35	99.77
32	Compliance with Drinking Water Quality Regulations (Taking account of ADs)	%	2	N/C	N/C		99.72	99.66		None Set	None Set
33	Compliance with Drinking Water Quality Regulations (Not taking account of ADs)	%	2	N/C	N/C		99.6	99.33		None Set	None Set
34	Mean Zonal Compliance with six parameter Operational Performance Indicator. (Iron, Manganese, Aluminium, Turbidity, Faecal Coliforms, Trihalomethanes.)	%	2	N/C	N/C		None Set	95.81		None Set	None Set
35	Mean Zonal Compliance with Operational Performance Indicator (turbidity, iron and manganese)	%	2	N/C	N/C		98.9	98.98		98.95	99.00

# AIR08 Service Target Report

## Commentary for the STR Tables

Table 1 – Water service

Table 2 – Sewerage service

Table 3 – Customer service

Table 4 – Sustainability

### **Table 1 Water Service**

#### **Box A – Providing adequate pressure**

##### **Lines 1 & 2**

The objective for AIR08 was to have a substantially developed DG2 Register to provide an indication, at 31 March 2008, of the number of connected properties across Northern Ireland that are “at risk” of receiving 10 m head of pressure at a flow of 9 litres per minute. The Company has based its analysis on a surrogate pressure of 15m.

NIW does not have any current means of identifying those connected properties, where water pressure in a communication pipe falls below 7m head on two occasions, each lasting not less than one hour in a period of 28 consecutive days. The Company is currently considering the installation of GSM pressure loggers which would facilitate the capture of such information. However it is recognised that such a proposal will require capital investment and will take a period of time before adequate reporting can be provided.

Northern Ireland Water has identified 10,321 properties, at 31 March 2008, that could potentially be “at risk” of receiving pressure below the reference level. It is likely that there will be a significant number of properties that will already have an improved level of service, in relation to pressure, through the water rehabilitation capital investment programme that has been carried out over few years. These have not yet been taken into consideration. The Company will be reviewing the rehabilitation schemes completed and undertaking a robust logging process to ensure that the work undertaken provides these properties with adequate pressure. In 2008/09 further rehabilitation schemes will continue to improve pressure to properties identified within the Register.

The DG2 Register was developed through data from Zonal Studies, carried out by WS Atkins, which covered approximately 66% of the properties in Northern Ireland. NIW engaged Halcrow to cover the remainder of Northern Ireland by using MapInfo to identify critical points and then to carry out a pressure logging programme. The development of a DG2 Register has been a significant step forward for the Company and this work will continue with further analysis and development in 2008/09.

The primary process adopted, for identifying DG2 properties, was through the use of Zonal Studies which are based on network modelling. The models have been a valuable source in helping to identify DG2 properties. Where there were differences between the Zonal Study and NIW GIS data the properties affected, which totalled approximately 100,000, these were entered on a separate database for further investigation during 2008/09. NIW has taken a conservative approach and is aware that the data alignment issues are primarily a result of updates on the NIW GIS system which have taken place since the original Zonal Studies were undertaken. Further investigation will consist of desk top work, data compatibility alignment and the use of network logging. It is recognised that this further investigation may identify further DG2 properties.

The objectives for 2008/09 will be as follows:

- Investigate further the 100,000 properties where there are differences between Zonal Study data and NIW GIS data. This will continue throughout 2008/09 and be completed by end of March 2009;
- Determine the number of properties that can be removed from the DG2 Register, with improved pressure as a result of the watermain rehabilitation schemes that were completed before March 2008. This will be completed by the end of December 2008; and
- In relation to the watermain rehabilitation schemes, that are currently being undertaken, the target for 2008/09 is that 1000 properties will be removed from the DG2 Register.

### **Box B – Planned interruptions to supply**

#### **Line 3**

2007/08 was the first reporting period in which NI Water collated detailed interruption data from Networks Water, Leakage, Engineering and Procurement directorate and Customer Services directorate. Previously, information had been limited to the collation of property counts from Networks Water and E&P. It has not been possible to report on the historical performance for this line.

32 planned and warned interruptions overran during the reporting period although only 24 of the interruptions were over 6 hour's duration. This amounted to 835 properties having experienced an overrun or 3.80 % of all properties affected by a planned interruption of more than 6 hour's duration where a re-connection time was issued.

Assume : 10% reduction in current year figures for subsequent years.

Provisional target figure for 08/09 is taken as 90% of the 07/08 figure – 3.42%  
Similarly for 09/10 a further 10% reduction – 3.08%

#### **Line 4**

Within NI Water, reporting on DG3 is currently driven by the requirements of Table 2: Lines 5 to 19 of the Annual Information Return and NI Water's own KPI's. As such, no attempt has been made to record the numbers of properties affected by interruptions exceeding 4 hours.

In order to comply with the Regulator's request for Service Target information on properties affected by interruptions exceeding 4 hours, NI Water intends to introduce an additional property count field.

In order to report on the Service Target for AIR08, NIW has examined the numbers of properties affected by interruptions exceeding 3 hours and has assumed that the same numbers of properties would have been affected by interruptions exceeding 4 hours.

66 planned interruptions of more than 4 hour's duration were provided with less than 48 hour's advanced notification in writing. This amounted to 2,602 properties or 6.71 % of all properties affected by a planned interruption of more than 4 hour's duration where a re-connection time was issued.

Assume : 10% reduction in current year figures for subsequent years.

Provisional target figure for 08/09 is taken as 90% of the 07/08 figure – 6.04%

Similarly for 09/10 a further 10% reduction – 5.43%

### **Box C – Unplanned interruptions to supply**

#### **Lines 5 to 8**

At present, NI Water has three DG3 KPI targets:-

Supply interruptions (DG3) - number of properties experiencing unplanned and unwarned interruptions (expressed as a percentage of households) in excess of:

- (a) 6 hours
- (b) 12 hours
- (c) 24 hours

It has already been noted that the definitions of these KPI's differ from the Regulator's definitions for Table 1: Lines 6 to 8 of the Service Target Report in that NI Water includes third party interruptions and overruns when measuring the numbers of properties affected by unplanned interruptions.

For the purpose of the AIR08 Service Target Report, the Regulatory definition has been observed for Line 5 but NI Water has made the assumption that the Regulator would want NI Water to report on its three existing DG3 KPI's at Lines 6 to 8.

- In 2006/07, 5.19 % connected properties experienced unplanned interruptions to their water supply greater than 3 hours compared to 7.58 % in 2007/08.  
Assume : 10% reduction in current year figures for subsequent years.  
A provisional target of 6.8% and 6.1% have been set for 08/09 and 09/10
- In 2006/07, 1.45 % connected properties experienced unplanned interruptions to their water supply greater than 6 hours compared to 1.35 % in 2007/08.  
A target of 1.2% and 1.0% have been set for 08/09 and 09/10
- In 2006/07, 0.12 % connected properties experienced unplanned interruptions to their water supply greater than 12 hours compared to 0.24 % in 2007/08.  
A target of 0.15% and 0.15% have been set for 08/09 and 09/10
- In 2006/07, 0.02 % connected properties experienced unplanned interruptions to their water supply greater than 24 hours compared to 0.01 % in 2007/08.  
A target of 0.01% and 0.01% have been set for 08/09 and 09/10

To summarise, unplanned interruptions exceeding 3 and 12 hours have increased whilst unplanned interruptions exceeding 6 and 24 hours have decreased. The KPI target for properties affected by unplanned interruptions greater than 12 hours was only narrowly met in 2007/08, mainly because of two major incidents occurring in Q4 of the reporting period. A serious burst on an 18" main from Killyclougher SR Omagh on 24 January and a further burst in Newtownards on 18 March resulted in larger than average numbers of properties experiencing unplanned interruptions.

#### **Line 9**

NIW notes the use of the term 'strategic main' by the Regulator in the description of Table 1: Line 9.

NIW has collated information on the type of main associated with interruptions but under the headings of either 'Trunk' or 'Distribution'. For the purpose of the Service Target Report, NI Water has assumed that a strategic main is a trunk main but not a distribution main. However, NI Water has provided information in the commentary relating to distribution mains.

In 2007/08, only three interruptions lasted more than 48 hours and of these three interruptions, none involved a trunk main. Therefore, based on NI Water's interpretation of a strategic main, there would be nothing to report against this line.

Target for 08/09 and 09/10

During the AIR08 reporting period there were 2,022 burst in the distribution system affecting 78,185 properties. 2 of these bursts lasted more than 48hrs.

During the AIR08 reporting period there were 40 bursts in trunk mains affecting 8,644 properties. There were no bursts that lasted more than 48hrs.

Assume that 2 bursts in trunk mains did last more that 48 hours

Therefore : No of properties effect per burst in trunk mains  
 $= 8,644 / 40 \times 2 = 432$  properties

Expressed as a percentage of total number of properties affected by bursts -  
 $= 432 / 78,185 \times 100 = 0.55\%$  for 08/09

Assume 10% reduction for subsequent years

$= 0.55\% \times 0.9 = 0.49\%$  for 09/10

A provisional target of 0.55% and 0.49% have been set for 08/09 and 09/10

The 3 compliant records are listed in the following table:-

<b>Interrupt Number</b>	<b>Type Of Interruption</b>	<b>No Of Properties &gt;24 Hours</b>	<b>Length Of ITS (Hours)</b>	<b>Cause Of Interruption</b>	<b>Mains Type</b>
4768	Unplanned	12	61.00	Water Supply Failure	Distribution
5480	Unplanned	1	48.50	Burst Main/Main Repair	Distribution
4556	Unplanned Third Party	6	74.50	Burst Main/Main Repair	Distribution

Of the three interruptions on distribution mains, two were caused by burst mains/main repairs. It is not certain if the same number of properties affected for more than 24 hours were affected for more than 48 hours but that is the assumption that NIW has made.

### **Line 10**

Within NI Water, the Networks and Leakage functions use an input screen to record their DG3 information. This input screen has the facility for specifying whether or not alternate supplies were provided by NIW during an interruption.

Unfortunately, this information is not currently contained within the information extracted from OMIS. However, as the Regulator is only interested in alternate supplies where interruptions exceeded 24 hours, it has been possible to revisit the input screen of the 8 compliant OMIS records in order to establish this information.

The results of this exercise are listed in the table below:-

<b>Interrupt Number</b>	<b>Type Of Interruption</b>	<b>No Of Properties &gt;24 Hours</b>	<b>Length Of ITS (Hours)</b>	<b>Alternate Supplies</b>
2427	Unplanned	16	27.50	Bowser
4253	Unplanned	11	29.00	Bottled Water
3896	Unplanned	4	35.00	Bowser
4768	Unplanned	12	61.00	Bottled Water
4810	Unplanned	6	25.00	Bottled Water
4847	Unplanned	10	33.75	Bottled Water
5480	Unplanned	1	48.50	Bottled Water
4556	Unplanned Third Party	6	74.50	Bottled Water

There were no planned and warned interruptions or overruns of planned and warned interruptions greater than 24 hours duration.

Unfortunately, CSD and E&P report through an MS Excel spreadsheet which does not include an Alternate Supplies field and so it has not been possible to determine whether or not alternate supplies were provided during the two CSD interruptions exceeding 24 hours. There were no E&P interruptions exceeding 24 hours.

For the purpose of the Service Target Report, an assumption has been made that although unvalidated, alternate supplies were made available during the two CSD interruptions exceeding 24 hours.

In future, NI Water intends to collate E&P and CSD statistics on alternate supplies.

Assume : 10% reduction in current year figures for subsequent years.

A provisional target of 90% and 95% has been set for 08/09 and 09/10.

#### **Box D – Water service (infrastructure)**

##### **Line 11**

NIW has not previously set or measured a KPI target for burst mains but as the Service Target matches the description of Table 11: Line 11 of AIR08, NIW has been able to report and comment on past and current performance.

In 2006/07, NIW reported 194.74 mains bursts per 1,000km of main. In 2007/08 NIW reported 138.53, a significant reduction of 56.21. In an attempt to explain this reduction or to determine which of the two figures is the more accurate, the DG3 Interruptions to Supply Register has been examined for the 2007/08 reporting period and records relating to burst mains have been filtered out.

DG3 records confirm that 2,013 mains were repaired by Networks Water in 2007/08. This figure is within 7% of the independent extrapolated record of mains repaired by Networks Water from OMIS and Ellipse of 2,162.

Unfortunately, it has not been possible to independently validate the 2006/07 figure as a DG3 Register was not in place but admittedly, the calculation process involved a considerable degree of extrapolation, hence the C4 confidence grade i.e. accuracy outside 10% but within 25%.

The 2007/08 figure has been allocated an accuracy band of 3 i.e. accuracy outside 5% but within 10%. As the recorded data is a combination of work orders and written customer requests with some missing documentation and extrapolation used when monthly data was not available, the reliability band is C.

NI Water will set provisional targets for 2008/09 and 2009/10, based on the expected reduction in the number of bursts, brought about by the rehabilitation and replacement of mains.

T11: L2: Mains renewed = 136 km

T11: L3: Mains relined = 0 km

T11: L6: New mains = 238 km

Total length of mains improved =  $136 + 0 + 238 = 374$  km

T11: L12: Total length of mains at 31 March 08 = 26,067.07 km

$374 / 26,067.07 = 0.014$

$1 - 0.014 = 0.986$

$0.986 \times 138.53 = \mathbf{136.54}$  mains bursts per 1,000 km of main (Provisional 2008/09 Service Target)

$0.986 \times 136.54 = \mathbf{134.58}$  mains bursts per 1,000 km of main (Provisional 2008/09 Service Target)

#### **Line 12**

NI Water has no target set for MZC as an individual parameter. It is included in the Operational Performance Indicator based on Turbidity, Iron and Manganese (OPI TIM). This performance indicator shows a yearly increasing target as NI Water's Mains Rehabilitation Programme takes effect (as per Table 1 I25).

#### **Box E – Water service (non-infrastructure)**

##### **Line 13**

NI Water's target of 99.80% compliance includes both total and faecal coliform failures in its assessment. During 2007 there were no faecal coliform exceedances. As NI Water's capital works programme (including the replacement of 5 non-compliant water treatment works under the PPP tender) takes effect, coliform exceedances should become less frequent.

##### **Lines 14-17**

NI Water came under its new regulatory regime with effect from 1<sup>st</sup> April 2007. During the remaining 9 months of 2007, there were 3 provisional notices at Water Treatment Works. NI Water has no targets for this new enforcement process – this is to be reviewed at the end of 2008 after a full calendar year of enforcement.

**Line 18-19**

NI Water has committed to an ongoing capital works programme (including a major PPP tender to replace 5 non-compliant water treatment works). After this programme is complete, NI Water will be in a position to set targets for turbidity levels at its WTWs. The level in the return is 50% of the PCV value, and is not a current target at all WTWs.

**Box F – Security of supply****Lines 20 – 25**

An annual security of supply index (SOSI) calculation has not been undertaken historically within NI Water. Specific targets have not been set for SOSI and therefore there are no entries submitted for historic planned and target figures on lines 20 – 25 of the Service Target Report – Table 1. NI Water does not have a planned level in addition to the reference level and does not consider that critical period conditions are an important driver of their water resource planning.

The 2002-2030 Water Resource Strategy and the subsequent 2007 Review have identified the water available for use (WAFU) and the work required to ensure adequate supplies for Northern Ireland up to 2030. The last SOSI calculation was carried out in 2003/2004 and the index at that time was -171. The implementation of the work identified within the strategy has resulted in a noticeable improvement in this figure which has been assessed as -26 for the period 2007-08 and will improve again for 2008-09 with the availability of increase supplies being made available through the PPP coming online during 2008.

A review of the current strategy has commenced recently to assess how the present NIW strategy compares to the current approach in England and Wales and this will be used to define the requirements for a revision of the strategy to commence early in 2009. This review may result in revised figures for WAFU and demand but in advance of this information estimates have been used to provide target SOSI figures for 2009 and 2010. The confidence grades applied have been reduced to B4 to reflect the age of the data being used for the estimates.

**G Restrictions on water use**

Percentage of population served by NIW that has experienced water usage restrictions involving:

- Line 26: Hosepipe Restrictions
- Line 27: Drought Orders
- Line 28: Sprinkler Restrictions
- Line 29: Average number of person weeks of hosepipe restrictions imposed by NIW over a rolling 5 year period

Drought orders are not applicable in 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.

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. It is thought that the register will be updated and maintained by the Asset Management Directorate.

## **Box H – Leakage**

### **Line 30**

Leakage levels for NIW have been assessed using the methodology described in Table 10 of the Ofwat reporting requirements for the England and Wales Water Companies as adopted by NIAUR. The UKWIR NERA Demand Forecasting Methodology has been used for estimating the different components of distribution input (post MLE).

NIW has reduced leakage year on year from a peak of 291 MI/d in March 2002 to the current level of 156.2 MI/d. The leakage target for this year was 157 MI/d. The leakage target for AIR09 is 146 MI/d and Economic Level of Leakage figure, to be achieved by AIR10, is 135 MI/d.

NIW continues to strive to improve the confidence and robustness of the components of the ‘Top Down’ and ‘Bottom Up’ leakage calculations. This is achieved by reviewing the calculation of the various components of leakage and if appropriate, refining the methodology.

During the reporting year there have been changes in both property numbers and measured consumption information which have had impact in relation to top down leakage assessment. NIW recognised that it had issues in both these areas and work was undertaken, through the establishment of a Data Integrity Group, to improve the accuracy of the data. The review of such data will continue during 2008/09. The changes that have occurred in relation to metered consumption and property numbers are reflected in the movement in the imbalance between top down and bottom up leakage figures from 13.39 MI/d (2.16%) in AIR07 to 29.41 MI/d (4.79%) in AIR08.

The bottom-up leakage assessment is analysed using the 20<sup>th</sup> percentile method, for each DMA. The leakage assessments for each DMA are totalled to give the average bottom-up leakage figure over twelve months. NIW has an extensive DMA network (approx 1040 DMAs) covering 99% of all properties in Northern Ireland. Over 80% of these DMAs are monitored with electromagnetic meters with a direct link to the company telemetry system. The remaining DMAs are monitored through mechanical meters and GSM/standard loggers. GSM loggers are automatically linked into the Company. Standard loggers are downloaded on a monthly basis and MNF data input into the telemetry system.

NIW monitor's the distribution input (DI) through 128 meters across the company with daily figures over a 12 month period. In recent years NIW has improved the reporting in distribution input in terms of standardising the methodology and data collection across its 21 Resource Zones. All DI meters are on telemetry.

NIW has dedicated in-house leakage staff that are supplemented with specialist external resources. The leakage detection contractor is employed on a performance basis which is linked directly to the reduction in minimum night flows in District Metered Areas. Leakage Services

also operates a Repairs Section which engage a dedicated repair contractor to deal with defects reported by leakage detection teams. During 2007/08 Leakage Services put in place a new structure which now includes a centralised leakage data management unit.

### **Box I – Drinking Water Quality**

#### **Line 31**

NI Water has moved to Mean Zonal Compliance (MZC) as its primary means of assessment of water quality at the customer tap. During 2007, NI Water failed to meet its target for MZC. This was mainly due to a higher number of THM failures than expected, largely as a result of higher than usual THM levels in zones fed from slow sand filter works. These works are due to be upgraded or alternate sources used to supply these zones in the future.

An industry recognised independent expert engaged by NI Water determined that “...the single largest factor appears to be increased natural organic matter in the raw water driven by two relatively dry years and particularly the following period of very intense rainfall. This is reflected in reports of increased peaks of THMs from several water companies in England and Wales.”

In 2008 five of NI Water’s existing Water Treatment Works (including the major non-compliant slow sand filter works) are due to be upgraded through a £110 million capital investment under the Alpha PPP Contract. These new Water Treatment Works have been designed to provide a more effective treatment regime to reduce the amount of THMs in the distribution system, providing higher quality water and preventing exceedances.

#### **Lines 32-33**

Neither of these 2 assessments is directly comparable to other UK water utilities and will be phased out after 2007. They have only been included in the 2007 Annual Report as a transition to assessment using MZC above. NI Water failed to meet both targets due to the larger than expected number of THM failures (see above).

#### **Lines 34-35**

NI Water assesses its Operational Performance Indicator based on 3 parameters – Turbidity, Iron and Manganese. Other companies have used a 6 parameter calculation which includes Aluminium, Faecal coliforms and Trihalomethanes. NI Water has chosen to use the 3 parameter calculation as this best reflects consumer acceptability issues. This performance indicator shows a yearly increasing target as NI Water’s Mains Rehabilitation Programme takes effect.

**SERVICE TARGET REPORT - Table 2: Sewerage Service**

DESCRIPTION	UNITS	DP	LAST KNOWN PERFORMANCE			2007-08 TARGET	2007-08 OUT TURN		2008-09 TARGET	2009-10 TARGET	
			Reporting Year	Outturn	CG			CG			
<b>A Sewer flooding</b>											
1	Percentage of connected properties experiencing internal flooding from NIW's sewers.	%	2	N/C	N/C		None Set	0.08	D6	None Set	None Set
2	Percentage of connected properties internally flooded due to overloaded NIW sewers.	%	2	N/C	N/C		None Set	0.03	D6	None Set	None Set
3	Percentage of flooding incidents attributable to severe weather.	%	2	N/C	N/C		None Set	59.43	D6	None Set	None Set
4	Percentage of properties internally flooded due to other causes.	%	2	N/C	N/C		None Set	0.05	D6	None Set	None Set
	Percentage of NIW's connected properties <i>at risk</i> of internal flooding due to the incapacity of NIW's sewers:										
5	Once in every ten years.	%	2	N/C	N/C		None Set	0.00	DX	None Set	None Set
6	Twice or more in every ten years.	%	2	N/C	N/C		None Set	0.01	DX	None Set	None Set
7	Once in every twenty years.	%	2	N/C	N/C		None Set	0.00	DX	None Set	None Set
<b>B Sewerage service (infrastructure)</b>											
8	Sewer collapses per 1000km of sewer.	Nr	2	2006-07	86.38	C4	None Set	48.54	B4	48.30	48.10
<b>C Sewerage service (Non-infrastructure)</b>											
9	Percentage population equivalent (pe) served by NIW STWs that do not comply with the conditions of their discharge consents for sanitary determinands, phosphorus determinands and disinfection conditions.	%	2	N/C	N/C		None Set	15.49	B2	None Set	None Set
10	Percentage of sewage sludge NIW disposed of in an unsatisfactory manner.	%	2	N/C	N/C		None Set	0	A1	0	0
<b>D Sewerage Service Serviceability Indicators</b>											
	Sub-threshold indicators of forecast:										
11	(i) biochemical oxygen demand (BOD) (Max > 2)	%	2	N/C	N/C		None Set	93.3		None Set	None Set
12	(ii) biochemical oxygen demand (BOD) (95%ile > 1)	%	2	N/C	N/C		None Set	88.2		None Set	None Set
13	(iii) biochemical oxygen demand (BOD) (Mean > 0.5)	%	2	N/C	N/C		None Set	88.3		None Set	None Set
14	(iv) suspended solids (SS) (Max > 2)	%	2	N/C	N/C		None Set	95.0		None Set	None Set
15	(v) suspended solids (SS) (95%ile > 1)	%	2	N/C	N/C		None Set	91.3		None Set	None Set
16	(vi) suspended solids (SS) (Mean > 0.5)	%	2	N/C	N/C		None Set	89.0		None Set	None Set
17	(vii) ammonia (NH3) (Max > 2)	%	2	N/C	N/C		None Set	94.1		None Set	None Set
18	(viii) ammonia (NH3) (95%ile > 1)	%	2	N/C	N/C		None Set	88.8		None Set	None Set
19	(ix) ammonia (NH3) (Mean > 0.5)	%	2	N/C	N/C		None Set	95.6		None Set	None Set
<b>E Wastewater quality</b>											
	Wastewater treatment works serving greater than 250 population equivalent not achieving compliance with Water Order Consents expressed as a:-										
20	(i) percentage of works.	%	2	N/C	N/C		16	15.64	B2	14	9
21	(ii) percentage of population equivalent.	%	2	N/C	N/C		18.5	15.45	B2	11	6
	Wastewater treatment works serving greater than 250 population equivalent not achieving compliance with Urban Waster Water Treatment Directive (UWWTD) Consents expressed as a:-										
22	(i) percentage of works.	%	2	N/C	N/C		None Set	16.73	B2	None Set	None Set
23	(ii) percentage of population equivalent.	%	2	N/C	N/C		None Set	19.57	B2	None Set	None Set
24	Percentage compliance with Urban Waste Water Treatment Directive (UWWTD) consent standards for Biochemical Oxygen Demand (BOD).	%	2	N/C	N/C		None Set	87.64	B2	None Set	None Set
25	Percentage compliance with EHS phosphorous targets at phosphorous removal sites.	%	2	N/C	N/C		None Set	100.0	B2	None Set	None Set

## **Table 2 – Sewerage Service**

### **Box A – Sewer flooding**

#### **Lines 1 to 4**

As yet, no service targets have been set for Table 2: Lines 1 to 4 of the Service Target Report because these targets depend on the information reported through the DG5 Annual Flooding Summary and this information is currently of low reliability and accuracy.

NIW expects to improve the accuracy of the Annual Flooding Summary by introducing a procedure from June 2008 onwards whereby Contractors who attend either a blockage or a clean-up job must complete a Blockage and Flooding Incident Report Form. (see Appendix A)

The Report Forms will replace Rapid Extra as the primary source of DG5 Annual Flooding Summary information with Rapid Extra and Ellipse becoming verification tools.

Because of the low reliability and accuracy of the information currently contained in the Annual Flooding Summary it is not possible to provide meaningful targets for 08/09 or 09/10 at present. This situation will be reviewed during the course of the reporting year when meaningful targets may be able to be established.

#### **Lines 5 to 7**

As yet, no service targets have been set for Table 2: Lines 5 to 7 of the Service Target Report because these targets depend on the information reported through the three DG5 ‘At Risk’ Registers and these registers are still being developed.

NIW currently has:-

- 2,090 internal flooding records in an ‘Under Investigation’ database
- 199 internal flooding records in a DG5 2 in 10 ‘At Risk’ Register
- 17 internal flooding records in a DG5 1 in 10 ‘At Risk’ Register
- 0 internal flooding records in a DG5 1 in 20 ‘At Risk’ Register
- 117 internal flooding records in an ‘Excluded’ database

NIW has a target to investigate and determine all internal flooding records as either DG5 Reportable or DG5 Excluded by October 2008. It is NIW’s intention to wait until all internal flooding records have been investigated and determined before setting targets based on information reported through the three DG5 “At Risk” Registers.

By delaying the setting of targets, NIW will have a more accurate understanding of the expected annual numbers of reportable incidents and hence, the numbers of properties that NIW could realistically expect to remove from the registers through the Capital Works Programme.

NIW are not in a position to set targets for DG5, given that so few Flooding Incident Report Forms were completed in 2007/08 and so few records have been determined as DG5 Reportable. Only when we have at least six months reliable data contributing to both the Annual Reporting Summary and the “At Risk” Registers, will we know what we could reasonably achieve in a further six months and what would be challenging for NIW in terms of targets.

### **Box B – Sewerage service infrastructure**

### **Line 8: Sewer collapses per 1000 km of sewer**

NIW has not previously set or measured a KPI target for collapsed sewers but as the Service Target matches the description of Table 16: Line 12 of AIR08, NIW has been able to report and comment on past and current performance.

In 2006/07, NIW reported 86.4 sewer collapses per 1,000km of sewer. In 2007/08 NIW reported 48.5, a significant reduction of 37.9.

Admittedly, the calculation process for the 2007 Information Return involved a considerable degree of extrapolation. Although an accuracy band of 4 was originally assigned, on reflection, the degree of accuracy may have been even lower.

Information for AIR08 has been sourced from Ellipse. Although there were problems with the miscoding of standard jobs and/or completion details not giving accurate details of the work actually carried out at each job, the reliability and accuracy of the source data is reckoned to be higher than that of the 2006/07 data sourced from OMIS. A confidence grade of B4 has been allocated.

NIW will set provisional targets for 2008/09 and 2009/10, based on the expected reduction in the number of collapses, brought about by the rehabilitation and replacement of sewers.

T16: L3: New "critical" sewers = 2.01 km

T16: L5: "Critical" sewers - renovated = 1.82 km

T16: L6: "Critical" sewers - replaced = 3.61 km

T16: L8: New "non-critical" sewers = 41.11 km

T16: L9: "Non-critical" sewers - renovated = 1.13 km

T16: L10: "Non-critical" sewers - replaced = 8.91 km

Total length of sewers improved = 2.01 + 1.82 + 3.61 + 41.11 + 1.13 + 8.91 = 58.59 km

T16: L14: Total length of sewers at 31 March 08 = 14,319.5 km

$58.59 / 14,319.5 = 0.00409$

$1 - 0.00409 = 0.996$

$0.996 \times 48.5 = 48.30$  sewer collapses per 1,000 km of sewer (Provisional 2008/09 Service Target)

$0.996 \times 48.3 = 48.10$  sewer collapses per 1,000 km of sewer (Provisional 2009/10 Service Target)

### **Box C – Sewerage service (non-infrastructure)**

#### **Line 10**

NI Water remains committed to compliance with the requirements of the "Safe Sludge Matrix". Therein NI Water continues to have zero unsatisfactory sludge disposals.

Sludge digested at Newtownbreda WwTW was disposed of to agricultural farmland through injection. No treatment is required for injection to agricultural farmland in accordance with the "Code of Practice for Agricultural Use of Sewage Sludge".

Recycling of untreated sludge to willows stopped in May 2007. Regulation by EHS within Northern Ireland permitted the safe disposal of sludge cake to forestry during 2007/08 and was recorded with disposal to willows. All other untreated sludge was disposed of to incineration.

NI Water has again assigned a confidence grade of A1 to percentage unsatisfactory sludge disposal as the total is zero.

**Box C Sewerage service (non-infrastructure) Line 9;**

**Box D – Sewerage service serviceability indicators Lines 11-19**

**Box E – Wastewater quality Lines 20-25**

In 2007 there were 275 WWTW and sea outfall serving more than 250 PE.

At the start of 2007 Water Service was not subject to the Water Order and was operating under registered standards issued by EHS.

At the formation of NIW these were replaced by full Water Order Consents (WOC). In the process EHS tightened a significant number of standards to the Environmental Needs Standard (ENS). NIW accepted most of these but considered a number were unreasonable as the works were not capable of achieving them. This was because it was considered that this was contrary to the regulatory principles established on the move to full regulation i.e. the imposition of the ENS would be tied to the completion date of the upgrade under the Capital Works Programme.

Prior to the 1st April 07, WS/NIW commented to this effect when the draft standards were first circulated and after the change over date applications for review of consents were submitted to EHS. The formal appeals process was not activated.

There are still a number of issues outstanding so in reality the standards to be applied are not finalised.

Compliance has been calculated on the basis of the standards in force at the beginning of 2007 apart from those which were tightened by agreement of NIW. There is therefore a degree of uncertainty about the final outcome.

Prior to 1<sup>st</sup> April 2007 in general only those WWTW serving more than 250 PE had consents although there were a number of WWTW which historically had numeric standards due to changes in PE. The latter were still retained. No standards were issued for any other WWTW and it was only from 1<sup>st</sup> April that descriptive standards were issued for all other WWTW under 250 PE.

Compliance with descriptive standards will be assessed on the basis of EHS inspections but due to pressure of work there will be no assessment for 2007 so the WWTW serving less than 250 PE cannot be included in the 2007 statistics.

Of the 275 WWTW and outfalls, 79 were subject to the numeric standard of the UWWTR. Some of these have tighter WOC standards so the situation could arise where a works complies with the UWWTR but not the WOC. Because of the different sampling regime i.e. composite versus spot, a similar situation can arise, e.g. Coleraine, where the spot WOC standard is equivalent to the composite UWWTR standard, failed the former but passed the latter.

In calculating the figure for Box C Line 9 the WOC have been used – this also includes the small number of WWTW less than 250 PE which historically have had numeric consents.

In calculating lines Box E Lines 20/21 only those WWTW greater than 250 PE are included.

In calculation of Box E Lines 22/23/24 it has been assumed that the UWWTR numeric standard applies to those WWTW above the PE thresholds. WWTW under the UWWTR PE thresholds are subject to appropriate treatment. The WOC therefore is considered as the UWWTR standard. In summary for these lines the following applies:

WWTW >2000PE to inland/estuaries and > 10000 PE coastal are assessed against the UWWTR numeric standard regardless of the WOC.

WWTW below these thresholds are assessed against the WOC.

In relation to the PE, the same principles as are used in Table 17 of AIR08.

For Box C Line 10, WWTW sludge is disposed of to incineration, forestry or landfill. Only about 2% goes to land. There were no serious breaches of the regulatory regime for disposal by any of these routes.

**SERVICE TARGET REPORT - Table 3: Customer Service**

DESCRIPTION	UNITS	DP	LAST KNOWN PERFORMANCE			2007-08 TARGET	2007-08 OUT TURN		2008-09 TARGET	2009-10 TARGET	
			Reporting Year	Outturn	CG			CG			
<b>A Making and keeping appointments</b>											
1	Percentage of customers with whom NIW missed appointments (meter related) or failed to give at least 24 hours notice of cancellation.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
2	Percentage of customers for whom NIW failed to specify an AM or PM appointment OR on request, a 2-hour period during which they would visit them (meter related).	%	2	N/C	N/C		None Set	N/C		None Set	None Set
3	Percentage of customers with whom NIW missed appointments (other) or failed to give at least 24 hours notice of cancellation.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
4	Percentage of customers for whom NIW failed to specify an AM or PM appointment OR on request, a 2-hour period during which they would visit them (other).	%	2	N/C	N/C		None Set	N/C		None Set	None Set
<b>B Responding to account queries</b>											
5	Percentage of account accuracy queries substantively responded to within 10 working days.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
6	Percentage of "change of payment method" requests the company was unable to action, AND did not reply to the customer within 5 working days.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
7	Percentage of billing contacts answered within 5 working days.	%	2	N/C	N/C		96	94.97		97	98
<b>C Responding to customer complaints</b>											
8	Percentage of written complaints NIW answered within 10 working days.	%	2	N/C	N/C		96	95.48		97	98
9	Percentage of customer complaints resolved successfully upon first contact.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
10	Percentage of customer complaints resolved successfully on first visit.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
11	Failure demand: Percentage of incoming contacts initiated by company failure.	%	2	N/C	N/C		None Set	N/C		None Set	None Set
<b>D Bills for metered customers</b>											
12	Percentage of domestic metered customers who received at least one bill during the year based on a meter reading undertaken by NIW, or a reading provided by the customer (either in response to an estimated bill or as a result of a request for a meter read	%	2	N/C	N/C		95	0		95	95
13	Percentage of non-domestic metered customers who received at least one bill during the year based on a meter reading undertaken by NIW, or a reading provided by the customer (either in response to an estimated bill or as a result of a request for a meter	%	2	N/C	N/C		95	95.14		95	95
<b>E Ease of telephone Contact</b>											
14	Percentage of calls abandoned.	%	2	N/C	N/C		None Set	1.05		99	None Set
15	Percentage of calls - All lines busy.	%	2	N/C	N/C		None Set	100		99	None Set
16	Call handling satisfaction score. (Min 0, Max5)	Nr	2	N/C	N/C		None Set	4.23		4.35	None Set
17	Percentage of customer calls answered within 30 seconds. (During relevant business hours on Waterline, Billing Enquiries & Leakline)	%	2	N/C	N/C		93	94.78		95	96

Resubmitted cell

### **Table 3 – Customer Service**

The Service Target Report (STR) covers targets and performance outturns for a range of service indicators in four categories:

- Water Service,
- Sewerage Service,
- Customer Service and
- Environmental Impact / Sustainability.

Table 3 covers targets and performance for Customer Service provision;

- Block A (lines 1-4) covers appointments,
- Block B (lines 5-7) covers response to account queries
- Block C (lines 8-11) covers response to customer complaints.
- Blocks D and E (lines 12-13 and 14-17) cover performance with regards billing of metered customers and telephone contact respectively.

In October/November 2006, Northern Ireland Water outsourced all customer billing, collection and contact activities to a service partner, Crystal Alliance, in preparation for the planned introduction of domestic billing in April 07.

During this period, there was significant effort by Northern Ireland Water and its partner to develop systems and embed processes to collect data and permit robust reporting on key regulatory targets from April 2007.

As a result, Northern Ireland Water is currently able to submit completed returns for Blocks D and E, with partial returns for Blocks B and C (lines 7 and 8).

Northern Ireland Water is currently unable to submit complete returns for Block A and the remaining lines of B and C, as the targets are either not set/not measured or it has not been possible to obtain accurate reports from the customer contact system.

However, NIW is planning to fulfil the requirements of this section of the service target report by developing targets (using industry benchmarks) and measuring metrics during 2008/09, through its Customer Hub/Service First project within the Business Improvement Programme.

The ‘Service First’ programme builds upon previous business as usual (Service Improvement Programme) and Transformation (Cross Directorate Process Mapping – XDPM) project outputs which were completed during 2007/08.

This Service First project is cross directorate and customer centric; the programme of work is customer process driven and will attract considerable cross directorate support and engagement if it is to meet its objectives.

NIW is currently developing a more strategic ‘Service First’ project which has medium and long term objectives which will build upon the short or immediate term issues currently being tackled.

NIW recognises that to achieve these targets, it must invest not only in changing the way it handles customer issues (the processes) but the way the business thinks about customer issues (the culture). It is essential that every person along the customer issue resolution path recognises

that they are resolving a customer issue and that the resolution recommended by NIW should try and resolve the customer issue once and for all.

It is recognised that this ‘tactical’ Service First project will provide a substantive basis for the ‘strategic’ Service First project in terms of efficient processes and service delivery, thus allowing for more robust and accurate reporting. By having efficiently installed, effective and managed processes NIW will be able to produce accurate and timely information to assist completion of key customer performance reporting and use this information to model their medium and longer term customer objectives more accurately.

The Government requires that NIW demonstrate greater efficiencies in order to reduce costs and deliver improvements of service to the customer experience by reducing the frequency, severity and cost of service failure.

These improvements will reduce the risk of damage to reputation and incurring legislative costs due to service failure, and mitigate the risk of failing to meet regulatory requirements thereby incurring penalties.

NIW’s 2010 vision states that ‘customer service will in future be directly linked via contact handling, through our future processes to operations, and the payment for services’. It is therefore essential that NIW continue to improve processes in a demonstrable way in order to deliver against this vision.

**SERVICE TARGET REPORT - Table 4: Environmental Impact / Sustainability**

DESCRIPTION	UNITS	DP	LAST KNOWN PERFORMANCE			2007-08 TARGET	2007-08 OUT TURN		2008-09 TARGET	2009-10 TARGET	
			Reporting Year	Outurn	CG			CG			
<b>A Sustainability indicators</b>											
1	Percentage of NIW's power usage derived from renewable sources.	%	2	2006/07	10.30%		8%	7.829		9%	10%
2	Percentage of water mains and sewers installed using trenchless technologies.	%	2	N/C	N/C		90	N/C		None Set	None Set
3	Percentage of NIW's excavated material that was re-used in reporting year.	%	2	N/C	N/C		70	N/C		None Set	None Set
4	Carbon emissions profile: Total tonnes of CO2 equivalent (tCO2e) produced in reporting period.	Nr	2	2006/07	113,280		None Set	N/C		None Set	None Set
5	Tonnes of CO2 equivalent (tCO2e) offset in reporting period.	Nr	2	N/C	N/C		None Set	N/C		None Set	None Set
<b>B Pollution incidents</b>											
6	Total number of pollution incidents attributed to NIW per million population equivalent (pe) served.	Nr	0	N/C	N/C		46	148.3	C3	56	None Set
7	Number of H, M and L (High, Medium and Low) category pollution incidents occurring at NIW combined sewer outflows and foul sewers per million population equivalent (pe) served.	Nr	0	N/C	N/C		None Set	85.6	C3	None Set	None Set
8	Number of High, Medium and Low category pollution incidents resulting from NIW's sewage collection and treatment activities per million population equivalent (pe) served.	Nr	0	N/C	N/C		None Set	148.3	C3	None Set	None Set
9	Number of High, Medium and Low category pollution incidents resulting from NIW's water treatment and distribution activities per million population served.	Nr	0	N/C	N/C		None Set	0	C3	None Set	None Set

## **Table 4 – Environmental impact and sustainability**

### **Box A – Sustainability indicators**

#### **Line 1**

The totals in this section include self generated renewable power and also power purchased through contracts with licensed electricity suppliers.

NI Water's targets are to achieve a 9% target of green energy used by March 2009 and to attain Government Targets of 10% by 2010 and 15% by 2015 when cost effective.

#### **Line 2**

NI Water's intends to promote trenchless technologies so as to minimise environmental effects and costs. NI Water's target is to achieve at least 90% of a projected length of 163km of water main contracts awarded during period April 2007- March 2008 to include trenchless technology.

NI Water is also targeting to achieve at least 90% of a projected length of 4km of sewerage contracts awarded during period April 2007- Mar 2008 to include trenchless technology.

#### **Line 3**

NI Water's target is to reduce/recycle at least 70% of excavated material generated on Capital Projects during the construction of above ground assets e.g. water treatment works, waste water treatment works, pumping stations and service reservoirs.

#### **Line 4**

Carbon emissions supplied for period 2006/07 is from the annual sustainability return made by NI Water's EMS section. The total emissions relate to electricity, other fuels and some transport (further work on accounting is required within this area) e.g. carbon associated with chemicals and supply chain is not included in this figure.

#### **Line 5**

No mechanisms are currently in place to measure carbon offset within NI Water in a reporting period. An ongoing review of carbon emissions is currently underway to determine measures for accounting, mitigation and adaptation in line with Water UK companies approach

Targets set for carbon offsetting, mitigation and adaptation will most likely align with current aspirational Government targets but will be dependent upon relevant funding to enable compliance with any set targets. Work is ongoing in this area.

### **Box B Pollution incidents**

#### **Lines 6-9**

In 2007 there were 319 high medium and low severity incidents attributed to NIW. Reporting systems of both NIW and EHS were not been fully developed and some incidents were not attributed to specific locations. In addition there could be a degree of doubt about the attribution to source. Through meetings with EHS procedures are being refined and attribution to source will improve in 2008.

The incidents which can be attributed are broken down as follows

1 Blocked sewer	114
2 Blocked CSO	33
3 SPS failure	70

4 CSO operating normally	13 (however the sewerage system has suffered from a serious lack of investment so pass forward flow is not satisfactory. As a result the numbers in this category could be increased through operator misconception).
5 WWTW failure	40
6 Cross connection	2
7 Third party	4
8 Construction	2

None were attributable to WTW or the mains distribution system.

This totals 278 and to extrapolate to 319 gives:

1 Blocked sewer	131
2 Blocked CSO	38
3 SPS failure	80
4 CSO operating normally	15
5 WWTW failure	46
6 Cross connection	2
7 Third party	5
8 Construction	2

The PE is extrapolated from that for the WWTW greater than 250 PE as it is generally accepted they treat approximately 98% of the sewered population.

Line 7 is calculated using 1, 2 and 4 above



## **Annual Information Return 2008**

### **Levels of Service Methodology**



## **DG2 properties receiving pressure/flow below the reference level**

This document has been laid out as follows;

### **1.0 Objective**

### **2.0 Definitions**

### **3.0 Allowable Exclusions**

### **4.0 Additions to / Removal from The Properties at Risk Register.**

### **5.0 Procedure**

### **6.0 Records**

### **7.0 Reporting**

**Appendix A – DG2 Process for Initial Investigation by Network Operations.**

**Appendix B – DG2 Process for Detailed Investigation by Leakage Services.**

**Appendix C – Incident Report**

## **1.0 OBJECTIVE**

The DG2 indicator identifies the number of properties which have received and are likely to continue to receive pressure below the reference level when demand is not abnormal.

## **REPORTING REQUIREMENTS**

The Finance & Regulation Directorate will report to The Northern Ireland Authority for Utility Regulation. As we do not have details of the regulators reporting requirements, NIWL has adopted the OFWAT June Return - Table 2. The OFWAT JR is as follows:

Line	Description
1	Total connected properties at year end
2	Properties below reference level at start of year
3	Properties below reference level at end of year
4	Properties receiving low pressure but excluded from DG2

The figure for Line 1 is provided by Customer Services Directorate and falls outside this procedure. The figure for Line 2 is obtained from the previous year's return submission. The figure for Line 3 and Line 4 are provided by Leakage Services.

Guidance on the OFWAT reporting requirements may be found in the OFWAT, June Return Reporting Requirements & Definitions Manual 2008, Issue 1.2 – March 2008.

## 2.0 DEFINITIONS

### Reference Level:

- The reference level of service is a flow of 9 l/min at a pressure of 10m head on the customer's side of the main stop tap (mst). The reference level applies to a single property.
- The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap.

### Surrogate for the reference level:

- Because of the difficulty in measuring pressure and flow at the mst, companies may measure against a surrogate reference level. Companies should use a surrogate of 15m head in the adjacent distribution main unless a different level can be shown to be suitable.

### DG2 Register - Property Count

- Properties will normally be defined by reference to the number of separately served units and includes both domestic and non-domestic. For multiple units, such as flats, or caravans in static residential caravan sites, each individual unit should be counted. Holiday and caravan sites should be treated as one unit.

### Common supplies:

- Common supplies are where a communication pipe supplies more than one property. The table below is intended to be a guide to the absolute minimum service acceptable over an hour.
- The table refers to short side and long side. Properties located on the same side of the street as the water main, will have shorter communication pipes, referred to in the table as short side. The properties on the opposite side of the street to the main are referred to the long side.
- The table is intended to be a guide to the absolute minimum service acceptable over an hour.

Number of properties fed from one direction on common service	Pressure (in head) required in adjacent main			
	Half-inch communication pipe		Three quarter-inch communication pipe	
	Short side	Long side	Short side	Long side
2*	10	11	10	11
3*	12	14	11	13
4	15	18	13	16
5	19	23	16	20
6	25	29	21	24
7	30	35	25	28
8	37	42	31	33
9	45	51	38	40
10	54	61	46	48

\*The values used in the calculations are theoretical; the usual surrogate of 15m head to a single property should be taken as a minimum reference level.

### **3.0 Allowable Exclusions.**

All properties identified, as having received pressure below the reference level must be reported unless it can be confirmed that they are covered by any one of the following exclusions:

#### **Abnormal demand:**

- This covers abnormal peaks in demand and not the daily, weekly or monthly peaks in demand which are normally expected.

#### **Planned Maintenance:**

- Properties suffering flow difficulties as a result of verifiable planned maintenance should not be reported under DG2.

#### **One-Off Incidents:**

- mains bursts
- failures of NI Water equipment (such as PRVs or booster pumps)
- fire fighting
- action by a third party

#### **Low pressure incidents of short duration:**

- Properties affected by low pressure which only occur for a short period, and for which there is evidence that incidents of a longer duration would not occur during the course of the year.
- Occurrences of such incidents on a regular basis must be further investigated before the exclusion clause can be applied.
- There is no requirement to include properties in the DG2 Register where they are only affected by low pressure during 5 or less of the days of the highest peak demand during the report year or for up to 25 days in a rolling five year period. However, in either case once a property has suffered low pressure on either more than 5 days in one year or 25 days in five years, it must be added to the reported figures for DG2.

## **4.0 Additions to /Removals from the DG2 Register.**

### **Additions Due To Better Information**

- This covers properties identified as being at risk because of the results of new studies or monitoring which provides more accurate and verifiable information. Properties in this category must have been below the reference level in previous years but omitted from the DG2 figures because they had not been identified or because information was incorrect.
- It is not always possible to confirm with substantive evidence that properties added through better information would have been below the reference level in previous years. However, the balance of probability is that they would have been.
- Additions due to customer complaints are covered in more detail in page 6.

### **Additions Due to Asset Deterioration**

- Additions due to asset deterioration is where it can be demonstrated that in the past assets were adequate and properties did not receive pressure or flow below the reference level but where that is not now the case. The following should be included under this heading:
  - Properties previously covered by pressure logging and shown not to be at risk at that time, but which subsequently suffer reportable low pressure.
  - Properties located in an area where there has been a material increase in demand, either through growth in existing demand or through additions to the network, and which are now identified as at risk.
  - Properties newly and clearly identified as suffering from low pressure as a result of asset deterioration.

### **Additions Due To Operational Changes**

- This covers additions that result from operational changes by NI Water (i.e. those that cannot be classed as asset deterioration as defined above). It includes additions arising from rezoning, removal or alteration of booster pumps, or pressure reduction.

### **Removals Due To Better Information**

- Properties removed from the Register as a result of new studies, which provide more accurate and verifiable information.

### **Removals Due To Asset Improvements**

- This covers the removal of properties from the Register as a result of work on the distribution network. It covers actions such as mains renovation or upsizing and includes improvements arising from work undertaken to meet quality objectives or for other purposes, such as the addition of booster pumps. Such improvements will normally be linked to capital expenditure.

## **Removals Due To Operational Improvements**

- Properties removed from the Register as a result of operational actions taken by NI Water such as rezoning, or other operational changes which do not arise from asset improvements, are covered under this heading.

## 5.0 PROCEDURES

### Overview

- Leakage Services, Data Management Unit, within the Operations Directorate, shall maintain an electronic DG2 Register for NIWL.
- Properties may be added to, or deleted from, the Register as a result of reactive logging after a customer contact, or from any pro-active pressure logging exercise undertaken within Operations.
- Deletions are normally only made as a result of confirmatory logging across the peak demand period(s).
- As soon as there is an indication that a property or properties are at risk, the circumstances should be investigated without delay. The investigation should be completed within 28 days. If the investigation is still continuing at this time, the property is to be added to the DG2 Register with the notification date as the entry date for the register.

### Measurement of pressure

- Wherever possible, measuring pressure for a specific property (or group of properties) is undertaken on the customer's side of the controlling stop tap.
- Where the number of properties within a group is greater than three, if practicable, at least two properties will be directly measured, one of which will be the property at the highest elevation.
- Where NI Water has been unable to monitor pressure at a boundary box as described above a surrogate pressure should be measured.
- For measuring the pressure for a specific property (or group of properties) the term 'the adjacent distribution main' should be taken to mean the junction between the distribution main and the communication pipe supplying the property. In many cases, measuring the pressure at this point is not possible; the pressure should then be measured at the nearest hydrant with 250m of the communication pipe with allowance being made for the gravitational difference between the two points.
- Should it not be possible to measure the pressure in the customer's property, or at a hydrant within 250 metres of the communication pipe, a boundary box should be installed on the communication pipe at the boundary so that the pressure may be determined.
- When measuring pressure following a customer complaint, where no known exclusions apply, the pressure measurement shall be taken over a peak demand time (12.00 – 14.00) and be readings taken over minimum 1 hour period.

For routine pressure monitoring, and for monitoring of an area when there is some reason to suspect pressure problems exist, pressures shall be recorded at the highest point in the distribution zone and throughout the zone over a 7 day time period. The results must be converted to pressures at individual properties through contouring, using maps with the appropriate property overlay from NI Water Geographical Information System. The map for a specific area is to be included in the records for the property added to the DG2 register.

### **Initial compilation of the DG2 Register.**

Leakage Services will compile the initial register and coordinate the addition to the Network Information Centre map. Information and properties will be provided by;

- Zonal Studies; properties identified from the zonal studies models even though solutions have been identified in mains rehabilitation work packages.
- Infrastructure Management Section; from the Infrastructure Management database for network improvements.
- Customer Services; reports to be provided from the Customer Services Unit, customer complaints database.
- NIAMP studies; reports to be provided from AMP studies.
- Network Information Centre; contour mapping to be carried out around identified properties.
- Network Operations; meetings to be held with Distribution Operations managers following the above studies.
- Leakage Services; meetings to be held with Leakage Operations Managers.

Following the collection of the above data a desk top, verification exercise will be implemented and follow up pressure logging carried out where necessary.

### **Pressure Complaint.** (Procedure set out in Appendix A)

This covers pressure investigations initiated by customer complaints, other customer contacts or operational experience.

- All customer contacts are to be recorded on the Call Handling System.
- The Work Control Centre will create a Work Request for Network Operations to carry out an initial site inspection.
- The incident is then investigated to determine the nature of the problem, establish the respective pressure (or surrogate pressure) for the affected property (ies) and then either close the job or notifies the Work Control Centre to create a DG2 Pressure Monitoring job for Leakage Services.
- For an incident where an exclusion clause applies, details of the pressure and flow readings and/or the reason for exclusion should be included when the job is being closed on the Call Handling System.
- When exclusion clauses do not apply and a DG2 Pressure Monitoring job is required, the Leakage Services Field Manager will advise the Leakage Services Data management Unit of the location and date the incident was reported.
- The Leakage Services Field Manager will initiate a pressure monitoring exercise and produce an Incident Report with back up documentation within 28 days.

The Incident Report should include the following detail:

- address(s) of the property (ies) affected.
- the date of the incident.
- the start and end times, and the duration of the incident.
- the pressure readings.
- flow readings.
- location of pressure logging exercise.
- single/common supply.
- condition of company's communication pipe. (if known)
- condition of customer's supply pipe. (if known)
- Company apparatus affecting the pressure.
- the 'Field Manager's' comments, to include a statement as to whether the incident is considered reportable under DG2.

### **Deletions from the DG2 Register.**

Properties should only be removed from the Register where there is a specific and auditable reason for doing so. The reasons for removal are to be specified on the Register, and are normally restricted to:

- properties where the pressure has been proved to have been raised above the reference level through operational or asset changes, or
- later discovery that one or more of the above exclusions applies, or
- confirmation, through subsequent more precise pressure monitoring, that some or all of the properties concerned had not in fact been below the reference level.

Deletions should be supported by a brief technical assessment based on pressure logging and other factors. Each deletion is to be supported by a record, which includes the required pressure logging trace/print-out.

### **Authorisation to/from the DG2 register**

The Data Management Unit Manager will authorise all additions to the register and sign off deletions from the register.

## 6.0 RECORDS

The aim of the records is to provide an auditable method for identifying the specific properties affected by low pressures and the cause of the low pressure.

### **DG2 Register**

**The Register shall be compiled and maintained by Leakage Services in conjunction with the Networks Information Centre.**

**It will enable the identification by address of individual properties which are below the reference level. It will contain information on complaints and the results of investigations, problems which are attributable to customers' apparatus and properties which experience low pressure but are excluded from the register by one of the allowable exclusions.**

The DG2 Register contains the following information:

- i) A database, which includes:
  - address(s) of the property (ies) affected.
  - the date of the incident.
  - the cause of the low pressure
  - action taken to resolve the problem
  - the start and end times, and the duration of the incident.
  - the pressure readings.
  - the flow readings.
  - location of pressure logging exercise.
  - single/common supply.
  - condition of company's communication pipe. (if known)
  - condition of customer's supply pipe. (if known)
  - Company apparatus affecting the pressure.
  - the 'Inspector's Comments', to include a statement as to whether the incident is considered reportable under DG2.
  - The name of the persons responsible for the information at each stage of the process i.e. initial investigation, pressure logging, completion of incident report.
- ii) A map showing the location of the affected properties.
- iii) Detailed supporting information for each entry including, for incident based entries, copies of the relevant Mobile Work Management records.

- iv) Reasons for changes to the Register must be given and referenced to:
- better information
  - asset deterioration/improvement; or
  - operational changes/improvement

The reasons for additions to or deletions from the Register must be supported by relevant documentation or cross-references to such documentation.

The DG2 Register must be continuously maintained at a level that provides for the full auditability of additions and deletions. This includes incident reports, network analysis and studies, asset improvement schemes, operational records and the reasons for the additions and deletions.

## **7.0 REPORTING**

### **NI Water Reports**

The DG2 Register will be updated on a continuous basis as and when new information is available and Leakage Services will produce a year-end report. Leakage Services will also produce a monthly report with additions and deletions from the register. This report will be copied to Customer Relations Centre to update their records.

### **Regulator Report**

The Finance & Regulation Directorate will report to Northern Ireland Authority for Utility Regulation on an annual basis. The report has been structured to mirror the current OFWAT June Return – Table 2 report as set out in the reporting requirements section.

The report will include methodology and commentary on the number of properties which are below the DG2 reference level. The report will also include defects in the customer's part of the service pipe.

The commentary should also state the number of properties reported due to the effect of common service pipes.

## **DG3 Supply Interruptions – Methodology – February 2008**

This document has been laid out as follows:

### **1.0 Objective & Aim**

### **2.0 Reporting Requirements**

### **3.0 Definitions**

### **4.0 Procedure**

### **5.0 Records**

### **6.0 Reporting**

#### **Appendix A – Roles and Responsibilities**

#### **Appendix B – Process Flow Diagram – Unplanned Interruptions**

#### **Appendix C – Process Flow Diagram – Planned Interruptions**

## **1.0 OBJECTIVE & AIM**

To identify the number of properties affected by planned and unplanned supply interruptions lasting longer than 3 hours, 6 hours, 12 hours and 24 hours.

The aim of the register is to allow verification and audit of the reported information for DG3 and to enable the identification of the properties affected. It should contain information on the timing, duration and cause of each interruption and sufficient information to enable all properties affected by interruptions lasting more than three hours to be identified. Therefore, the register should include:

- properties affected (by name and location or number and street);
- date and time of interruption;
- duration of interruption and time supply restored;
- cause of interruption;
- notice given; and
- the name of person responsible for entering records in the system.

The DG3 Register is compiled and held by Operations Services Section in Northland House.

## 2.0 REPORTING REQUIREMENTS

The information to be reported within Table 2 of the Annual Information Return (AIR08) is as follows:

2.1 Line	Description
5	More than 3 hours unplanned
6	More than 6 hours unplanned
7	More than 12 hours unplanned
8	More than 24 hours unplanned
9	More than 3 hours planned and warned
10	More than 6 hours planned and warned
11	More than 12 hours planned and warned
12	More than 24 hours planned and warned
13	More than 3 hours caused by third parties
14	More than 6 hours caused by third parties
15	More than 12 hours caused by third parties
16	More than 24 hours caused by third parties
17	More than 6 hours unplanned (overruns of planned interruptions)
18	More than 12 hours unplanned (overruns of planned interruptions)
19	More than 24 hours unplanned (overruns of planned interruptions)

Note: Interruptions should be reported under each relevant time band so that the category for interruptions exceeding:

3 hours also includes all interruptions lasting more than 6 hours;

6 hours also includes all interruptions lasting more than 12 hours; and

12 hours also includes all interruptions lasting more than 24 hours.

Each interruption should be classed as a single interruption event, and should be recorded under only one of the four categories of: unplanned or unwarned; planned and warned; unplanned third party interruptions; or unplanned or unwarned due to overruns of planned and warned interruptions. If there are a significant number of overruns between 3 and 6 hours, the number should be reported in the commentary.

Further guidance, if required may be found in the OFWAT June Return Reporting Requirements & Definitions Manual 2008, Issue 1.0 – December 2007.

## **3.0 DEFINITIONS**

### **3.1 Interruption**

An interruption to supply is defined as the actual loss of water supply to a property, whether planned or unplanned, warned or unwarned.

Supplies may be affected by other factors, for example, lower pressure through the flushing of mains, or restrictions on use; these are also covered under the DG2 and DG4 procedures.

### **3.2 Start time**

For a planned interruption the start time is the time at which water is unavailable at the first cold tap in a property; for an unplanned interruption it is when customers first notice the loss of supply or if this information is not available the time a 'no water' complaint is logged by the Customer Relation Centre. End time is when the company is satisfied that water has been fully restored to an acceptable pressure to the affected properties. This is not necessarily the same as when the main supply valve is open.

### **3.3 Duration**

The duration is the length of time for which customers are without a continuous supply of water. An interruption starts when water is unavailable from the first cold tap in a property and finishes when the supply to the last property affected by the interruption is restored to the tap.

### **3.4 Event**

Event is the term used by Northern Ireland Water Limited to describe its involvement in an abnormal occurrence in its services to customers.

### **3.5 Planned & Warned Interruption**

This is where notice of an interruption (> 3 Hours) is provided to properties affected at least 48 hours in advance of the beginning of the interruption.

### **3.6 Unplanned/unwarned Interruption**

This is when an unplanned, or a planned and unwarned, interruption to supply occurs. Properties receiving less than 48 hours notice of a planned interruption (> 3 Hrs) are to be counted as 'unplanned' and reported under this category. Any planned interruption that is started before the planned date and time contained in the warning notice, whether this occurs within a 48hr warning period or not, is also to be re-classified as 'unplanned'.

### **3.7 Overruns**

When a planned and warned interruption continues beyond the end of the warned time, for whatever reason and whether or not a customer has been advised during the shut down that an overrun is going to occur, the interruption is described as an overrun and is reported separately.

### **3.8 Third party interruption**

A third party is defined as anyone who does not act for, or on behalf of NIWL. This category is intended to cover damage to NIWL's mains or other equipment which directly or indirectly results in an unplanned loss of supply to enable the damage to be repaired. Where a third party interruption is not caused by a third party, but repair may be delayed by a third party, for example when a gas main runs close to a water main and needs to be isolated, the whole of the duration on the interruption must be reported as an unplanned interruption. Companies can describe this event in their commentary.

### **3.9 Electrical Failures**

Interruptions to supply caused by electricity supply failures must be reported as unplanned, unwarned interruptions, and identified in the records as caused by electrical failure to enable the details to be included in the Ofwat Return commentary.

### **3.10 Properties affected by more than one interruption during the report year:**

Properties, which are affected by more than one interruption during the report year, should be reported separately for each interruption. This means, for example, that a property affected by three supply interruptions would be reported three times, once for each interruption. Where properties are affected by repeat interruptions on the same day, these should only be counted separately where there is a minimum of one hour between the interruptions for the supply to be available (e.g. to refill storage tanks). When shorter gaps occur the duration is counted from the start of the first interruption until the last restoration of supply.

## **4.0 PROCEDURE**

It should be established before any work is carried out on site which function is responsible for the collection of interruption information for the interruption record, as occasions arise where it is not clear which function should carry out the repair work. In general whichever function operates the valves to cut off supply at the site of interruption is also responsible for the collection and ownership of the interruption information. This means, for example, that although leakage services is responsible for carrying out the repair to the interruption, Networks water is responsible for the collection of the information if they have operated the valves.

#### **4.1 Planned Interruptions (lasting > 3 Hours)**

Planned interruptions to supply arise as a result of work being carried out by different functions within Operations Directorate or by functions within other NIW Directorates. These have been identified as follows :

- Planned interruptions carried out by Networks Water.
- Planned interruptions carried out by Leakage.
- Planned interruptions carried out by Engineering and Procurement (E&P), and
- Planned interruptions carried out by Customer Services Directorate (CSD).

Regardless of the source of the interruption to supply all planned interruptions must follow the procedures for giving the appropriate warnings. Each function is responsible for collection and recording all appropriate information to be included in the DG3 register.

All affected properties must be notified by letter, or card drop, at least 48 hours before the shutdown, notifying them of the planned times and dates of shutdown and the restoration of supply. A minimum of 48 hrs warning must be given for planned interruptions greater than 3 hrs. The start of the warning occurs when the last card has been delivered or the last letter sent to the properties affected. If for example, there is estimated to be 500 properties to be warned then the card drop operation starts at 9.00am and finishes at say 2.00pm, the warning period starts at 2.00pm, on say, 2<sup>nd</sup> July for 48hrs. Work should not start on site on the planned interruption until 2.00pm on the 4<sup>th</sup> July.

A copy of the letter of notification or the information contained on the card used in the card drop should be sent to the following for information – Customer Relations Centre Front Desk, Work Planning Unit, Telemetry Control Centre, Functional Manager and relevant Northern Ireland Fire and Rescue Service. For contact details see Appendix A

The number of properties affected by a planned interruption should be determined by the most accurate means available at the time of :

- a) planning activity
- b) the interruption, or
- c) any subsequent more detailed investigation.

At the time of the initial assessment this is likely to be by property count or an estimate based on local knowledge, For recommendation for estimating numbers of properties see paragraph 5.3

#### **4.2 Planned interruptions carried out by Networks Water or Leakage**

Field Staff on site is to record all information on a proforma sheet (see Appendix D). The proforma sheet contains the raw data associated with the interruption and is taken to an appropriate computer workstation for input into OMIS. These proforma sheets must be kept for audit purposes.

The Networks Water or Leakage Field Manager responsible for the planned works is required to ensure that all relevant information is input to the OMIS Interruption Reporting System and all documentation is retained for audit purposes.

Details of the OMIS input sheet and the OMIS user guide can currently be obtained from Operation Services in Northland House.

#### **4.3 Planned interruptions carried out by E&P or CSD.**

Information relating to interruptions carried out by E&P and CSD use a combination of an interruption Proforma and an excel spread sheet. An appropriate member of E&P or CSD staff should sign off the information to be recorded in the DG3 register each week/ month.

Details of the Interruptions Proforma (see appendix D) and spreadsheet can currently be obtained from Operation Services in Northland House.

#### **4.4 Unplanned Interruptions**

As defined above, unpredicted events such as mains bursts, or interruptions that are planned but where customers are not warned at least 48 hours in advance, are classified as unplanned interruptions.

Unplanned interruptions are mainly the responsibility of the Networks Water function and information should be recorded using the OMIS Interruptions Input screen.

Following receipt of a 'No water / Burst main' complaint the field manager will investigate as soon as possible and provide 'status updates' to the Work Control Centre on the progress of remedial works. The field staff on site record all information on a proforma sheet (see appendix D). The proforma sheet contains the raw data associated with the interruption and is taken to an appropriate computer workstation for input into OMIS. These proforma sheets must be kept for audit purposes.

Local Network Water Area Managers may be made aware of interruptions other than as a result of customer calls. In such cases, the Field Manager should ensure that relevant details are passed to the Work Planning Unit for processing.

Details input to the OMIS Reporting System are to include the interruption start time, as noted by the first affected customer, the time at which the supply was restored and whether a third party or an electrical supply failure was the cause.

#### **4.5 Records of numbers of properties affected**

The number of properties affected by an interruption should be determined by the most accurate means available at the time of :

- a) the interruption and
- b) any subsequent more detailed investigation.

At the time of the initial assessment this is likely to be by property count or an estimate based on local knowledge.

### **5.0 RECORDS**

Overall responsibility for DG3 records lies with the Head of Networks – Water, however the DG3 Register is compiled and held by Operations Services in Northland House.

Networks Water and Leakage record interruption information on the OMIS system. E&P and CSD record interruption information on excel spread sheet.

#### **5.1 OMIS Interruption Recording System**

OMIS allows five types of interruptions to be recorded :

- Unplanned
- Planned
- Unplanned Third Party
- Overruns
- Planned – unwarned (Leakage only)

The OMIS information sheet (proformas) form Appendix D of this document

When all information is input into OMIS and is saved, the information is then included in the interruptions register within OMIS. This interruption record can be revisited with more accurate information until the interruption is checked as complete. The information contained on the OMIS input screen is then permanently transferred to the interruption register and cannot be altered.

Most of the information required will be able to be input directly onto the input screen and will probably not be altered. Some information e.g. House numbers and addresses will be initially estimated by the operative or the supervisor. However more investigative work may be required to give an accurate number of houses. The interruption record can then be updated when this information becomes available. (for procedures for obtaining house numbers and address see paragraph 5.3 below)

Local Network Water Area Managers and the Network Business Unit are to ensure that all relevant details are recorded and input to the system as soon as possible, and any paper records or notification cards retained for general audit purposes.

On-call staff are to gather all relevant information and report to the Local Network Water Area Manager as soon as possible the next working day.

Inputs to the OMIS Interruption System shall be closed out by the 10<sup>th</sup> of each following month. Checking of input data and local audit checks are to be carried out by the Networks Business Unit. Following these checks the networks Business Unit will release the data to Operations Services for inclusion into the DG3 register and calculations for KPIs..

## **5.2 Interruption Excel Spreadsheet**

Planned interruptions undertaken by E&P and CSD will most likely be carried out by a number of contractors. The contractors representative should gather all appropriate information on an Interruptions Proforma sheet and then transfer this information to the Interruptions excel spreadsheet. The excel spreadsheets should be collated at the end of each week/month and signed off by an appropriate member of E&P or CSD staff and sent to Operations Services for inclusion into the DG3 register. All proformas should be stored by E&P and CSD for Audit purposes.

Details of the Interruptions Proforma (see appendix D) and spreadsheet can currently be obtained from Operation Services in Northland House.

## **5.3 House numbers and Addresses**

It is a requirement of OFWAT that the numbers of houses and their addresses, that experience an interruption to supply that exceeds 3 hours, should be recorded. The number of properties affected by an interruption should be determined by the most accurate means available at the time. This is likely to be:

### **A, Property count**

Operatives on site tending to a relatively simple interruption may have sufficient knowledge to estimate accurately the number of properties affected. This can be done by carrying out a property count. This then should be recorded on OMIS as say 1- 10 High Street or 15 – 25 Main Road (property count).The house count can be done during the course of the repair to the interruption being carried out.

## **5.4 Records of Interruptions**

Information that is to be recorded for both planned and unplanned interruptions is contained in the OMIS user guide held in Operation Services.

In general all interruption to supply should be recorded. However there are large numbers of very short interruptions to supply carried out by Leakage function and CSD. These interruptions are routine, inconsequential and last no longer that 30mins. Information about these interruptions are held by managers in Leakage and CSD and are therefore not required for the interruption to supply register. Discretion should however be used in all cases. If difficulties arise, or there happens to be an exception to the type of routine

interruption referred to above, that gives rise to an interruption that lasts for more than 1 hour then, this interruption should be recorded. Guidance on which interruptions that should be recorded is to be given by Leakage and CSD managers.

**In general : Routine interruptions lasting less than 1 hr need not be recorded as part of the interruptions register except at the discretion of the operative or networks manager.**

All Interruption records held on OMIS are to be approved by appropriate line management within each function *and closed off by the 10<sup>th</sup> of the following month* E.g. *all records for say April should be approved and closed by the 10<sup>th</sup> May*. Operations Services will email the different functions reminding them of the deadline at the end of each month.. Interruption records held by E&P and CSD should be sent to Operations Services by the same date.

## **5.5 Historical records**

All associated documentation is to be kept for seven years.

## **5.6 Audit Trail**

The maintenance of audit trails is very important. During JR audits the Reporter would more than likely want to investigate several interruptions and the associated documentation. It is therefore imperative that all records including proformas corresponding to individual interruption records are stored locally for audit purposes.

## **5.7 Amendments to Information**

All amendments to the base data contained in OMIS or information changed during the course of the development of the DG3 Register in excel must be supported by a detailed explanation.

# **6.0 REPORTING**

## **6.1 NIWL Reports**

The OMIS Interruption System can be updated on a continuous basis as and when interruptions occur. The Monthly Summary Reports can be generated following the quality assurance checks carried out by Deputy Network *Managers and the Networks Business Unit and the release of data by the Functional Managers*. These reports are used by Operations Service function to compile a DG3 register for each month and corresponding KPIs.

The following reports are generated by Operations Services for Management information :

- DG3 monthly report
- Interruption to Supply KPIs

- Annual DG3 Supply Interruption Report (developed to mirror the current OFWAT June Return – Table 2 report as set out in the reporting requirements and definitions manual 2008, Issue 1.0 – December 2007)

## 6.2 Development of the DG3 Register and KPIs

Interruption data for each month is collected from 3 different sources ( as described above) into a “Composite Interruption Data” spreadsheet held in Operations Services in NIW Head Office. Interruption data from these sources is combined into an “Interruption Record – Month” worksheet and is held as the combined data record for that particular month.

The interruption data record is transferred to an “Interruption Record – Amended” worksheet where the raw data is examined for errors, anomalies duplications etc. These are re-classified if necessary and highlighted in red. The data is then categorised into the different interruption categories. These are : Unplanned Interruptions, Planned and Warned, Third Parties and Overruns.

The amended interruption data is transferred to the “DG3 Register – Month” worksheet. Here the records are sub categorised into their time bandings. e.g > 3hrs, >6 hrs,> 12hrs, >24hrs for each category. This then forms the DG3 Register for that particular month.

The interruption data held on the DG3 Register that pertains to the AIR08 Reports and KPIs is transferred to the “AIR08 Return & KPI” worksheet. This worksheet is in the form of two tables. The first is the extract from the AIR08 table 2 – “Properties affected by supply interruptions”. The table is expanded to allow for appropriate inputs for each month. These are recorded and summated at the end of the reporting year to provide the figure for the input into the AIR08 table for that particular line.

The second table contains the relevant DG3 Register information, recorded on a monthly basis that is used to calculate the KPIs. There are 3 KPIs pertaining to the DG3 register. These are :

Unplanned interruptions > 6hrs  
 Unplanned interruptions > 12hrs  
 Unplanned interruptions > 24hrs

(Unplanned Interruptions include third party interruptions and overruns)

These are expressed as percentages of total properties. These KPIs are calculated and monitored on monthly basis.

## 6.3 Regulatory Report

The Finance & Regulation Directorate will report to Northern Ireland Authority for the Utility Regulation (NIAUR) on an annual basis.

## **Appendix A - DG3 Interruption to Supply - Roles & Responsibilities**

### **Customer Relations Centre (Normal Hours)**

- Log 'no water' / 'burst main' complaints into RapidExtra system.

### **Operations - Networks Water**

- The Networks Business Unit is responsible for the procurement of information for DG3 within the Networks function. The Business Unit is supported by three functional managers.

### **Operations – Leakage Services**

- The deputy leakage managers are responsible for the procurement of information for DG3 within the leakage function

### **Engineering and Procurement E&P**

- The E&P Directorate are responsible for the installation of new watermains. Interruptions to supply arise as a result of connecting properties to the new watermains.

### **Customer Services Directorate**

- The CSD is responsible for meter maintenance and the installation of new meters. An interruption to supply to the property arises during the course of the installation.
- Customer Relations Centre Front Desk (Tel: 028 9016 8205 or 028 9016 8204)

### **Operations Services**

Operations Services is responsible for the following:

- Receipt of all interruption information from Networks Water, Leakage, E&P and CSD
- Compiles each set of information into the DG3 register
- Audits Data
- Produces reports for Management and Regulator.
- KPI's

## Telemetry Control Centres (Out of Hours)

Log 'no water' / 'burst main' complaints into Work Planning (Ellipse) system and inform on call supervisor immediately.

- Westland Telemetry Control Centre [REDACTED]

TCC E-mail Addresses:-

[REDACTED]

[REDACTED]

Altnagelvin Telemetry Control Centre [REDACTED]

## Work Planning Units

- Normal hours – create a Work Order and inform area supervisor immediately.
- Update the Ellipse System following 'status calls'
- Ensure Work Orders are closed out.

Contact details :

North West - [REDACTED]

South East - [REDACTED]

## Networks Ops Water – Local Area Managers / Deputy Network Managers

- Inform CSD and Work Planners of planned interruption providing details of area & number of properties affected and proposed duration of interruption.
- Assess extent of unplanned interruptions and organise remedial work.
- Inform Work Planners on completion of remedial work.
- Record interruption details as an entry into OMIS Interruption System.
- Provide supporting information on number of properties affected and reasons for interruption.
- Record details of interruptions received from on-call staff.
- Deputy Network Managers to carry out audit checks on OMIS entries and Interruption Register
- Deputy Network Managers to advise Functional Managers following the quality assurance and compliance checks

### **Networks – On-call Staff**

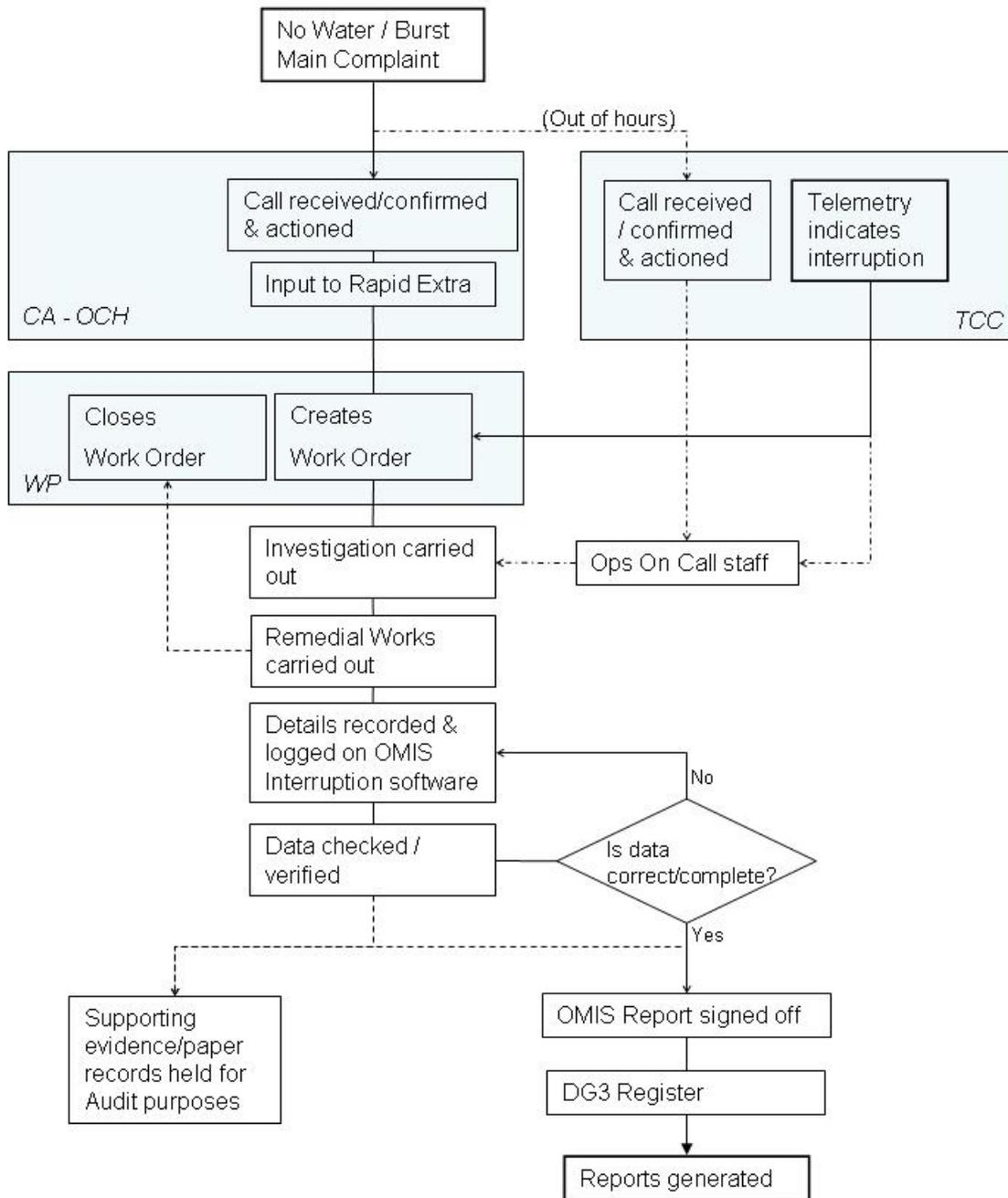
- Assess extent of unplanned interruptions, update Duty Officer (if required) and organise remedial work.
- Inform Local Networks Area Manager of actions taken and interruption details

### **Network Functional Managers**

- Approve OMIS Interruption Register and release data for reporting purposes

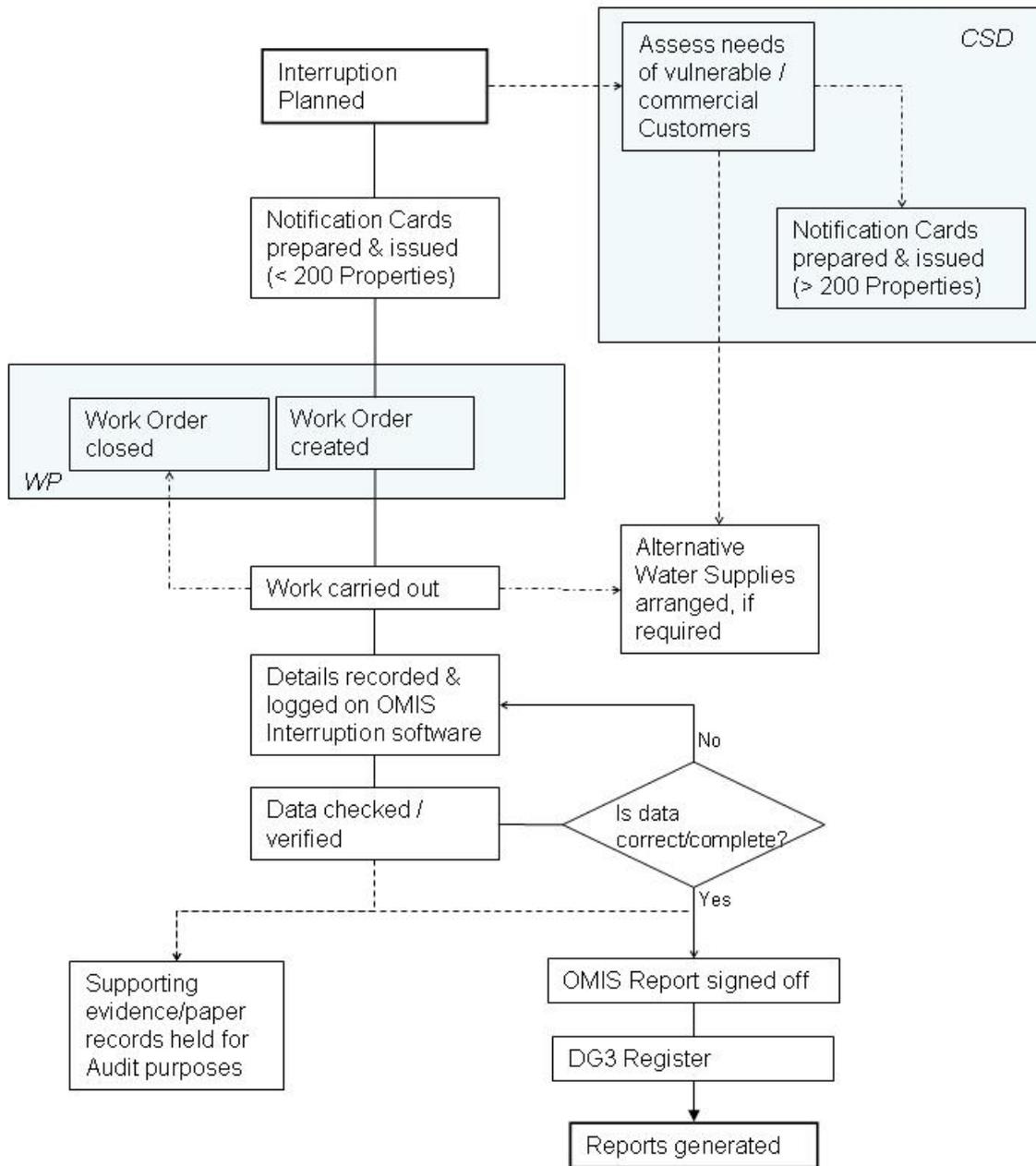
### **Regulation & Business Performance Section**

- Submit Annual Report to NIAUR



# DG3 Process Flow Diagram - Planned

# Appendix C



**Add New Interruption Record**

Interrupt Number  Reported By  Works Request No  Works Order No

**Details Of Location**

Functional Area  Networks Office  Total Properties

Location (255 characters max)

**Type and Cause Of Interruption**

Type Of Interruption  Cause Of Interruption

Third Party  MainsType  
 Trunk  Distribution

**Warning Details**

Type Of Warning  Warning Issued

Planned Start

Planned End

**Time Of Interruption**

Interruption Start

Supply Restored

All Properties Restored

**Alternate Supplies**

Length Of ITS (Hrs)  Overrun (Hrs)

**No Of Properties Affected (Complete Duration Including Any Overrun)**

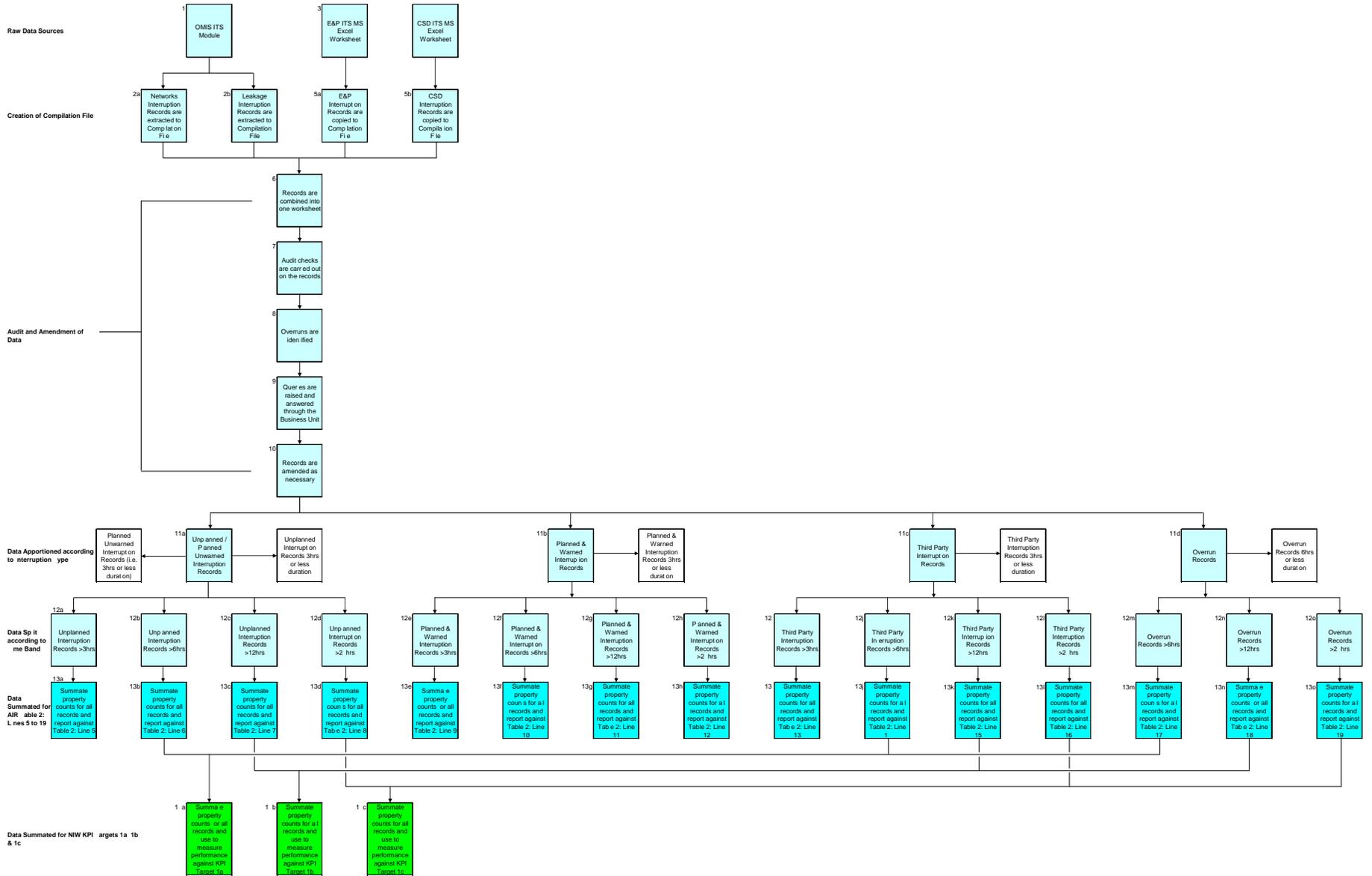
> 0 Hrs  > 3 Hrs  > 6 Hrs  > 12 Hrs  > 24 Hrs

**No Of Properties Affected (During Overrun Only)**

> 0 Hrs  > 3 Hrs  > 6 Hrs  > 12 Hrs  > 24 Hrs

Comments (255 characters max)

**PROCESS FLOW DIAGRAM FOR TABLE 2: LINES 5 TO 19**  
(TO BE READ IN CONJUNCTION WITH LINE-SPECIFIC METHODOLOGY)



## DG5 Methodology

### Objective and Aim

The DG5 Flooding Register will contain information on both internal and external flooding caused by overloaded sewers and properties held on the DG5 “At Risk” Register. Currently flooding information from a number of different sources are held on an excel spreadsheet, referred to as the DG5 Flooding Database. Flooding Databases currently exist for Internal Flooding and External Flooding. The Head of Networks Sewerage is the present owner of both databases but these are currently being developed and managed by Operations Services.

Four main outputs are required to be produced relating to flooding for the AIR08:

1. DG5 Annual Flooding Summary – properties internally flooded as a result of overloaded sewers and other causes.

Detailed processes for determining the figures for the Annual Flooding Summary using current and historical flooding records can be found on a series of line-specific methodology templates. Generally, these processes will involve the apportionment of current information obtained from the Rapid Xtra and Ellipse systems. (see below). Figures used by the ten English and Welsh Water Companies for each of the four causes of flooding are proportioned accordingly and apportioned to the figures obtained from Rapid Xtra and Ellipse. This information is supported by data from the DG5 Internal and External Databases.

2. DG5 Properties on the ‘at risk’ register – properties at risk of flooding due to overloaded sewers, more frequently than once in twenty years and once or twice in ten years, problem status of properties on the register, annual changes to the register.

Detailed processes for determining the figures for the “At Risk” Register using current and historical flooding records can be found on a series of line-specific methodology templates. Generally, these processes will involve the apportionment of any internal flooding records determined by 31 March 08, i.e. records that are either DG5 Reportable or Excluded.

3. DG5 Annual External Flooding Summary – includes areas externally flooded as a result of overloaded sewers and other causes.

Detailed processes for determining the figures for Table 3a: Lines 1 to 11 using current and historical flooding records can be found on a series of line-specific methodology templates. Generally, these processes will involve the apportionment of current information obtained from the Rapid Xtra and Ellipse systems. (see below). Figures used by the ten English and Welsh Water Companies for each of the four causes of flooding are proportioned accordingly and apportioned to the figures obtained from Rapid Xtra and Ellipse. This information is supported by data from the DG5 Internal and External Databases.

4. DG5 Areas on the External ‘at risk’ register – areas at risk of flooding more frequently than once in twenty years and once or twice in ten years, problem status of the external areas on the register, annual changes to the register.

Detailed processes for determining the figures for the “At Risk” Register using current and historical flooding records can be found on a series of line-specific methodology templates. Generally, these processes will involve the apportionment of any external flooding records determined by 31 March 08, i.e. records that are either DG5 Reportable or Excluded.

The DG5 Registers are in the process of being developed using historic and current flooding records, of varying quality, dating back to 2000. These initially contained 1,600 records in the Internal Database and 9,600 records in the External Database. Other sources of flooding information have recently been found that increase these figures to 2,336 Internal and 27,894 External. In order to develop a DG5 Database each of the records contained in each of the databases has to be investigated to see if the flooding information meets the DG5 Criteria. Records are then determined as being DG5 Reportable and are assigned to an appropriate “At Risk” register. Those records that do not meet the DG5 Criteria are recorded in the “excluded” section of the Database. It is proposed to have 50% of the initial Internal flooding records investigated and determined by March 2008 and 100% by October 2008. 100% of the initial external flooding is to be determined by October 2010

### **Development of the DG5 Database**

The DG5 Database is a collection of historical flooding events that have taken place since 1<sup>st</sup> Jan 2000. Flooding events are recorded as addresses of properties that have been flooded. DG5 Databases exist for internal flooding and external flooding and are currently held by Operation Services. There are a number of different sources for the information contained in the DG5 Database and the quality of information differs from source to source. The Databases are currently held on Excel spreadsheets.

### **Adding to the Database new records that may arise.**

New flooding events occur and these are recorded on Flooding Incident Record Proforma.(FIR). These are to be included into the Databases as and when they arise. The information contained on the proforma is investigated to see whether the flooding conditions meets with the DG5 criteria. If the record is determined as not meeting the criteria it is recorded as “excluded” and held in the excluded part of the spreadsheet. If the record is determined as meeting the DG5 criteria it is assigned to a 1 in 10, 2 in 10 or 1 in 20 “at risk” register. These records are then passed on to the Tactical Asset Management TAM Section for further investigation and possible solution.

During the course of investigating the records held on the Databases other historical flooding events may be found. These are to be recorded on the Databases and determined accordingly.

There are currently (March 08) 2,336 records under investigation and 179 determined on the Internal DG5 Database and 27,894 records under investigation and 199 determined on the External DG5 Database.

## **Investigation and Determination of Records on the DG5 Databases.**

There are numerous avenues of investigation that can be undertaken to confirm or update the information held on the DG5 databases against a record. Subsequently the records can be better determined into the DG5 at Risk Registers or excluded. These avenues of investigation include:

### **Interrogation of Captrax**

All Capital Works Programme CWP schemes held on Captrax that are related to sewerage are to be investigated. The CWP uses a series of A forms to mark the progress reached during the life of a scheme. An A1 form marks the schemes inception into the CWP and contains a brief description of the work involved in the scheme. The A forms and other supporting documents and reports will be read to relate any flooding events that gave rise to the CWP scheme. These records are to be added to the DG5 Databases if they do not already exist and determined appropriately.

There are approximately 1,600 no CWP schemes that relate to sewerage. And 315 of these are currently (Feb 08) being investigated.

It is anticipated that these Captrax investigations will largely be complete by April 2008 but some investigations will continue through to June 2008.

### **Met Office Reports**

There exist approximately 450 records on the internal Database for which there exists Met Office reports. These reports have to be investigated for excessive rainfall on the dates when the flooding event took place. Further consultations need to take place with the Met Office before these records can be determined.

There are also approximately 470 records that could relate to excessive rainfall. These too will be discussed with the Met Office.

It is anticipated that these Met office investigations will be complete by June 2008

### **Blockages**

There are approximately 96 internal and 221 external records caused by blockages. These are currently under investigation.

It is anticipated that these Blockages investigations will be complete by March 2008

### **Collapsed Sewers**

There are approximately 8 internal and 3 external records caused by collapsed sewers. These are currently under investigation.

It is anticipated that these collapse sewer investigations will be complete by March 2008

## **M&E failures**

There are approximately 83 internal and 22 external records caused by M&E failures. These are currently under investigation.

It is anticipated that these M & E investigations will be complete by March 2008

## **Anecdotal Evidence**

When records have been determined following the avenues of investigation referred to above there will undoubtedly remain a significant number of records for which there is no record of flooding other than that which is included in the database. Gathering information about these flooding events should be carried out by interviewing field staff who may be aware of flooding events at the time and place in question. Subsequently interviewing occupants of properties that are recorded as being flooded will also be considered. Predetermined questionnaires and a planned approach to such an exercise should allow these records to be determined.

These investigations will commence when the other avenues of investigation have largely been complete. These should therefore start in April 2008 and continue through to October 2008

## **Ellipse and Rapid Extra**

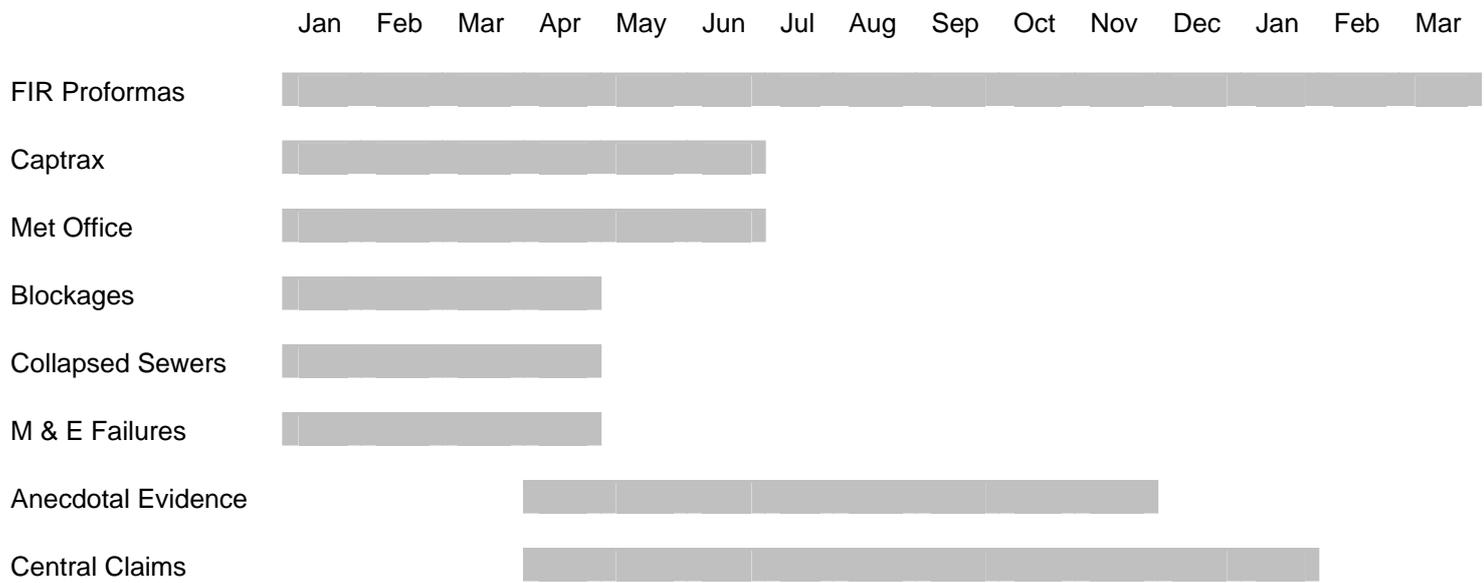
Both Rapid Xtra and Ellipse record a large number of customer calls and generate jobs for field staff. It is appreciated that the information contained in these records about type of flooding can be inaccurate. Flooding Information Records FIR were to be completed and collated for the incidents of flooding that have occurred throughout the year. This exercise has not been implemented properly and so information obtained from Rapid Xtra and Ellipse has been used instead. In the future however, once the collation of FIRs has been properly implemented information from Rapid Xtra and Ellipse will be used for audit purposes only.

## **Central Claims Unit CCU**

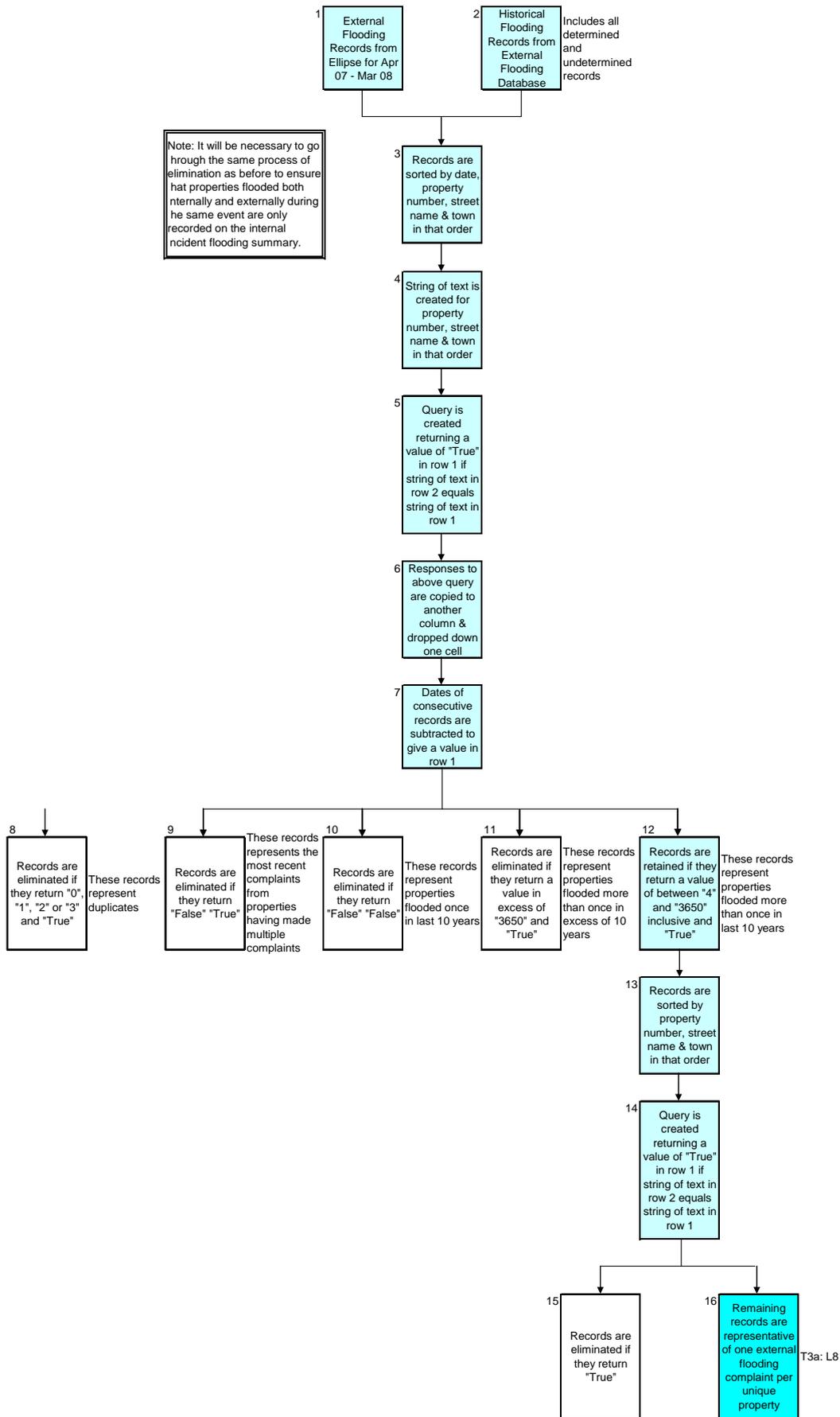
There exists 187 internal and 2,471 external records obtained from Central Claims Unit. These are recorded in the DG5 Database as an address and a sum of money paid out as compensation. No other information is recorded against these. These records will have to be investigated by interrogating the files held by CCU.

It is anticipated that these CCU investigations will commence in April 2008 and be complete by October 2008

## Programme of development work of DG5 Register



**PROCESS FLOW DIAGRAM FOR TABLE 3A LINE 8**  
(TO BE READ IN CONJUNCTION WITH LINE-SPECIFIC METHODOLOGY)



## **DG6 Response to Billing Contacts**

### **Aim**

Lines 1 to 5: DG6 Response to Billing Contracts

To identify the total number of billing contacts received during the report year (1<sup>st</sup> April – 31<sup>st</sup> March) and the time taken to respond to them.

Lines 6 to 8: Connected Properties

To identify the number of connected properties for water supply only, water and sewerage and sewerage services only.

### **Data Requirement**

The data NI Water (NIW) are required to supply includes;

- Total billing contacts
- Number and percentage dealt with within 5 working days
- Number and percentage dealt with within 10 working days
- Number of properties connected for water supply only
- Number of properties connected for water and sewerage services
- Number of properties connected for sewerage services only

### **OFWAT Requirements**

A billing contact covers any communication from a customer regarding a bill which requires a response or an action by NIW and does not constitute a written complaint, which should be reported under DG7. Billing contacts can be received by telephone, in writing, by electronic transmission and by personal visit or written on a piece of company correspondence, for example a bill which is returned to NIW, except where it is offensive or abusive.

Billing contacts should include calls that are made to a customer services department to pay a bill as this will result in an action being taken on the customers account.

Contacts to automated payment lines where a message is left and needs to be actioned by NIW should also be included.

Calls to automated lines where credit/debit card details are taken and payment is made automatically with no action from the company agent should not be included.

## **NI Water Procedures**

Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to a consortium organisation known as Crystal Alliance (CA). Crystal Alliance is the provider of CBC services to NIW for the period January 2006 to March 2013 and is based in Capital House, Belfast.

The Payment Processing Team are responsible for receiving all incoming post on behalf of NIW and CA, including post relating to billing, payments, complaints, general correspondence and infrastructure. Incoming post falls into two main categories, payments and correspondence and it is the team's responsibility to ensure that all post is opened and processed on day of receipt.

**Written:** Post arrives via several PO Box numbers and addresses which may help in identifying the content of incoming correspondence but it is accepted customers may use various PO Box numbers. Once the post has been security scanned the contents of each envelope are then removed by the Payment Processing Advisor and sorted into the categories below as per the Post Opening and Batch Preparation Procedure.

- Payments (cheques and cash)
- General correspondence (billing and other)
- Returned Mail
- BAC's Remittance
- Awareness Mail
- Alliance and Leicester statements
- Bank Statements

Monies received in the post must be updated to the appropriate customer account daily using the remittance processing equipment. Any cash (coins or notes) are dealt with in accordance

with the Cash Handling Procedure, which ensures that two people confirm the value of the cash and document the details on RAPID accordingly.

Other incoming correspondence regarding customer bills are batched and prepared ready for scanning into the image workflow system by Account Services.

**Emails:** Inbound emails will be printed from the email inbox by CA and then follow the process for letters as detailed above.

**Telephone:** All telephone queries are to be answered at point of contact and logged on the customer contact database except where an incident has been declared by NIW and it has authorised the use of a recorded message to interpret and answer customer calls from the area(s) affected by the incident. Calls answered in this manner may be excluded from the contact database.

Calls which require further action by NIW will be logged onto the NIW work queue on day of receipt.

## **Business Rules/Assumptions**

By definition, a billing contact not received in writing is a DG6 event. A written communication however, may be classified as a DG6 or DG7 event. Where the content or tone of written communication indicates an element of dissatisfaction, however mildly worded or unjustified, it should be classified as a written complaint and reported under DG7.

NIW billing contacts typically include, but are not limited to:

**Notification of changes** - to address, name, bank details etc.

**Requests to change payment methods** - to/from Direct Debit, instalments, budget schemes etc.

**Charges** - reasons for increases in charges, queries about standing charges etc.

**Billing** - bills not received, bill amount incorrect, receipt of duplicate bill etc.

**Metering advice** - request for metering advice or information pack etc. April 2007 – the sending out of Metering packs has been suspended while the Assembly determine the domestic billing strategy.

**Metered accounts** - query high consumption, query receipt of estimated bills

etc.

**Debt recovery** - Final Notice incorrectly issued or not received, Summons incorrectly issued or not received, disconnection carried out despite payment of bill or agreed arrangement etc.

**New connections** - charges for rechargeable works, such as requisitions of new mains or connections, Infrastructure Charges etc.

**Other** - property not occupied but still receiving bills, property not connected to mains water/sewerage but still receiving bills etc.

Note: A query relating to billing for domestic customers, including the provision of meters is not a DG6 contact, as domestic customers are not billed by NIW.

The date of receipt of a contact is the date it arrives at NIW, whether this is the usual inlet or not. It is not necessarily the date when it reaches the customer services section or the date when it is opened, both of which could be later than the date of arrival. If the date of receipt is not a working day, the date of receipt is deemed to be the next working day.

For email contacts which could be sent any time, NIW will record the receipt date as the date it is delivered to NIW even if this was not within normal operating hours.

The date of dispatch refers to the date a response is sent to the customer. It is not necessarily the date that the response is printed or the date that the response leaves the customer services section, both of which could be earlier than the date of dispatch.

If a customer contacts NIW querying the accuracy of his/her account, NIW will reply within five working days from the date of receipt of the communication as per DG6 guidelines.

If a customer contacts NIW asking to change payment methods and NIW cannot comply with the request, it will reply within five working days from the date of receipt of the request. Currently no compensation will be paid for failing to meet this service level.

Billing contacts initiated by NIW e.g. outbound telephone calls to chase debt, will not be included within DG6 figures.

Billing contacts referred to NIW by another undertaker, local authority, housing association or other agent should be included in the DG6 totals which the billing contact is referred.

Billing contacts received via the Consumer Council for Northern Ireland (CCNI) are to be included. In order to be consistent with the recording of contacts received directly from customers, follow up letters from CCNI actively pursuing the contact on behalf of the customer are also to be included, but follow up letters simply seeking additional information are not to be reported.

Where billing contacts are not dealt with at the end of the reporting period (regulatory year), NIW will ensure it is included in the total number of billing contacts received for the year in which it is dealt with. The response time is also to be included in that year's

information, although it may commence in the previous year. This method is to be adopted consistently in subsequent years and care must be taken not to undercount or double count.

## **Response**

This is defined as a response to a billing contact which does one or more of the following:

Provides an explanation of NIW's relevant policy or procedure and indicates why, in NIW's opinion, no further action on the customer's billing contact is required.

Results in all requested actions being taken on the customer's account. The response time is to be reported from the receipt of the billing contact to the point where all requests for action by the customer have been completed even if they will be delayed e.g. waiting for a refund to be authorised.

Informs the customer when action on his/her account will be taken if action cannot be taken immediately due to circumstances beyond NIW's control, for example customer needs to obtain clearance from third party, such as a landlord.

Holding reply: This is defined as a response to a billing contact which advises the customer that NIW will need to undertake additional research or other actions before being able to respond to the customer's contact. A holding reply should include a date by which investigations or further actions will be complete and by when the customer will receive a further communication from NIW.

A holding reply will close a contact for reporting purposes but not for NIW until all actions have been taken and a further response is sent to the customer.

## **Response time**

Response to the customer will be made within 5 working days. This is the number of working days between receipt of a contact by NIW up to and including the day of despatch of a

response. For the purpose of this calculation, the day of receipt provided it is a working day is counted as day zero and the next working day as day one.

Where NIW informs the customer that an action on his/her account will be delayed for reasons entirely within the NIW's control, then the response time should be taken from the date of the customer's contact to the date that action was taken on the customer's account. For example, a customer requests a payment book or revised bill on a Friday and is informed that this will not be produced until the weekly print run on Wednesday. The response time would therefore be calculated as three days.

Where NIW use the telephone or make a visit to respond to a written billing contact, then the date of the telephone call or visit will count as the date of response for DG6 purposes.

There should be an auditable record of the telephone call or visit, for example a file note or a letter confirming the substance of the response. If a confirmatory letter is sent, this should include the following:

- the date of the telephone call or visit to the customer's premises;
- the name of the member of staff making the call or visit;
- a reference to the nature of the billing contact;
- the outcome of the call or visit; and
- a contact name and telephone number for further contacts.

## **Reporting**

The achievement of the Contact Handling Expected Service Levels are measured monthly in accordance with Contract Schedule 2.2. Detailed monthly monitoring reports of actual performance are generated by Crystal Alliance from RapidXtra and presented in the Business Review Pack to NIW within 5 working days of the end of each month.

## **Quality Assurance**

Validation of figures provided by CA in the monthly report is carried out by NIW in accordance with Contract Schedule 2.2 and Working Paper.

## **Line Methodology**

Please refer to Table 4 for DG6 line methodologies

## **DG7: Response to Written Complaints**

### **1. Aim**

To show the total number of written complaints received during the report year (1<sup>st</sup> April – 31<sup>st</sup> March) and the time taken to respond to them.

### **2. Data Requirements**

The data NI Water (NIW) are required to supply includes;

- Total number of written complaints
- Total number of written complaints dealt with within 10 working days and percentage
- Total number of written complaints dealt with in more than 20 working days and percentage
- Total number of complaints responded to in each category
- Total number of Stage 2 complaints responded to in each category

### **3. OFWAT Requirements**

3.1. A complaint is defined as any communication 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, even if written in mild and friendly terms. This includes any expression of annoyance or dissatisfaction by the customer, or disagreement with the Company.

3.2. Complaints include those made by letter, fax and electronic mail.

3.3. General statements of complaint are to be counted even though a standard type of reply may be sent.

3.4. Customers may complain unfairly or unjustifiably; nevertheless such a letter is a complaint. Frivolous or vexatious complaints must be reported, although NIW or its

contractor may take a contemporaneous decision that further correspondence on the same subject, need not be reported. Such a decision must be recorded. Where the content or tone of written communication from a customer or customer's representative indicates an element of dissatisfaction, however mildly worded or unjustified, it will be classified as a written complaint and reported under DG7.

- 3.5. Where a complaint necessitates a period of correspondence, each letter from the customer is to be counted as a complaint and recorded separately.
- 3.6. If, after a period of correspondence, a recorded decision is made that the original complaint has been dealt with as far as we are able, any future correspondence regarding the complaint need not be reported.
- 3.7. Comments written on a piece of company correspondence, for example, a bill, which is returned to the company, must also be reported, except where it is offensive or abusive.

#### **4. NI Water Procedures**

- 4.1. Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to a consortium organisation known as Crystal Alliance (CA). Crystal Alliance is the provider of CBC services to NIW for the period January 2006 to March 2013 and is based in Capital House, Belfast.
- 4.2. The Account Services Customer Support Team in CA ensure complaints handled by NIW are recorded on Rapid in a way that highlights service level agreements at month end as per the *Indexing NIW Complaints Document*.
- 4.3. The Payment Processing Team are responsible for receiving all incoming post on behalf of NIW and CA, including post relating to billing, payments, complaints, general correspondence and infrastructure. Incoming post falls into two main categories, payments and correspondence and it is the team's responsibility to ensure that all post is opened and processed on day of receipt.
- 4.4. Post arrives via several PO Box numbers and addresses which may help in identifying the content of incoming correspondence but it is accepted customers may use various PO

Box numbers. The contents of each envelope are then removed by the Payment Processing Advisor and sorted into the categories below as per the *Post Opening and Batch Preparation Procedure*.

- 4.4.1. Payments (cheques and cash)
- 4.4.2. General correspondence (billing and other)
- 4.4.3. Returned Mail
- 4.4.4. BAC's Remittance
- 4.4.5. Awareness Mail
- 4.4.6. Alliance and Leicester statements
- 4.4.7. Bank Statements

4.5. The CA Customer Support team will identify complaints excluding those sent by an Executive or Customer representative. These will follow the CA Executive Mail process.

4.6. The CA Customer Support team scan and index all billing and operational complaints and raise a live contact on Rapid. The Customer Management System (CMS) forwards this to the relevant Inbox:

- 4.6.1. CA Written Complaints
- 4.6.2. CA, Operational Complaints

4.7. The CA Customer Support team then pass the original correspondence through to the CA Complaints Team.

4.8. **Assign Complaint:** Open complaints are identified by a Hitlist Report for the Inboxes and a complaints tracker is updated each day highlighting new correspondence by the Team Manager. The manager also allocates work to the team and updates the tracker throughout the day as necessary.

4.9. **Gather Information for Answer:** The complaints team read and identify the questions and actions to be resolved, multiple questions will be responded to in one letter.

4.10. By using a contact matrix, CA will request NIW personnel to provide full details to enable a full response to the customer.

4.11. Complaint levels are identified as follows:

4.11.1. **Level 1** complaint is an initial complaint from a customer and is handled by CA.

4.11.2. **Level 2** complaints are where CA has responded to an initial complaint but the customer is not satisfied with the response. This again is handled by CA.

4.11.3. **Level 3** complaints is one received from a customer who is still not satisfied with a level 2 response. This complaint is escalated and forwarded to the Escalation Team.

4.11.4. **Level 4** complaint. A customer may complain for a 4th time or Consumer Council for Northern Ireland (CCNI) may follow up a complaint on behalf of a customer if that customer has exhausted the complaints procedure with CA / NIW.

4.12. It is noted that a customer may contact the CCNI at any level in the above process. However, the process simply outlines that NIW will try to resolve the customer complaint and will endeavour to do so (levels 1-3) before the possibility of the matter being referred to the CCNI by the customer. Please see section 11 for high level process map.

4.13. **Billing Complaints:** Normally information required to resolve these issues is contained within the Rapid system and linked to the following correspondence types:

4.13.1. Billing contact – only related to billing.

4.13.2. CA Operational Complaints – only related to operations activities.

4.13.3. DG7 Query Non specific/FOI/Compensation:

- a) Complaints re a payment made
- b) Complaints re a payment plan
- c) Complaints to a billing issue prior to Rapid
- d) HiAffinity copy bill

4.14. **Operational Complaints:** Complaints broadly fall into the following categories:

4.14.1. Operational complaints, these may require NIW input but may be answered from information contained in the operational contacts in Rapid system.

4.14.2. If the complaint is regarding water pressure, supply, sewage or other which may be best resolved by a site inspection, this may be scheduled through Ellipse.

4.14.3. Whilst awaiting a response, the contact is moved to one of the following Inboxes:

- a) NIW - Non DG Request for Information
- b) NIW DG7 – Request for Information
- c) NIW – FOI
- d) NIW – Escalation Inbox

4.15. NIW policy complaints will be answered from The Policy *'Lines to Take'* document if not forwarded to the Escalation Team.

4.16. FOI requests must be identified as FOI requests from the correspondence. A request for information is only treated as a request under the Freedom of Information Act, if the letter writer specifically mentions Freedom of Information (FOI).

4.17. Non Specific Queries will be forwarded to the Escalation Team.

4.18. Should CBC believe a response will not take place within the DG timeline due to investigations by NIW, a substantive holding reply will be sent no later than the 10th working day.

4.19. All complaints will go through the QA Team before being forwarded to the customer – the CMS will then be closed.

4.20. The complaints team will close the CMS after the following checks have been made:

4.20.1. Check Rapid CMS groups and codes are correct e.g. category and types

4.20.2. Ensure closure date is correct e.g. holding date if holding reply sent or date the final letter was sent if no holding letter.

## **5. Business Rules/Assumptions**

5.1. Complaints received via telephone will be logged and processed as a complaint but will NOT be reported under DG7. These will be reported separately as telephone complaints.

5.2. The date of receipt of a written complaint is always the date that the written complaint arrives at the company, whether or not this is the usual inlet. If the date of receipt is not a working day, the date of receipt is deemed to be the next working day.

5.3. Where a customer has sent the identical complaint by post and e-mail it is to be counted as one complaint, i.e. no additional points have been raised.

5.4. The date of despatch refers to the date a response is sent to the customer. It is not necessarily the date that the response is printed or the date that the response leaves the customer services, both of which could be earlier than the date of despatch.

5.5. Where written complaints are not dealt with at the end of the year NIW will ensure the complaint is to be included in the total number of complaints received for the year in which it is closed. This method is to be adopted consistently in subsequent years and care must be taken not to undercount or double count.

5.6. Where a complaint necessitates a period of correspondence, each letter from the customer is to be counted as a complaint and recorded separately.

- 5.7. If after a period of correspondence a recorded decision is made that the original complaint has been dealt with as far as NI Water is able, any future correspondence regarding the complaint need not be reported for DG7 purposes. The number of such decisions must be recorded.
- 5.8. Written complaints referred to NI Water by another undertaker, local authority, housing association or other agent should be included in the DG7 totals of NI Water to which the complaint is referred.
- 5.9. Complaints to contractors or other agents about work being undertaken on behalf of NIW must be reported under DG7, even if the contractor or agent deals directly with the complaint. Complaints about contractors or other agents must also be reported under DG7, even if the complaint is referred to the contractor to resolve.
- 5.10. If correspondence is received from a customer that relates to a claim for compensation, OFWAT's DG7 methodology will be applied to the correspondence to establish whether or not there is a requirement to record it as a complaint. With the Northern Ireland Assembly (NIA) deferral of billing in March 07 no guaranteed service standards have been introduced as per agreement reached with NIAUR. NIW will not be held in breach of licence conditions G part 1 and H part 1.
- 5.11. Where a complaint is received in writing via the Consumer Council for Northern Ireland (CCNI) on behalf of the customer it will be logged by the company as a complaint, and will be consistent with the recording of complaints by customers. Follow up letters from the CCNI actively pursuing the complaint on behalf of the customer are to be included, but follow up letters simply seeking additional information are not to be reported.

5.12. Where a complaint is received in writing by a Directors office, it will be scanned and sent to CRC on day of receipt. CRC will case manage the customer contact, including the sending of customer holding responses and will obtain all operational background information necessary, in order to answer the customer complaint using where appropriate the 'on-system' rapid inboxes. All responses are drafted by CRC and reviewed and approved by the NIW Escalations Team. All proposed responses will then be forwarded to the relevant Directors office for approval, signoff and onward transmission.

5.13. **Petitions:** If a petition is submitted to NIW, the response will be sent to the customer who has sent in the petition. Depending on the nature of the petition, NIW may also choose to respond separately to each person who has signed the petition. Each response made will be reported under DG7 and details of the number of petitions and the responses sent given in the commentary to the regulator.

## 6. Exclusions

6.1. NIW will exclude from the reporting figures those written complaints that are:

- anonymous;
- about the activities of other undertakers or other utilities, for example signage around trenches;
- not about the services or functions of NIW, for example complaints about executive salaries, sponsorship activities and NIW advertising campaigns;
- about recreational and amenity activities which are not defined as duties imposed by Water and Sewage Services (Northern Ireland) Order 2006, for example visitor centres at NIW sites, water skiing, angling etc.;
- returned in response to/alongside customer satisfaction survey questionnaires/cards (such complaints could be said to have been initiated by NIW and would not have arisen but for a prompt by NIW); and
- comments written on a piece of NIW correspondence, for example a bill, which is then returned to NIW.

## 7. Response to Complaints

7.1. **Response:** This is defined as a response to a written complaint that does one or more of the following:

7.1.1. provides an explanation of NIW's relevant policy or procedure and indicates why, in NIW's opinion, no further action on the customer's complaint is required; or

7.1.2. informs the customer that action to resolve the complaint has been taken and identifies when the action occurred, for example flushing of mains; or

7.1.3. informs the customer of when action to resolve his/her complaint will be taken if action cannot be taken immediately; for example, "programmed capital works are not scheduled until month and year, and should be completed by month and year".

7.2. A written complaint is regarded as dealt with when a substantive response is provided. The response may be by letter, telephone call, visit, fax or electronic mail.

7.3. Where NI Water use the telephone or make a visit to respond to a written complaint, then the date of the telephone call or visit will count as the date of response for DG7 purposes.

7.4. For audit purposes, if the response is made by a telephone call or visit, a written record must be made on Rapid:

- a) the date of the telephone call or visit to the customer's premises;
- b) the name of the member of staff making the call or visit;
- c) a reference to the complaint matter;
- d) the outcome of the call or visit; and
- e) a contact name and telephone number for further queries.

7.5. **Holding reply:** This is defined as a reply to a written complaint which advises the customer that NIW need to undertake additional research before being able to respond to the customer's complaint. A holding reply should include a date by which investigations or research will be complete and by which the customer will receive further communication from NIW. A DG7 complaint can not be closed or extended when sending a holding reply due to a delay in responding to a query resulting from a lack of resource or avoidable delay in acquiring information.

## **8. Response time:**

8.1. This is the number of working days between receipt of a query by NIW up to and including the day of despatch of a response. For the purpose of this calculation, the day of receipt provided it is a working day is counted as day zero and the next working day as day one.

8.2. The despatch of a holding reply does not affect the total response time.

## **9. Reporting**

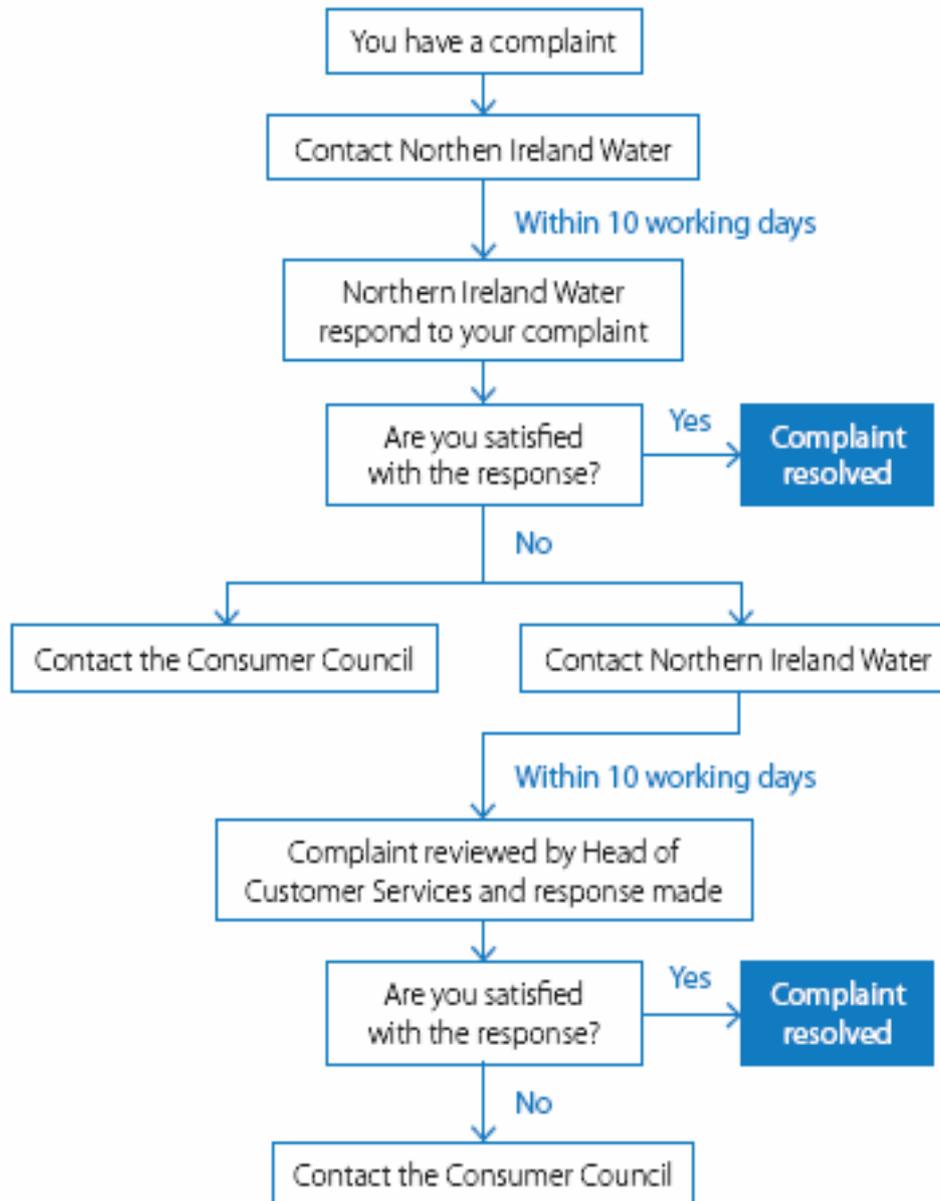
9.1. The achievement of the Contact Handling Expected Service Levels are measured monthly in accordance with *Contract Schedule 2.2*. Detailed monthly monitoring reports of actual performance are generated by Crystal Alliance from RapidXtra and presented in the *Business Review Pack* to NIW within 5 working days of the end of each month.

## **10. Quality Assurance**

10.1. Validation of figures provided by CA in the monthly report is carried out by NIW in accordance with *Contract Schedule 2.2* and *Working Paper*.

## 11. Process Map

11.1. The process map below details at a high level, NIW complaints process:



## **12. Line Methodology**

### ***Company Commentary***

12.1. From December of the reporting period the role of measuring and recording contacts for the CEO was assumed by Northern Ireland Water secretariat based in Northland House as opposed to CRC.

12.2. Director contacts were handled by Directors themselves until December of the reporting period when this transferred to the CRC.

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

12.4. During the reporting period the CRC has been developing methods of screening correspondence to reflect categories commensurate with those contained within OFWAT table 5 and 5a. This work will conclude in Q1 of 2008 and will be retrospectively applied in future annual information returns.

12.5. Please refer to Table 5a for DG7 line methodologies.

## **DG8 Bills for Metered Customers**

### **Aim**

To identify the proportion of metered customers who receive bills for metered accounts during the report year (1<sup>st</sup> April – 31<sup>st</sup> March) based on actual meter readings and the proportion based on estimates.

### **Data Requirement**

The data NI Water (NIW) are required to supply includes;

- Total metered accounts
- Metered accounts excluded from indicator

Number of customers with metered accounts receiving at least one bill during year based on meter reading:

- Company readings
- Company or customer readings (or both)

Number of customers with metered accounts receiving:

- Estimated bills only
- Number of bills received during the report year
- Unread by company for 2 years

### **OFWAT Requirements**

Metered accounts are generally issued on a monthly, quarterly, or six monthly basis. The measure is concerned with monitoring the service customers receive during the course of the report year rather than the service received at NIW prescribed intervals.

NIW can exclude any unusual accounts or unusual circumstances that would complicated the measure. These include properties occupied less than six months, charged on other basis, complex accounts, void properties and check meters.

No other exclusions are valid. For example, broken meters, or exchange meters must not be excluded.

Occasionally NIW will discover some meters to be faulty, either at the time of reading or later when the bill is being prepared. In such cases a bill may be issued based on an estimate even though an actual reading was taken.

Similarly, NIW may occasionally be denied access to read a meter and may therefore raise an estimated bill.

## **NI Water Business Policy**

### **Measured Water Charges**

Measured charges are paid by occupiers of properties where a water meter provided by NIW has been installed.

The company has powers under the Water and Sewerage Services (Northern Ireland) Order 2006 to require certain categories of property to be metered. Once a meter has been installed in a non-domestic property, measured charges will be payable for the property. There is no right to revert to unmeasured charges.

There are two elements to the metered water charge, a fixed standing charge and a variable charge.

The volume charge will be calculated on the volume as recorded by the meter at a rate defined in the *Scheme of Charges*.

The fixed standing charge is based on the supply pipe size diameter. Where no supply pipe size is indicated on the meter a notional pipe size will be assessed by NIW and charged accordingly.

Where a meter is a combination meter the standing charge will be applied to the hi-flow meter entry in RapidXtra.

The majority of customers receiving water through a meter will be charged using the standard measured charges. The exceptions to this are customers who have been approved as Large User Tariff customers (see Business Policy Document, Large User Tariff section for more details).

Measured customers are billed monthly, or six monthly as defined by NIW. Six monthly customers will have their meter reading taken in January/July or February/August and so on. NIW can decide to change customers to a different billing frequency and may do so, depending on water consumption.

All new domestic and non domestic connections, connected to the service from April 1st 2007, are metered, although no charges are payable by domestic properties.

It is possible that in the future, selected groups will be given the option of having a meter installed. In the year 2008-9, where no domestic property will be billed, there are no eligible groups.

### **Estimated Water Bills**

Although NIW tries to produce all bills from company meter readings it is not always possible to read each meter. Where a meter reading has not been possible, an estimated bill will be calculated using the consumption history from that meter.

The estimated bill is an enforceable bill for water charges and should be paid by the customer. However, if the customer contacts NIW within 5 days of the bill date with an actual meter reading, the bill will be re-calculated and sent to the customer based on this reading.

Where a customer contacts NIW with an actual reading after 10 days, the bill will not usually be recalculated. However, this may be possible on an individual basis.

Where a returned meter reading is considered to be suspect a full investigation will be performed by Crystal Alliance agents, including but not limited to a review of trouble codes, skip codes, account details, reading histories and other Rapid based information. If the reading anomaly can not be resolved by this investigation, a visit request will be raised to the meter reading teams and an estimated bill produced.

## **Measured Sewerage Charges**

*From 1 April 2008, all non-domestic customers become liable for sewerage charges. For the first year, one half (50%) of the sewerage charge will be applied. From 1 April 2009, the full charges will be applicable.*

*Measured charges for sewerage services comprise of two elements; a standing charge for each charging water meter, which will be based on the water supply pipe size, and a volumetric charge.*

*The volume charge will be calculated on the volume of water recorded by the water meter, subject to an allowance for any volume not discharged to the sewer. A 5% allowance is given as standard (the 'non return to sewer allowance') in recognition of the fact that some water will be used but not returned to the sewer. Measured water customers who receive a domestic allowance should note that the domestic allowance does not apply for measured sewerage purposes.*

*The company may require customers to have additional meters installed to record water used for certain activities where the water is not returned to a sewer after use. Additional 'non return to sewer allowances' will not be granted for garden watering; replenishing of external swimming pools; or any other external use where it is feasible to sub-meter such use.*

*In the case of non domestic properties the allowance will be 5% unless it has been agreed with the company that a different allowance will be applied in respect of either:*

- a) any further proportion of water used but not discharged to a sewer; or
- b) any volume subject to the trade effluent charge; or
- c) any discharge to the sewer from any source not recorded on the water meter.

## Exclusions

NIW can exclude any unusual accounts or unusual circumstances that would complicate the measure. Exclusions can include:

**Charged on other basis:** NIW must exclude properties where charges are not based on metered consumption during the report year.

**Properties occupied less than six months:** Only properties occupied and metered for six consecutive months during the report year, including 'void properties' will be reported. The property need not have been occupied by the same customer throughout this six month periods.

**Complex accounts:** These can include:

- a) Single accounts which are based on the readings from more than one meter. They could be excluded because the bill may be based on a combination of estimates and meter readings.
- b) Accounts based on differential metering.
- c) Combination meters (main and by-pass). These can be excluded as a property supplied by more than one meter.
- d) Meter network (main and sub-meters). The main meter will usually be excluded as complex because its reading is not used to generate a bill.

For each complex account, once the meter has been designated complex and excluded, it must be excluded each year.

For further details on NIW charges for water and sewerage supply, please refer to CBC Business Policy Document.

## **Calculating bills that span the year end**

Existing measured non-domestic water and trade effluent customers whose bills are issued after 31st March 2008 which include consumption prior to this date will be charged proportionally according to the 2007/08 and 2008/09 tariffs.

Charges will be calculated by: firstly, applying the 2007/08 tariff to the consumption estimated for the period up to 31st March 2008; and, secondly, by applying the 2008/09 tariffs to the remainder of the consumption. Standing charges will be applied on a pro rata basis. Sewerage charges from the start of the charging year (where appropriate) will be calculated with reference to the estimated consumption from that date.

## **Line Methodology**

Please refer to Table 7 for DG8 line methodologies.

## **DG9 Telephone Contact**

### **Aim**

#### General

To identify the ease with which customers can make telephone contact with NI Water (NIW) and their satisfaction with the way the company handles their telephone call.

### **Data Requirement**

The data NI Water (NIW) are required to supply includes;

- Total calls received on customer contact lines
- All lines busy
- Total of abandoned calls
- Call handling satisfaction
- Total telephone complaints
- Customers on the special assistance register

### **OFWAT Requirements**

The ‘all lines busy’ category measures the degree of difficulty customers experience in being able to connect with a company agent or automated system during office hours, while the ‘calls abandoned’ category aims to capture the total number of callers who abandon their call before it is substantively answered by NIW.

For ‘all lines busy’ and ‘calls abandoned’ it is not the intention to monitor all incoming telephone traffic, only that which is directed to principle advertised customer contact points (those that customers are encouraged/directed to phone).

Total calls received on customer contact lines is defined as the number of calls received (including those which are later abandoned) on the principle advertised customer contact point, and make contact with a company agent, enter a touch tone/IVR system or hear a recorded message that is **not** an all line busy message.

Calls that receive an engaged tone or hear an all line busy message are **not** to be counted as calls received.

Calls intercepted by a message manger during localised incidents, such as a burst main, should be included in total calls received.

All calls that are abandoned, including those abandoned within 10 seconds are to be reported.

Call handling satisfaction measures customers' satisfaction with the way NIW handle their telephone call. This is determined by an annual score produced by four waves of customer satisfaction surveys which take place at intervals throughout the year.

Telephone complaints cover any telephone call from a customer or a customers representative (e.g. Citizens Advice Bureau, solicitor) alleging that an action or inaction of NIW, or a service or lack of service provided by NIW or agent/contractor has fallen below his/her expectation.

## **NI Water Procedures**

Northern Ireland Water (NIW) has contracted out the provision of Customer Billing and Contacts (CBC) to a consortium organisation known as Crystal Alliance (CA). Crystal Alliance is the provider of CBC services to NIW for the period January 2006 to March 2013 and is based in Capital House, Belfast.

All telephone queries are to be answered at point of contact and logged on the customer contact database.

Where an incident has been declared, NIW may authorised the use of a recorded message to interpret and answer customer calls from the area(s) affected by the incident

Calls which require further action by NIW, will be logged onto the NIW work queue on day of receipt.

## **Business Rules/Assumptions**

**Contractor agent:** A contractor agent is an employee of the contractor (Crystal Alliance) operating from a principal advertised customer contact point. Where a principal advertised customer contact point has been sub-contracted, the contractor agent is the employee of the sub-contractor. For the avoidance of doubt, debt collection agencies, etc. are not regarded as contractor agents as they do not operate from a principal advertised customer contact point.

For the purposes of the indicator, principal means the main contact point(s) which customers are encouraged / directed to phone to, while advertised refers to those customer contact points which appear in telephone directories, newspaper advertisements, on NIW literature or are specifically printed (rather than typed) onto NIW letterheads. It excludes however, those which are of a temporary nature established to handle a specific topic.

**Office hours:** The indicator covers office hours only. Office hours are defined as the hours which NIW's principal advertised customer telephone contact points are open. NIW's Waterline is open 24 hours a day every day and the Billing Enquiries line is open 8am to 8pm (Monday to Friday), 6am to 6pm on Saturdays and 12 noon to 6pm Sundays.

**Calls received:** This is defined as the number of calls that enter the telephone system and receive a ringing tone. Calls which receive an engaged tone are not to be counted as calls received; such calls will be collected within the 'All lines busy' aspect of the indicator.

**Calls answered:** This is defined as the number of calls that reach a contractor agent who is able to substantively answer the customer's enquiry, query or complaint. For the avoidance of doubt, substantively answer is defined as a full response to the customer's enquiry, query or complaint, which for example, does one or more of the following:

For billing matters:

provides an explanation of the charges on the customer's account;

provides an explanation of the contractor's relevant policy or procedure;

leads to action on the customer's account, e.g. the despatch of an instalment book, change of customer details, re-issue of bill;

leads to the despatch of printed material e.g. meter application pack, surface water rebate application form.

For operational matters:

provides an explanation for an operational failure or activity on the distribution or sewerage network;

agrees to the despatch of an inspector to a customer's premises e.g. to take water samples, investigate sewer flooding incident;

provides an explanation of the contractor's relevant policy or procedure;

leads to despatch of printed materials e.g. information note on responsibility for pipes.

Where NIW employs a "meet and greet" or "front-line" facility it must follow regulators guidance relating to touch-tone telephones as they are analogous.

Where recorded messages, answering machines, touch tone telephones or automatic transaction/interactive voice response systems are used, particular care must be taken when reporting against this requirement.

**All lines busy:** The All lines busy category measures the degree of difficulty customers' experience in obtaining a ringing tone from the customer contact number. Calls intercepted by a BT Messaging Service (or similar service) which advise a customer that NIW is unable to take their call at present must be reported against 'all lines busy'. These services are analogous to the customer receiving an engaged tone.

**Calls abandoned:** Calls should be reported as Calls abandoned whenever the following circumstances apply:

**Recorded messages - queuing:** where callers hang up during or after hearing the recorded message advising them that they are in a queue, and before the contractor answers the call;

**Recorded messages - 'message manager':** where callers hang up before reaching the salient part of the recorded message;

**Answering machines:** where callers hang up before the completion of the contractor's recorded message;

**Touch tone telephones:** where callers hang up during or after hearing the message but before pressing appropriate buttons; and

**Automatic transactions/interactive voice response systems:** where callers hang up before completion of the message inviting customers to leave, for example, a meter reading.

All calls abandoned, including those abandoned within ten seconds, are to be reported.

## **Exclusions**

The indicator is intended to monitor incoming telephone traffic which can be regarded as originating from NIW's customer base. For example, calls from contractors and suppliers, or calls made by a contractor's field operatives to contractor offices are not regarded as customer contact and are therefore to be excluded from reported numbers. In addition, there are circumstances where calls made by customers about a NIW service or function can be excluded from reported figures. These are:

calls to organisations acting as agents for NIW, e.g. debt collection agencies are excluded from the measure, unless they represent a principal customer contact point. As a general rule of thumb, where the number of customer calls to an individual agency or contractor is below 1% of the total number received by the NIW, these can be excluded from reported figures. However, for the avoidance of doubt, NIW must report customer calls made to contractors/agents who act as an overflow or crisis management facility during peak periods such as the billing season or major operational incidents

calls to the direct lines of named individuals or specialist sections, except where the specialist section (such as Debt Recovery) specifically prints its Direct Dial numbers on NIW letterhead; and

temporary customer contact points established to meet a specific need e.g. to handle calls about a localised water incident or promotion of an NIW initiative. Temporary customer contact points are defined as those telephone numbers

(separate from the principal advertised customer contact point) set up to deal with a single topic which will be closed down once the issue has been resolved. NIW however, must identify the number and the duration that each temporary customer contact point was in place.

## **Reporting**

The achievement of the Contact Handling Expected Service Levels are measured monthly in accordance with Contract Schedule 2.2. Detailed monthly monitoring reports of actual performance are generated by Crystal Alliance from RapidXtra and presented in the Business Review Pack to NIW within 5 working days of the end of each month.

## **Quality Assurance**

Validation of figures provided by CA in the monthly report is carried out by NIW in accordance with Contract Schedule 2.2 and Working Paper.

## **Line Methodology**

Please refer to Table ... for DG9 line methodologies.



**Annual Information Return 2008**

**Customer Research Appendix**



## Northern Ireland Water Customer Research Appendix

**Title:** Quality of Telephone Call Handling

**Research Company:** McCallum Layton

**Methodology:** For each water company taking part, a target was set of 100 telephone interviews with customers who had contacted the water company in the previous week, for each wave of the survey, equating to 400 per Water Company per year.

All surveys were administered using a Computer Aided Telephone Interviewing (CATI) unit.

Each individual water company's survey was undertaken by multiple interviewers to prevent any possibility of interviewer bias.

**Sample Provision:** NIW provided McCallum Layton with an Excel spreadsheet of all incoming calls to the call centre for the seven days in question, irrespective of how calls were handled. The spreadsheet contained the following fields:

- Contact Name (customer or business name)
- Business or Domestic (to indicate if a business or domestic customer)
- Telephone Number
- Date of contact (date call made to NIW)
- Customer reference number (to trace any responses back through the system if necessary)
- Operational and Billing flag (to indicate the nature of call)

**Sample Management:** Upon receipt of the sample, McCallum Layton applied the following sample management procedures for each water company:-

- **Removal of non-useable records** – e.g. overseas telephone numbers, records with no telephone numbers, visually incorrect telephone numbers
- **De – duplication** – removal of any customer record which appears in the supplied sample more than once and of customers which have been included in any previous waves that year to ensure no customer is approached to participate in the survey more than once per annum.

**Survey Results:** Overall ranking of each quarter is based on Question 18 of the survey - 'Overall, how satisfied were you with the manner in which your call was handled?' – Northern Ireland Water's rankings are outlined below.

All other results can be found in the attached document - DG9 Survey Annual Scores.

### **Quarter 1**

Sampling period: Monday 23<sup>rd</sup> July 2007 to Sunday 29<sup>th</sup> July 2007 (inclusive)  
Sample size: 2,275  
Billing Sample %: 54

Ops Sample %: 46  
Interview period: Monday 30<sup>th</sup> July 2007 to Wednesday 8<sup>th</sup> August 2007 (inclusive)  
Interviews achieved: 100  
Ranking: 22/24  
Score: 4.24

### **Quarter 2**

Sampling period: Monday 24<sup>th</sup> September 2007 to Sunday 30<sup>th</sup> September 2007 (inclusive)  
Sample size: 1,847  
Billing Sample %: 47  
Ops Sample %: 53  
Interview period: Monday 1<sup>st</sup> October 2007 to Tuesday 9<sup>th</sup> October 2007 (inclusive)  
Interviews achieved: 101  
Ranking: 24/24  
Score: 4.17

### **Quarter 3**

Sampling period: Monday 3<sup>rd</sup> December 2007 to Sunday 9<sup>th</sup> December 2007 (inclusive)  
Sample size: 3,001  
Billing Sample %: 51  
Ops Sample %: 49  
Interview period: Monday 10<sup>th</sup> December 2007 – Wednesday 19<sup>th</sup> December 2007 (inclusive)  
Interviews achieved: 100  
Ranking: 4.34  
Score: 20/24

### **Quarter 4**

Sampling period: Monday 24<sup>th</sup> March 2008 to Sunday 30<sup>th</sup> March 2008 (inclusive)  
Sample size: 2,732  
Billing Sample %: 65  
Ops Sample %: 35  
Interview period: Monday 31<sup>st</sup> March 2008 to Wednesday 9<sup>th</sup> April 2008 (inclusive)  
Interviews achieved: 101  
Ranking: 24/24  
Score: 4.16

### **Annual 07/08 Score**

Annual Ranking: 24/24  
Annual Score: 4.23

**CUSTOMER TRACKING STUDY**

Checked (Initial):
Exec: _____
Field: _____

Good morning/afternoon, my name is \_\_\_\_\_ from McCallum, an independent market research agency, and I'm carrying out research amongst customers who have recently contacted [insert water company].

S1	First of all, can I just check, do you or any of your close family work in any of the following industries?	Banking	1	Go To S2
		Nursing	2	
		Water supply/sewage	3	T & C
		Market Research	4	
		Advertising	5	
		HR	6	
		Retail	7	Go To S2
		None of the above	8	
S2	I understand that someone in your [household/organisation] contacted [insert water company] recently. Was this yours?	Yes	1	Go To Q1
		No	2	Re-introduce
		No and don't know who did	3	T&C
<p><b>INTERVIEWER: If No, Ask To Be Transferred To Correct Person And Reintroduce. If Not Available Make An Appointment.</b></p> <p>Would you be willing to spare about 7 minutes to answer a few questions about the quality of the telephone service you received when you called [insert water company], either now or at a more convenient time? You do not have to answer questions do you not wish to and you can terminate the interview at any point. Any answer you give will be treated in confidence in accordance with the Code of Conduct of the Market Research Society.</p>				
Q1	<b>INTERVIEWER:</b> Record date call was made to water company (from sample):	Write In Date: _____		

<b>Q2 INTERVIEWER:</b> Record water company (from sample):	Anglian 01 Bournemouth 02 Bristol – Operational 03 Bristol & Wessex – Billing 04 Cambridge 05 Dee Valley 06 Essex & Suffolk 07 Folkestone & Dover 08 Hartlepool 09 Mid Kent 10 Northumbrian 11 Northern Ireland 12 Portsmouth 13 Severn Trent 14 South East 15 South Staffs 16 South West 17 Southern 18 Sutton & East Surrey 19 Tendring Hundred 20 Thames 21 Three Valleys 22 United Utilities 23 Welsh Water 24 Wessex – Operational 25 Yorkshire 26	
<b>Q3 INTERVIEWER:</b> Record whether business or domestic:	Business 1 Domestic 2	
<b>Q4</b> Throughout the interview I would like you to think about the call that you made to your water company [insert water company from Q2] on [insert date from Q1]. Can I begin by asking you what you contacted the water company about on this occasion? <b>DO NOT READ OUT LIST - SELECT MOST APPROPRIATE</b>	<b>BILLING</b> Moving home or property/change of details 01 Leave a meter reading 02 Disputing/querying bill/high meter bill/reading 03 <b>PAYMENT</b> Payment of bill 04 Setting up payment arrangements 05 Difficulty paying bill 06 <b>WATER SUPPLY</b> Loss of supply 07 Loss of pressure 08 Leak 09 Flood (non sewer) 10 <b>DRINKING WATER</b> Water quality complaint/enquiry (eg water smell, appearance or discolouration, bits, taste, softness/hardness) 11 <b>SEWERAGE SERVICES</b> Blocked sewer/sewer flooding 12 Other (please specify) _____ 13	
<b>Q5</b> Did you get through to the company on your first attempt, whether to an automated message or a person?	Yes 1 No 2	Go To Q7 ----- Go To Q6

<b>Q6</b>	How many times in total did you try to get through?	1 2 3 4 5 or more Can't remember	1 2 3 4 5 6	
<b>Q7</b>	On the call on which you did get through, how long did you have to wait before it was first answered (either by a person or an automated system)? <b>DO NOT PROMPT</b>  Please record in minutes <input type="text"/> and/or seconds <input type="text"/> Can't remember		X	
<b>Q8</b>	How satisfied were you with the length of time that you had to wait before your call was answered? Were you satisfied, dissatisfied or neither satisfied nor dissatisfied? <b>UNFOLD SCALE</b>	Very satisfied Quite satisfied Neither satisfied nor dissatisfied Quite dissatisfied Very dissatisfied	1 2 3 4 5	
<b>Q9</b>	Did you speak with a person at <u>any time</u> during your call?	Yes No	1 2	Go To Q13 ----- Go To Q10
<b>Q10</b>	And how satisfied were you with having your call answered by an automated message service rather than a person? <b>UNFOLD SCALE</b>	Very satisfied Quite satisfied Neither satisfied nor dissatisfied Quite dissatisfied Very dissatisfied	1 2 3 4 5	
<b>Q11</b>	And how easy was the automated system to use? Was it easy, difficult or neither easy nor difficult? <b>UNFOLD SCALE</b>	Very easy Quite easy Neither easy nor difficult Quite difficult Very difficult	1 2 3 4 5	
<b>Q12</b>	Were you offered the opportunity to speak to a person if you wanted to?	Yes No	1 2	Go To Q18
<b>Q13</b>	During the course of this call how many people did you speak to?  Please record number of people <input type="text"/>			
<b>Q14</b>	How satisfied were you with the number of people that you had to speak to? <b>UNFOLD SCALE</b>	Very satisfied Quite satisfied Neither satisfied nor dissatisfied Quite dissatisfied Very dissatisfied	1 2 3 4 5	

Q15	How satisfied were you that the person (or people) that you spoke to understood your reason for calling? <b>UNFOLD SCALE</b>	Very satisfied 1 Quite satisfied 2 Neither satisfied nor dissatisfied 3 Quite dissatisfied 4 Very dissatisfied 5	
Q16	Using the same scale, how satisfied were you with their willingness to help? <b>UNFOLD SCALE</b>	Very satisfied 1 Quite satisfied 2 Neither satisfied nor dissatisfied 3 Quite dissatisfied 4 Very dissatisfied 5	
Q17	Overall, how satisfied were you with the politeness of the person (or people) that you spoke to during this call? <b>UNFOLD SCALE</b>	Very satisfied 1 Quite satisfied 2 Neither satisfied nor dissatisfied 3 Quite dissatisfied 4 Very dissatisfied 5	
	<b>INTERVIEWER: If Satisfied With One/Some, But Not With Another/Others, Probe For Overall Satisfaction Across All Spoken To</b>	Very satisfied 1 Quite satisfied 2 Neither satisfied nor dissatisfied 3 Quite dissatisfied 4 Very dissatisfied 5	
Q18	<b>ASK ALL:</b> Overall, how satisfied were you with the manner in which your call was handled? <b>UNFOLD SCALE</b>	Very satisfied 1 Quite satisfied 2 Neither satisfied nor dissatisfied 3 Quite dissatisfied 4 Very dissatisfied 5	Go To Q20 ----- Go To Q19
Q19	Why were you [quite/very dissatisfied]? <b>RECORD MAIN REPONSE ONLY</b>		
	<b>INTERVIEWER: IF MENTIONS OUTCOME INSTEAD OF MANNER WITH CALL HANDLING, GO BACK TO Q18</b>	_____ _____ _____	
Q20	Immediately on completion of the call, were you left feeling that your call had been/would be dealt with?	Yes 1 No 2 Unsure 3	
Q21	And how satisfied were you with the final resolution of the call, ie the action that was taken as a result of your call? <b>UNFOLD SCALE</b>	Very satisfied 1 Quite satisfied 2 Neither satisfied nor dissatisfied 3 Quite dissatisfied 4 Very dissatisfied 5	

<p><b>Q22</b> Are you willing for us to pass on your details and the answers you have given to your water company in order for them to improve the customer service they provide?</p> <p style="text-align: right;">Yes 1 No 2</p>		<p style="text-align: center;">Go To Q23 T &amp; C</p>
<p><b>Q23</b> And would you be happy for your water company to contact you?</p> <p><b>INTERVIEWER:</b> Reassure Respondent – Would Only Be In Relation To This Issue, Not Selling</p> <p style="text-align: right;">Yes 1 No 2</p> <p style="text-align: center;"><b>Thank you for your help in this research</b></p> <p><b>INTERVIEWER READ OUT:</b></p> <p>This research was conducted under the terms of the MRS Code of Conduct and is completely confidential. If you would like to confirm my credentials or those of McCallum Layton please call the MRS free on 0500 396999.</p> <p>Please may I take a note of your name and where we can contact you for quality control purposes?</p> <p>Respondent's Name: _____</p> <p>Telephone (home): (code) _____ (number) _____</p> <p>Telephone (work): (code) _____ (number) _____</p>		
<p><b>INTERVIEWER DECLARATION:</b></p> <p>I declare that I have conducted this interview in accordance with instructions.</p> <p>Interviewer Signature: _____</p> <p>Print Name: _____</p> <p>Date of interview: _____</p>		

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**Q5 Did you get through to the company on your first attempt, whether to an automated message or a person?**

<b>RANKING</b>	<b>13th</b>		
	<b>YES</b>	<b>NO</b>	<b>CAN'T RECALL</b>
<b>07/08 AVERAGE</b>	90	6	4
<b>NI WAVE 1</b>	89	9	2
<b>NI WAVE 2</b>	84	9	7
<b>NI WAVE 3</b>	96	3	1
<b>NI WAVE 4</b>	90	5	5
<b>INDUSTRY AVERAGE</b>	89	7	4

**Q7 On the call on which you did get through, how long did you have to wait before it was answered?  
(either by a person or an automated system?) Unprompted**

<b>RANKING</b>	<b>10th</b>
	<b>time taken as whole mins &amp; fractions of mins</b>
<b>07/08 AVERAGE</b>	1.49
<b>NI WAVE 1</b>	1.93
<b>NI WAVE 2</b>	1.47
<b>NI WAVE 3</b>	1.6
<b>NI WAVE 4</b>	0.89
<b>INDUSTRY AVERAGE</b>	1.78

**Q8 How satisfied were you with the length of time that you had to wait before your call was answered?**

<b>RANKING</b>	18th
	Respondent Rating: where 1=very dissatisfied, 5= very satisfied
<b>07/08 AVERAGE</b>	4.17
<b>NI WAVE 1</b>	4
<b>NI WAVE 2</b>	4.1
<b>NI WAVE 3</b>	4.28
<b>NI WAVE 4</b>	4.29
<b>INDUSTRY AVERAGE</b>	4.32

**Q9 Did you speak with a person at any time during your call?**

<b>RANKING</b>	<b>8th</b>		
	<b>YES</b>	<b>NO</b>	<b>CAN'T RECALL</b>
<b>07/08 AVERAGE</b>	97	2	1
<b>NI WAVE 1</b>	97	3	0
<b>NI WAVE 2</b>	97	2	1
<b>NI WAVE 3</b>	97	2	1
<b>NI WAVE 4</b>	98	1	1
<b>INDUSTRY AVERAGE</b>	94	5	1

**Q13 During the course of the call how many people did you speak to?**

<b>RANKING</b>	<b>23rd</b>			
	<b>1</b>	<b>2</b>	<b>3 or more</b>	<b>Unsure</b>
<b>07/08 AVERAGE</b>	82	14	3	1
<b>NI WAVE 1</b>	80	14	5	
<b>NI WAVE 2</b>	82	12	3	3
<b>NI WAVE 3</b>	79	14	5	1
<b>NI WAVE 4</b>	85	14		1
<b>INDUSTRY AVERAGE</b>	87	9	2	2

**Q15 How satisfied were you that the person (or people) you spoke to understood your reason for calling?**

<b>RANKING</b>	24th
	Respondent Rating: where 1=very dissatisfied,5= very satisfied
<b>07/08 AVERAGE</b>	4.34
<b>NI WAVE 1</b>	4.2
<b>NI WAVE 2</b>	4.36
<b>NI WAVE 3</b>	4.39
<b>NI WAVE 4</b>	4.42
<b>INDUSTRY AVERAGE</b>	4.58

**Q16 Using the same scale, how satisfied were you with their willingness to help?**

<b>RANKING</b>	24th
	Respondent Rating: where 1= very dissatisfied, 5= very satisfied
<b>07/08 AVERAGE</b>	4.1
<b>NI WAVE 1</b>	3.96
<b>NI WAVE 2</b>	4.15
<b>NI WAVE 3</b>	4.23
<b>NI WAVE 4</b>	4.05
<b>INDUSTRY AVERAGE</b>	4.56

**Q17 Overall, how satisfied were you with the politeness of the person (or people) that you spoke to during this call?**

<b>RANKING</b>	23rd
	<b>Respondent Rating: where 1= very dissatisfied, 5= very satisfied</b>
<b>07/08 AVERAGE</b>	4.58
<b>NI WAVE 1</b>	4.65
<b>NI WAVE 2</b>	4.5
<b>NI WAVE 3</b>	4.63
<b>NI WAVE 4</b>	4.55
<b>INDUSTRY AVERAGE</b>	4.71

**Q18 Overall, how satisfied were you with the manner in which your call was handled?**

<b>RANKING</b>	24th
	<b>Respondent Rating: where 1= very dissatisfied, 5= very satisfied</b>
<b>07/08 AVERAGE</b>	4.23
<b>NI WAVE 1</b>	4.24
<b>NI WAVE 2</b>	4.17
<b>NI WAVE 3</b>	4.34
<b>NI WAVE 4</b>	4.16
<b>INDUSTRY AVERAGE</b>	4.56

**Q20 Immediately on completion of the call, were you left feeling that your call had been/would be dealt with?**

<b>RANKING</b>	<b>24th</b>		
	<b>YES</b>	<b>NO</b>	<b>UNSURE/REFUSED</b>
<b>07/08 AVERAGE</b>	80	11	8
<b>NI WAVE 1</b>	79	15	6
<b>NI WAVE 2</b>	82	10	8
<b>NI WAVE 3</b>	79	9	12
<b>NI WAVE 4</b>	80	12	8
<b>INDUSTRY AVERAGE</b>	90	5	4

**Q21 How satisfied were you with the final resolution of the call, ie the action that was taken as a result of you call?**

<b>RANKING</b>	<b>24th</b>
	<b>Respondent Rating: where 1= very dissatisfied, 5= very satisfied</b>
<b>07/08 AVERAGE</b>	3.54
<b>NI WAVE 1</b>	3.14
<b>NI WAVE 2</b>	3.62
<b>NI WAVE 3</b>	3.72
<b>NI WAVE 4</b>	3.68
<b>INDUSTRY AVERAGE</b>	4.32

