



SCOTTISH WATER
WIC ANNUAL RETURN
OUTPUT MEASURES METHODOLOGY

15 June 2007

CONTENTS

	PAGE
1.0 Restrictions on the use of water	4
2.0 Pressure of mains water	5
2.1 Methods and procedures	5
2.2 Extract from the poor pressure register	5
2.3 Sources of information	5
2.4 Scope and coverage	5
2.5 Assumptions and exclusions	5
2.6 Other issues	6
3.0 Supply interruptions	7
3.1 Methods and procedures	7
3.2 Sources of information	8
3.3 Scottish Water systems	8
3.4 Scope and coverage	8
3.5 Assumptions and exclusions	9
3.6 Other issues	9
4.0 Response to billing contacts	10
4.1 Methodology and procedures	10
4.2 Sources of information	10
4.3 Responses	11
4.4 Assumptions and exclusions	11
4.5 Other issues	11
5.0 Response to complaints	12
5.1 Methodology and procedures	12
5.2 Sources of information	12
5.3 Responses	12
5.4 Assumptions and exclusions	13
5.5 Other issues	13
6.0 Ease of telephone contact	14
6.1 Common definitions	14
6.2 Call receipt	14
6.3 Call handling	14
6.4 Messaging	14
6.5 Scottish Water systems	15
7.0 Flooding incidents	16
7.1 Methods and procedures	16
7.2 Extract from the register	16
7.3 Sources of information	17
7.4 Scope and coverage	17
7.5 Assumptions and exclusions	17
7.6 Other issues	17

8.0	Properties at risk of flooding	18
8.1	Methods and procedures	18
8.2	Sources of information	18
8.3	Scope and coverage	18
8.4	Assumptions and exclusions	18
8.5	Other Issues	19
9.0	General Information	20
9.1	Scottish Water Acronyms	20

1.0 Restrictions on the Use of Water
No methodology required.

2.0 Pressure of Mains Water

2.1 Methods and Procedures

We have developed and commissioned a new corporate system for our low pressure register. This enables us to capture information from multiple sources, including customer contacts and field work, to identify the unique address of each property with inadequate pressure. The new system is now operational and is being used to track each report of low pressure and its resolution.

2.2 Extract from the Low Pressure Register

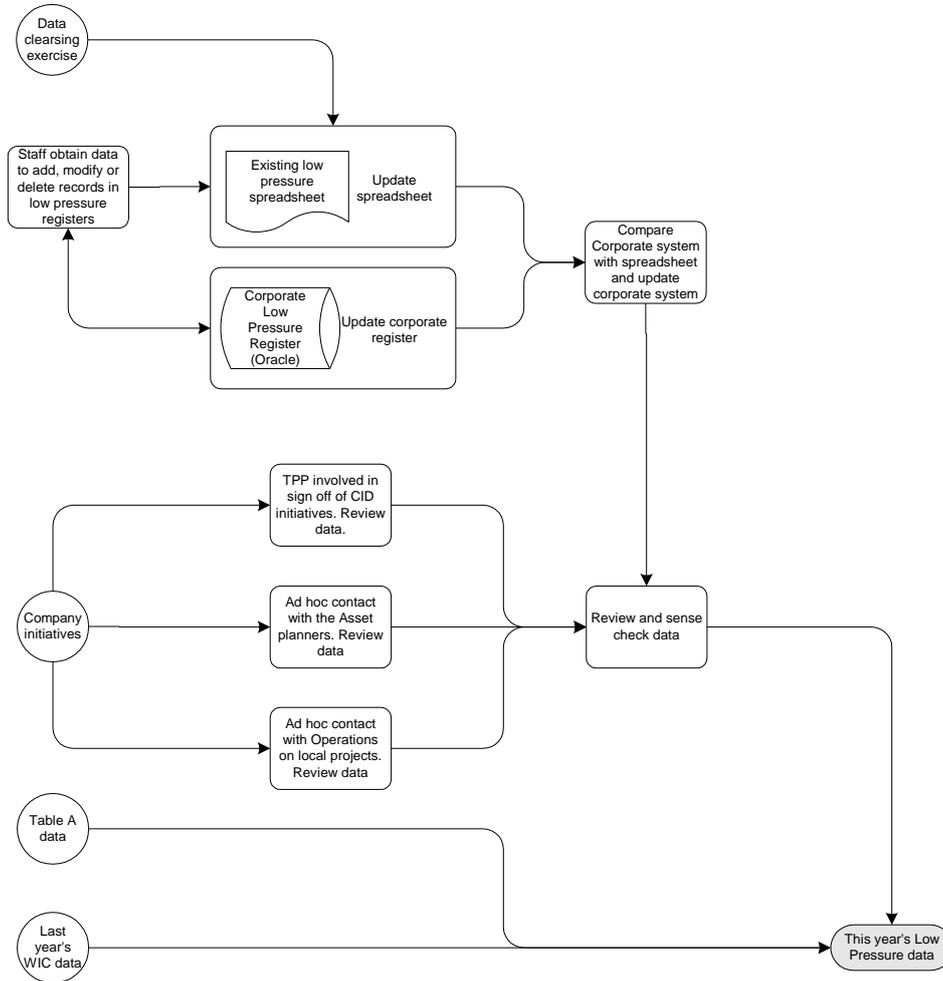
Information in the database continues to be recorded at Water Supply Zone level. For each entry there is the Water Supply Zone name and asset number, the number of properties estimated to be receiving low pressure within that zone, the source of this information, and a confidence grade for the data relating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

2.3 Sources of Information

The source information originates from the new intranet-based Corporate Low Pressure Register and, until March 2007, from the existing low pressure register spreadsheet. The latter is affected by initiatives or issues from the following areas:

1. Capital Investment Delivery
2. Asset Planners
3. Operations
4. The pressure logging exercise which has led to a decrease in the number of properties on the register.

Process diagram to March 2007



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 held at the individual property level.

2.5 Assumptions and Exclusions

None.

2.6 Other issues

There are no issues currently with the process.

3.0 Supply Interruptions

3.1 Methods and Procedures

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 field staff ensure 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 either on paper or through the Integrated Mobile Solution (IMS) device for each job where an interruption to supply occurs.

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

- 1) **Local details** - such as Operations Team Leader - Person responsible for dealing with the event and Operations Team - Team allocated with the responsibility for completing the planned or 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 interruption 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 and end date and time of the planned interruption.
- 9) **Actual start and actual end times** – Actual start and end date and time of the planned interruption.
- 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 planned interruption. 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 the supply is restored.

- 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 unplanned 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

Customers or Scottish Water staff will call the Contact Centre to record unplanned incidents. Where these are not part of planned works, the Contact Centre will raise a Service Request on the Promise system which will issue an instruction to a Network Services Operator (NSO) via the Integrated Mobile Solution (IMS) to investigate the issue. An NSO visits the site and assesses the situation. Either the NSO will:

1. Complete the job and contact the Contact Centre afterwards to close the service request on Promise; or
2. Contact the Operations Management Centre (OMC), which raises a work order on Ellipse. The OMC will schedule the job to be completed by a burst squad, and send this out by IMS or manually. When the job is complete, a team member will use either an automated or a manual process to record relevant data. Jobs are given to burst squads either manually (printout from Ellipse) or through IMS.

In addition, the OMC can create a work order in Ellipse directly in response to planned improvement/remediation works and this will be carried out by a burst squad.

Where the OMC and Ellipse are involved, the burst squad will update the OMC work order by the following methods:

- Via the Integrated Mobile Solution (IMS) (on a Promise laptop or through the IMS handheld device); or
- Sending paper forms to the local administration support teams.

In addition, Scottish Water Solutions can outsource improvement works. Where there is a planned interruption involved in the works, there is no job creation on Ellipse or Promise, but the external companies send in spreadsheets to local administrators listing the interruption when the work is complete.

3.4 Scope and Coverage

This covers all aspects of reporting supply interruptions that are reported both for the annual return and OPA reporting

3.5 Assumptions and Exclusions

Interruption to supply relates only 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

This year Scottish Water split into Scottish Water (wholesale) and Scottish Water Business Stream (retail). As part of this separation SWBS took responsibility for billing and associated GMS activities in November 2006.

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:

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 or Scottish Water Business Stream. Unmeasured customers have the option to pay by a single payment as cash, cheque, BACS (Bank Automated Clearing System), credit/debit card or by direct debit over one, two, four or twelve payments. Measured customers can pay monthly or quarterly by cash, cheque, BACS, credit/debit card or direct debit. A direct debit can now be set up over the phone in addition to posting out a direct debit mandate.

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. An automatic payment system was introduced in January 2006 whereby a payment is made automatically to the account, or a cheque request is raised and posted to the customer. Prior to this the customer was required to claim for the amount. 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
SWBS's Business Contact Team logs all contacts on the corporate billing system HiAffinity. This ensures that all billing enquiries received have been categorised correctly.

4.3 Responses

Generally, SWBS attempts to resolve billing enquiries over the telephone, which provides a more efficient service to the customer. When a written response is requested SWBS replies by letter.

Key Account Management offers the largest industrial customers of SWBS a tailored customer service package to suit their needs.

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 or 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 indicating 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 Intelligent Call Routing System reports percentage of calls answered within 2 second time bands. Some manipulation is required to get the data into 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 operates 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 Business Stream have a dedicated contact line (0845 602 8855). The billing line is opened from 9am to 5pm, 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 either of Scottish Water's helplines get a message service while they are in the queue.

6.5 Scottish Water Systems

Scottish Water uses an “Intelligent Call Routing System” to provide an 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.

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. 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
- Advise if a claim is being made

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 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 operations 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 is progressing the installation and fitting of non-return valves, and other flood devices to properties susceptible to flooding from under-capacity sewers. Scottish Water is 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.

The information used to report the flooding data is collated from the following main corporate sources: the Promise System (the Scottish Water customer contact management system); and the Sewer Flooding Register Corporate Satellite Application (CSA).

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

The source data for these reports comes from Scottish Water staff creating and updating information within the Promise - Customer Contact system. This information can be input by various methods:

- Contact centre staff responding to a customer calling into Scottish Water and reporting an incident
- Scottish Water staff using laptops in the field and submitting the data into the Promise system via a remote connection
- Scottish Water staff accessing the Promise system in the office

The “At Risk” register is an intranet application which is populated manually with information that has been identified as requiring addition to the “At Risk” register. The application keeps a record of which properties are on the “At Risk” register and into which category they fit. (1:10, or 2:10)

8.1 Methods and Procedures

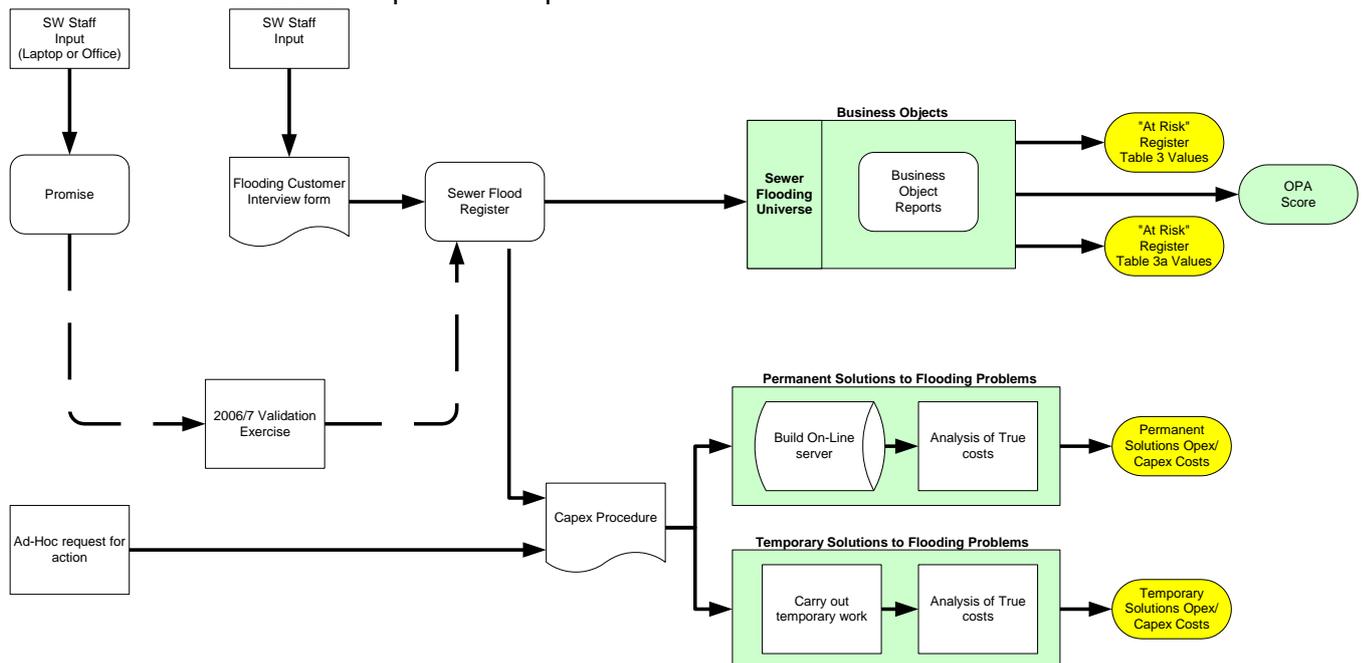
The sewer flooding “At Risk” register has processes in place so that it can be populated with data from the Promise system where it can be tracked and monitored.

Once the information is in the “At Risk” register it can be used to identify areas where permanent or temporary flood prevention works are required.

From the information held on Promise, a report is produced which identifies all the sewer flooding incidents and this is used by staff in each region to identify where there have been incidents that may require to be added to the “At Risk” register.

These incidents are analysed to determine the level of impact (i.e. internal or external flooding) and the cause of the incident (i.e. overloading sewers or any other causes). This information is required to fill out the form that is used to initiate an entry onto the “At Risk” register.

See below for the process map.



8.2 Sources of Information

The source of the data comes from a corporate risk register database, which has been populated from the Promise system.

8.3 Scope and Coverage

The register, 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 for which operations have knowledge of the flooding or where 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 is currently confirming if there is good reason for these properties being at risk of flooding and will reclassify these properties accordingly.

8.5 Other Issues
None

9.0 General Information

9.1 Scottish Water Acronyms

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
CFA	Common Framework Approach
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
CSA	Corporate Satellite Application
CSO	Combined Sewer Overflow
DAP	Drainage Area Plan
DAS	Drainage Area Study
DI	Distribution Input
DMA	District Meter Area
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
EO	Emergency Overflow
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 Office
HNDA	High Natural Dispersion Area
IAS	International Accounting Standards
ICF	Infrastructure Condition Factor
ID	Intermittent Discharge
IFOC	Internal Flooding by Other Causes
IMS	Integrated Mobile Solution
INMS	Integrated Network Management System
IT	Information Technology
IPPC	Integrated Pollution Prevention and Control
LBS	Lochs, Burns and Springs
LUT	Large User Tariff
LOS	Levels of Service
LIMS	Laboratory Information Management System
M&E	Mechanical and Electrical
MEAV	Modern Equivalent Asset Value
MSI	Meadowhead, Stevenston, Inverclyde (PPP project)
NRSWA	New Roads & Street Works Act

NRV	Non Return Valve
OFWAT	Office of Water Services
OPA	Overall Performance Assessment
OSAPR	Ordnance Survey Address Point Reference
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
RA	River Abstraction
RAB	Resource Accounting and Budgeting
RV	Rateable Value
SCOD	Scottish Chemical Oxygen Demand
SEPA	Scottish Environment Protection Agency
SFID	Sewer Flooding Incident Database
SIIOF	Sewerage Infrastructure Investment and Operational Planning
SME	Small to Medium Enterprises
SNH	Scottish Natural Heritage
SNIFFER	Scotland & Northern Ireland Forum for Environmental Research
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
SWBS	Scottish Water Business Stream
SWD	Surface Water Drainage
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
WAFU	Water Available For Use
WAMS	Works and Assets Management System
WaSC	Water and Sewerage Company
WOA	Water Operational Area
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