



**SCOTTISH WATER**  
**WIC ANNUAL RETURN**  
**OUTPUT MEASURES METHODOLOGY**

**June 2005**

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**1.0**      **Restrictions on the Use of Water**  
No methodology required.

## **2.0 Pressure of Mains Water**

### **2.1 Methods and Procedures**

INMS low pressure studies were carried out by the three previous authorities, the results of which have now been amalgamated into one common spreadsheet. These studies were carried out at the zonal level. They estimate, using the heights of properties and supply tanks, and where available logged pressures, the number of properties inferred to be receiving low pressure.

Where more accurate information has become available over the report year, generally through Level 1 DMA reports and investigative work by SWS, this data has been used to improve the information for that zone.

### **2.2 Extract from the Poor Pressure Register**

Information in the database is recorded at Water Supply Zone level. For each entry there is the Water Supply Zone name and asset number, the number of properties estimated to be receiving low pressure within that zone, the source of this information, and a confidence grade for the data relating to that zone.

### **2.3 Sources of Information**

More detailed information has been generated during the report year for a number of zones, the source of this information being;

- Level 1 DMA reports, where the number of properties subject to low pressure is inferred from the logged pressure at the DMA critical monitoring point.
- Feedback from Q&S III workshops was used to improve data.
- Capex 5 process was used to collate information on properties removed through asset improvements.
- Data from DMA monitoring in Glasgow was used to add/remove properties. This is based on permanent monitoring at the DMA inlet and property levels.
- Information from site investigations and consultations with operations staff.

### **2.4 Scope and Coverage**

The Low Pressure Database holds data in a common format for Water Supply Zones across the whole of Scottish Water. Data is however held at the zonal level, rather than for each individual property.

### **2.5 Assumptions and Exclusions**

Where Category 1 DMAs have been set-up, there is continuous monitoring of pressure at the DMA inlet. However, in a large number of cases there is not continuous monitoring at critical monitoring points. Data from the critical monitoring points is normally used to assess low pressure properties. The number of properties estimated to be receiving low pressure is therefore based only on the data available through the studies described above, and is therefore restricted in its accuracy. Also, the review of calibrated models during the report year is only being carried out at the moment. Therefore, the outputs from models have not been used in this year's return.

**2.6 Other issues**

A corporate low pressure application has been developed during the report year and is currently undergoing user acceptance testing before being rolled out in Scottish Water. Processes and procedures will be developed to support the application during the financial year 05-06.

### 3.0 Supply Interruptions

#### 3.1 Methods and Procedures

The aim of Scottish Water is to provide a continuous supply of mains water without interruptions, but some events will inevitably interrupt the flow. These include planned maintenance, bursts on mains or service pipes and failures of pumps or their electricity supply. Our Code of Practice and additional guaranteed standards scheme booklets highlight our aims in the event of interruptions, to both household and business customers.

The asset team contractor ensures the completion of an Interruption to Supply sheet for every occasion where the water supply to the customer's property may be interrupted. The Interruption to Supply sheets are completed for each job where an interruption to supply occurs.

The following details are recorded on the Interruptions to Supply sheet:

- 1) **Local details** - such as Asset Team Leader - Person responsible for dealing with the event and Asset Team - Team allocated with the responsibility for completing the planned / emergency work.
- 2) **Type of interruption** - Planned interruption, emergency interruption or no interruption.
- 3) **Mains type** - Trunk main or non-trunk main.
- 4) **Reason for interruption** - Identifies the reason for the interruption from the following categories: distribution mains burst, service pipe burst, repair / install new apparatus to main, preparation for rehabilitation, mains rehabilitation, interruption caused by third party.
- 5) **Location of works** - Accurate information required allowing Scottish Water to define the location of event, including postcode.
- 6) **Area affected** - Accurate description of the area affected including street names that may be affected by the shut other than the location given. Part streets are also listed.
- 7) **Number of properties affected** - Number of properties affected by the interruption.
- 8) **Proposed start and finish time** - Proposed start/end date and time of the planned shut.
- 9) **Actual start and actual end times** – Actual start/end date of the planned shut.
- 10) **Notice** - Whilst planning for a planned interruption, team leaders operate to the Guaranteed Minimum Standard "that where a planned interruption is likely to last more than 4 hours then at least 48 hours notice (to each customer) in advance is required".

- 11) **Duration** - A planned interruption starts when the first property loses supply at the cold tap after any valving operations for a warned shut. The proposed start time and end time is recorded. When the supply is pressurised and restored to the last customer property within the shut off boundary it is recorded whether supply was restored to all customers within the time stated in the notice.

The relevant Networks team leader makes an assessment of when all properties are back on supply, although in most instances restoration is immediate. Where pipelines do take some time to re-charge, stage restoration times are given to the properties affected.

- 12) **Properties affected** - Staff evaluate the number of properties affected while at the location.

### 3.2 Sources of information

We obtain information regarding interruptions to supply by the following methods:

- 1) **From customers**  
The majority of interruptions to supply are informed to us through our customers. This is usually at the time of the incident or retrospectively about an event following its resolution. The majority of communication is by telephone to the Customer Contact Centre, where details are passed to the appropriate asset team. Squads are on 24 hour standby with all information being passed through the control office outwith normal business hours.
- 2) **From operational staff**  
This is through staff's involvement in the incident, or their own experience.
- 3) **From direct measurement**  
This includes telemetry systems.
- 4) **From external bodies**  
This includes the police, fire brigade and local authorities.

### 3.3 Scottish Water Systems

Each asset contractor forwards the completed Interruptions to Supply sheets to a Support Team member who transfers the information to the EMPAC work management system. Reports are run on Guaranteed Minimum Standards and a list of all failed records. Data is then used to report performance on a quarterly and annual basis.

### 3.4 Scope and Coverage

The interruption standards operate consistently throughout Scottish Water.

**3.5 Assumptions and Exclusions**

Each interruption can affect differing numbers of properties e.g. a meter installation can affect one property whilst a valve replacement can affect 1,000 properties.

Interruption to supply should only relate to actual interruptions from the customers' perspective i.e. if a backfeed is put in place there is no interruption, and likewise if the main is repaired under pressure, there will have been no interruption.

**3.6 Other issues**

None

## **4.0 Response to Billing Contacts**

### **4.1 Methodology and Procedures**

A billing enquiry is defined as any communication received from a customer regarding a bill, which requires a response or an action by Scottish Water and does not constitute a written complaint or a change of payment request.

Scottish Water's policy is as follows: -

Charges for unmetered households connected to our water and wastewater networks are billed and collected by Councils along with the Council Tax. Enquiries about these bills should be made using the local council address or telephone number shown on the bill.

All other charges are billed and collected directly by Scottish Water. Options for unmeasured commercial customers to pay include payments by cash or cheque, BACS (Bank Automated Clearing System) or direct debit in 9 instalments beginning in July and ending in March. Measured commercial customers can pay quarterly or monthly by cash or cheque, and by BACS. The option for direct debit payments is also available.

If the customer enquires about a bill, which we bill directly, we will make sure the matter is dealt with or give the customer a reply, as appropriate, within 10 working days. If the contact is to ask for a change in payment method we will deal with this within 5 working days.

If we fail to do either of these, the customer will be entitled to compensation of £20 under our Guaranteed Standards scheme. However, if the customer has an outstanding account with us, this compensation amount may be offset against the outstanding balance. Payment will normally be made to the person responsible for paying water or wastewater charges.

### **4.2 Sources of Information**

The following corporate systems are used:

- HiAffinity  
The Business Contact Team log all contacts on the corporate billing system HiAffinity. This ensures that all billing enquiries received have been categorised correctly.
- Customer Plus is used for meter queries.

**4.3 Responses**

Generally, responses to billing queries are by letter. We tend to contact the customer by telephone when further information has been requested by the customer. Standard letters are used for initial responses in different situations. Customers often visit their nearest Scottish Water office in person and we aim to resolve the query at this time.

Key Account Management offers our largest industrial customers a tailored customer service package to suit their needs. We currently have 480 key account customers.

We offer a separate business helpline for our non-domestic customers (0845 602 8855) however through Key Account Management, each Key Account customer has a manager who has knowledge of their business and offers a personal service. Key Account Managers can be contacted directly rather than the customer telephoning our main customer number.

**4.4 Assumptions and Exclusions**

None.

**4.5 Other Issues**

None.

## **5.0 Response to Complaints**

### **5.1 Methodology and Procedures**

A complaint is defined as any communication from a customer or a customer's representative (e.g. Citizens Advice Bureau, Solicitor) expressing dissatisfaction with the service provided or offered, the way it is or is not provided, or the charges/charge methodologies applied, even if offered in mild and friendly terms. General statements of complaint are counted even though a standard type of reply may be sent. Customers may complain unfairly or unjustifiably, nevertheless, such a communication is a complaint. Some complaints may be frivolous or vexatious, nevertheless these are reported.

For a written complaint and a telephone complaint requiring a written response, a full or substantive response is sent within 10 working days, to comply with the Guaranteed Minimum Standard detailing either:

- An explanation of Scottish Water's relevant policy or procedure and indicates why no further action on the customer's complaint is required
- The action taken to resolve the complaint and when the action occurred
- When the action to resolve the complaint will be taken if it cannot be taken immediately

Promise is updated to show a respond and resolved date or a respond date only if customers are updated immediately.

Telephone and face-to-face complaints should be answered in full at the time of contact if possible. If the response provided for the customer is written then there is a 10 day response deadline to be met to comply with the Guaranteed Minimum Standard.

### **5.2 Sources of Information**

The customer can complain by letter, by e-mail, by fax, by telephone or in person at their nearest Scottish Water office. All details regarding the complaint are forwarded to a centralised customer relations team. Responses to the customer are updated on Promise.

The customer relations team ensure that on a daily basis a "Pre-emptive" performance report is produced from the Promise system. The reports are created using Flexible Reporter, Business Objects and IQ for each relevant Guaranteed Standard contact category.

The reports:

- Identify outstanding contacts
- Identify ownership
- Assist in the prioritising of the workload

### **5.3 Responses**

We respond to the majority of complaints by letter. Where contact agents receive a telephone call and the customer has requested a written response, this is logged on our Promise system and a reply must be forwarded within 10 working days.

**5.4 Assumptions and Exclusions**

We can exclude from the reported figures those written complaints that are about the activities of other undertakings and not about the services or functions of Scottish Water.

**5.5 Other Issues**

None

## **6.0 Ease of Telephone Contact**

### **6.1 Common definitions**

The Contact Centre has an automated reporting system linked to the telephone lines, which gives detailed analysis on all calls received. The information is checked regularly.

#### **Calls received/answered**

The totals from both our advertised numbers are added together.

#### **Calls answered within timebands**

The Automatic Call Distribution System (ACD) reports percentage of calls answered within 5 second time bands.

#### **Calls abandoned**

This figure equates to the total numbers of calls answered subtracted from the total number of calls received.

#### **Recording information**

All information is recorded over a 24 hour, 7 day a week timescale.

### **6.2 Call Receipt**

Scottish Water operate a virtual contact centre for all operational calls. All calls are received at our contact centre in Edinburgh. Once all details are taken from the customer the contact is logged on the Promise system for action. The operational enquiry line (0845 601 8855) is opened 24 hours a day, 7 days a week, with an emergency number (0845 600 8855) available to the public.

The billing calls for Scottish Water have a dedicated contact line (0845 602 8855). The billing line is opened from 0800 to 1800 hours, Monday to Friday.

### **6.3 Call Handling**

Calls are logged on Promise and handled at the time of customer contact unless the enquiry requires further work. In this situation, the customer is informed once the query has been resolved.

British Telecom Service View (Message Link) results in every customer call receiving either an agent response or a pre-recorded message specific to an event occurring in the customer's area telephone dialling code.

### **6.4 Messaging**

Customers phoning the billing line get a message service while they are in the queue.

## 6.5 **Scottish Water Systems**

ACD – Automatic Call Distribution – is the telephone-logging system providing automated call analysis. This data can then be sorted as and when required for population of the WIC 5 quarterly report and the Annual Return.

The billing line (0845 602 8855) is open 8am to 6pm Monday to Friday and the operations line, which is our main customer helpline number, (0845 601 8855) is a 24 hour service.

The main customer emergency contact number (0845 600 8855) is quoted on our vans, depots, signs, etc and is intended to inform us of an emergency. This number is also a 24 hour service.

**7.0 Flooding Incidents**

**7.1 Methods and Procedures**

We will respond to all internal or external flooding incidents as stated in the Code of Practice, and the additional floodcare scheme booklet.

On attendance at the incident, the squad identifies the cause and scale of the problem and will resolve it where internal flooding has occurred. We also handle some external flooding depending on the resources available and the severity of the flooding. For most cases of external flooding we use specialist firms, who are contracted by Scottish Water to resolve the situation. Squads provide a comprehensive report, containing the following details, for all external and internal incidents attended. A customer contact sheet is used to record:

- The time spent and a summary of any action taken and/or actions outstanding
- Confirmation of all advice provided to the customer about any damage, claims, etc – this will only apply for external incidents
- Advise if a claim is being made – this will only apply for internal incidents

A Flooding Incident Record Sheet is used to record details about:

- The location of the flooding
- The extent of the flooding
- The cause of the flooding
- The clean-up time on site – for internal flooding only
- Confirmation of action taken

**7.2 Extract from the Register**

Scottish Water register recorded the following unresolved flooding categories (a property is only recorded in one category).

<b>Register Status</b>	<b>No. of Properties</b>
DG5	778
DG10	565
Garden	2,037
Highway	760
Other Flooded Areas	142

DG10 is Properties at risk of flooding from sewers (once in ten years)  
 DG5 is Properties at risk of flooding from sewers (twice in ten).

**7.3 Sources of Information**

We obtain information regarding flooding incidents by the following methods:

**1) From customers**

The majority of flooding incidents are informed to us through our customers, usually at the time of the incident. Communication is by telephone, or in some cases letter, to the Customer Contact Centre with details being passed to the appropriate asset team. Squads are on 24 hour standby with all information being passed through the control office outwith normal business hours.

**2) From operational staff**

Staff have knowledge of areas that are at risk of flooding in severe weather. They are proactive and inform customers that their property is at an increased risk. Scottish Water are progressing the installation and fitting of non-return valves, and other flood devices to properties susceptible to flooding from under-capacity sewers. Scottish Water are also supporting local communities by attending regular flood groups which are set up to promote flood prevention.

**3) From external bodies**

This includes the police, fire brigade and local authorities.

**7.4 Scope and Coverage**

The flooding from sewers standard operates consistently throughout Scottish Water.

**7.5 Assumptions and Exclusions**

None.

**7.6 Other Issues**

None.

## 8.0 Properties at risk of flooding

In 2002 Scottish Water compiled a Flooding Register as part of its asset management process. The register was populated by merging sewer flooding records from WoSW and EoSW. The flooding recorded was that which occurred due to overloaded sewers, but it excluded all flooding relating to temporary chokes, blockages or plant failures. A data collection exercise of the former NoSW has resulted in properties being added to the Flooding Register.

All flooding incidents and causes are recorded on the flooding incident database.

## 8.1 Methods and Procedures

A process to audit the data on the flooding incident database prior to records being added to the Flooding Register has been introduced to enhance the accuracy of the register. Data is collected on incident record sheets linked to the customer contact process.

## 8.2 Sources of Information

The Flooding Incident Database used in the former WoSW was introduced across Scottish Water in February 2003 to capture the data required for the Annual Return. The database is populated with data captured on the flooding incident record sheets.

## 8.3 Scope and Coverage

The register, as shown in 7.2, has been checked for completeness and accuracy. A process for management of the register has been established and is outlined below.

- The first time a property is flooded, it is put in the 1 in 10 year category (B)
- If a second or greater number of incidents within 10 years occurs, the property is transferred into the 2 in 10 year category (A)
- A property may be assessed as either A or B by investigation of records
- If the property is in A but is not flooded for 8 years it will be transferred to B
- If no further flooding occurs after a further 8 years it is removed from category B onto a historic flooding list
- Any properties removed from either A or B by virtue of capital investment are transferred to a separate list
- Properties that are flooded due to extreme / severe weather are held in the system but not in category A or B where it can be demonstrated that the flooding occurrence was due to exceptional weather.

## 8.4 Assumptions and Exclusions

The register only includes properties that operations have knowledge of the flooding or the customer has confirmed the flooding. As part of the Drainage Area Study, hydraulic network models will identify properties that may flood. Additional properties highlighted as "at risk of flooding" in Drainage Area Studies are recorded on the register as unconfirmed or unreported. Scottish Water are currently confirming if there is good reason for these properties being at risk of flooding and will reclassify these properties accordingly in due course. As the Drainage Area Studies programme is not yet complete the number of properties classed as unconfirmed or unreported is expected to increase.

**8.5 Other Issues**

Scottish Water does not have 10 years of data collection making it difficult to assess trends or identify properties that have not flooded for the past 10 years.

## 10.0 General Information

### 10.1 Scottish Water Acronyms

ACD	Automatic Call Distribution
ADIP	Asset Data Improvement Project
AVS&E	Almond Valley, Seafield and Esk (PPP project)
BABE	Burst and Background (methodology)
BCD	Business Critical Data
BCM	Business Customer Management
BOD	Biological Oxygen Demand
CCTV	Closed Circuit Television
CEH	Centre for Ecology and Hydrology
CG	Confidence Grade
CIR	Capital Investment Return
CIMS	Capital Investment Management System
COD	Chemical Oxygen Demand
COPA	Control Of Pollution Act
COPI	Construction Outputs Price Index
CSO	Combined Sewer Overflow
Custima	Customer Billing System
DAP	Drainage Area Plan
DAS	Drainage Area Study
DI	Distribution Input
DMA	District Meter Area
DBP	Draft Business Plan
DOA	Drainage Operational Area
DSOU	Distribution System Operational Use
DWF	Dry Weather Flow
DWQR	Drinking Water Quality Regulator
DZS	Distribution Zone Study
E&M	Electrical and Mechanical
E&W	England & Wales (or English & Welsh)
EARC	Equivalent Asset Replacement Cost
EMPAC	Enterprise Maintenance Planning and Controls Asset Management System
EO	Emergency Overflow
EoSW	East of Scotland Water
ERDF	European Regional Development Fund
FTE	Full Time Equivalents
GEARC	Gross Equivalent Asset Replacement Cost
GIS	Geographical Information System
GMS	Guaranteed Minimum Standards
GRO	General Register for Scotland
HNDA	High Natural Dispersion Area
IAS	International Accounting Standards
ICF	Infrastructure Condition Factor
ID	Intermittent Discharge
INMS	Integrated Network Management System
IT	Information Technology
IPPC	Integrated Pollution Prevention and Control
JANE	Joint Arrangement Non Entity
LBS	Lochs, Burns and Springs
LUT	Large User Tariff
LOS	Levels of Service
LIMS	Laboratory Information Management System

M&E	Mechanical and Electrical
MEA	Modern Equivalent Asset (value)
MSI	Meadowhead, Stevenston, Inverclyde (PPP project)
NoSW	North of Scotland Water
NRSAWA	New Roads & Street Works Act
NRV	Non Return Valve
OFWAT	Office of Water Services
OU	Operational Use
P3e	Primavera (SWS capital monitoring system)
PCC	Per Capita Consumption
PCV	Prescribed Concentration Value
PE	Population Equivalent
PFI	Private Finance Initiative
PPP	Public Private Partnership
PPRA	Pre and Post Rehabilitation Assessment
PSCE	Public Sector Capital Equivalent
Q&S	Quality and Standards
R&S	Regulation and Strategy Group
RA	River Abstraction
RAB	Resource Accounting and Budgeting
RV	Rateable Value
SBP	Strategic Business Plan
SCOD	Scottish Chemical Oxygen Demand
SDBP	Second Draft Business Plan
SEPA	Scottish Environment Protection Agency
SFID	Sewer Flooding Incident Database
SIOP	Sewerage Infrastructure Investment and Operational Planning
SME	Small to Medium Enterprises
SNH	Scottish Natural Heritage
SOC	Scheme of Charges
SPL	Supply Pipe Leakage
SR	Service Reservoir
SRM	Sewer Rehabilitation Manual
SS	Suspended Solids
SSSI	Sites of Special Scientific Interest
SVCP	Small Value Capital (works) Programme
SW	Scottish Water
SWARM	Scottish Water Asset Risk Management
SWS	Scottish Water Solutions
SWWS	Scottish Water Waste Services
THM	Trihalomethanes
TOC	Total Organic Carbon
UCSO	Unsatisfactory Combined Sewer Overflow
UDWD	Unmeasured Domestic Water Delivered
UGSP	Underground Supply Pipe
UID	Unsatisfactory Intermittent Discharge
UKWIR	United Kingdom Water Industry Research
UWWTD	Urban Waste Water Treatment Directives
VOWD	Value Of Work Done
VR	Voluntary Release
WAFU	Water Available For Use
WAMS	Works and Assets Management System
WaSC	Water and Sewerage Company
WIC	Water Industry Commissioner
WOA	Water Operational Area

WoSW	West of Scotland Water
WQZ	Water Quality Zone
WRC	Water Research Centre
WRP	Water Resource Plan
WST	Water Supply and Treatment
WSZ	Water Supply Zone
WTIU	Water Taken Illegally Unbilled
WTLU	Water Taken Legally Unbilled
WTW	Water Treatment Works
WWPS	Waste Water Pumping Station
WWT	Waste Water Treatment
WWTW	Waste Water Treatment Works