SCOTTISH WATER

WIC ANNUAL RETURN

COMMENTARIES

September 2006

A Tables – Base Information

Table A1 Properties and Population

Change in other relief of charges for 2004/05

In previous years a customer was able to apply for relief from full charges, this would give them a discount on the standard charges. However, in the past few years this relief has been phased out. 2004/05 is the first year that relief customers, other than charities, are subject to full charges. An example of such a customer would be a nursing home.

A1.1-11 Unmeasured Domestic - Properties

Data for these lines has been sourced from last year's Annual Return, based on WIC4 reports for 2004, and updated with new household growth from the Council Tax Base for September 2005. New households are taken as connected to the water and waste water network.

Lines A1.1 to A1.9 require no further manipulation. As such the confidence grade of A2 has been retained. To calculate the number of band D equivalents, the 2005/06 blend of households has been adjusted to reflect the one year benefit to Scottish Water due to councils using their discretionary powers to reduce second home discounts to a minimum of 10%.

For lines A1.10a and A1.11 in last year's return the number of voids and exempt properties, as a whole, in WIC4 and in the Council Tax Base were different by around 20% of each other. Updating last year's return with Council Tax Base 2005 growth will give a similar degree of accuracy. So coming from the most reliable source available but with little accuracy gives this an A4 grade.

A1.12-13 Measured Domestic – Properties

The number of measured domestic properties has increased in 2005/06 to 481, which is up 21 from the previous year. This small upward trend reflects the increased flagging that was carried out in the data cleansing in the later part of 2004/05.

A1.14-23 Measured Non-Domestic - Properties

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005. A reduction in the number of properties of 2.7% reflects the amount of data cleansing through 2004/05 and on into 2005/06. The largest movement was A1.16 (Number of billed properties with use <100 Ml/Y at standard tariff) which sees a reduction of 1,753 (2.2%).

The overall shape has altered slightly over the period, as a number of customers have moved from non-standard to both LUVA and standard rates. Also A1.20 (Number of properties with relief of charges) has now reduced to zero as relief has been fully phased out. There has also been a reduction of the number of customers receiving a zero bill (A1.21).

The number of void (vacant) properties has reduced by 3,864 (55%) compared to the previous year. This reflects a business decision on the flagging applied to vacant properties. This reflects a business decision on the flagging applied to vacant properties. As part of the data cleansing project carried out in 2004/05, a review of a batch of properties with no customers assigned was carried out and flagged appropriately. This process is continuing and it is likely that an increase in 2006/07 will be reported.

A1.27a-42 Measured Non-Domestic - Meter Sizes: Actual Installed Meters

The variations in reported meter numbers are largely the result of the meter right sizing programme that was carried out in the second half of 2004-05 and into 2005-06. The majority of changes occurred on larger meters, i.e. 50mm and above. Additional to the meter right sizing, an element of the change will be affected by data cleansing as it was found that there were some duplicates within the system.

Below is a breakdown of the electro-mechanical meters.

Size	Number
15mm or smaller	1
20mm	1
25mm	3
40mm	2
50mm	7
80mm	5
100mm	10
150mm	6
200mm	3
250mm	1
300mm	2
450mm	0
Total	41

The reduction of A1.27a (Electro-mechanical meters) reflects the policy within Scottish Water to remove such meters as they come to the end of their life cycle.

A1.46a-61 Measured Non-Domestic - Meter sizes: "Tariff" Meters

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005. The reduction of 2,344 (2.8%) tariff meters reflects the amount of data cleansing through 2004/05 & 2005/06 and the meter right sizing project. The effect of the right-sizing project was that, in general, the number of larger meter sizes was reduced.

Below is a breakdown of the electro-mechanical meters.

Size	Number
15mm or smaller	1
20mm	1
25mm	3
40mm	2
50mm	7
80mm	5
100mm	10
150mm	6
200mm	3
250mm	1
300mm	2
450mm	0
Total	41

The reduction of A1.46a (Electro-mechanical meters) reflects the policy within Scottish Water to remove such meters as they come to the end of their life cycle.

A1.62-67 Unmeasured Non-Domestic - Properties

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005. A reduction of 11,679 (19.6%) properties compared to the previous year is due to two major factors within the reporting year. Firstly, a move of unmeasured water to measured water throughout the year and secondly a review of the services being charged within the unmeasured services as part of the major data cleansing project. The effect of the data cleansing has resulted in a number of customers moving to SWD only and vacant, as well as customers being removed due to going out of business and double billing for the same property.

The number of void (vacant) properties has reduced by 13,482 (63%) compared to the previous year. This reflects a business decision on the flagging applied to vacant properties. As part of the data cleansing project carried out in 2004/05, a review of a batch of properties with no customers assigned was carried out and flagged appropriately. This process is continuing and it is likely that an increase in 2006/07 will be reported.

A1.68-70 Summary – Properties

A1.70 Number of properties connected during the report year is 20483. This is made up of 16053 standard connections (<32mm), 490 non-standard connections (>32mm) and 3940 self lay connections (<32mm). The confidence grade is B3 due to non-compliance of customers notifying Scottish Water of undertaking self lay connections, therefore the figures quoted for self lay are from customers who have confirmed the work.

A1.71-72 Summary – Population

A1.71 The population report is based on Scottish Water reporting of households in this Annual Return and the following external reports from the General Register for Scotland, Governments Actuary Department and Scottish Executive:

- 2004 Projected population by council and health board - GRO;
- 2002 Household Projections - SE Table 5a
- 2002 Occupancy Rates - SE Table 7

The data supplied has been used in the following respect:

The 2002 Scottish Executive projections give an occupancy rate and a number of households for each council area. The product of these numbers gives a projected total occupied household population by council, 2002 based.

The resulting projections in occupied household population are then updated to 2004 using the proportional increase in total population from the General Register Office (GRO) total population reports 2002 and 2004. For accuracy, the proportional increases are taken from the GRO reports for each council and applied to the Scottish Executive reports by council.

The occupied household population over the occupied households gives a 2004 projected estimate for the occupancy rate at council level.

The occupancy rates are applied to occupied households and unoccupied households with water and waste to get a population figure for each.

A1.73-75 Domestic – Population

A1.73 The population supplied in A1.71 has been reduced by the population in measured domestic properties and the non-household population.

The non-household population has been calculated as the difference between total population and occupied household population. Both figures are calculated in the process for line A1.71.

A1.74 The population of measured domestic properties has been calculated using the number of households reported in line A1.12 and the occupancy rate for Scotland calculated in the process for line A1.71.

A1.76-79 Rateable Value Base

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005. The reduction in the total RV base is a result of the data cleansing activities carried out through the year and a number of customers that have moved to a measured service.

Table A2 Water Volumes

A2.1-4 Unmeasured Domestic

A2.1: **Water Delivered**

The WIC definition specifies that Unmeasured Domestic Water Delivered includes supply pipe leakage. This aligns with managing leakage terminology[1], where Unmeasured Domestic Water Delivered (UDWD) is made up of three components: customer use (CU), plumbing losses (PL), and underground supply pipe leakage (USPL): use and plumbing losses make up consumption.

Customer Use vs. Consumption

The per capita consumption (PCC) value used to calculate UDWD this year and in previous Annual Returns (2001/02, 2002/03, 2003/04 and 2004/05) does not include plumbing losses. This PCC value was extracted from 'Domestic Water Consumption Study 1999' a report by the three former Scottish water authorities, Research Consultancy Services and RPS Water Services.

In the 1999 PCC Study: zonal consumption estimates were obtained by subtracting an estimate of non domestic consumption and leakage from measured flow into the zones (ref. section 5.7 p. 28). Leakage itself was estimated by subtracting an estimate of non domestic night use from 15-min minimum night flow values (ref. section 5.5 p. 27).

Based on this methodology, the zonal leakage estimates were therefore implicitly inclusive of any domestic consumption (inc. plumbing losses), which may have been occurring in the 15-min intervals corresponding to the periods of minimum night flow each night. Consequently, the domestic consumption estimates in the 1999 Study are exclusive of plumbing losses and, in strict Managing Leakage terminology, correspond to 'customer use' as opposed to consumption.

[1] Ref. WRc
Managing Leakage Report D, 1994, p. 1, 21, 22, 23, Fig. A2, A3, A4

Estimation of Customer Use

An update to the 1999 PCC Study was carried out in March/April 2005 to improve the reliability of the unmeasured domestic water delivered estimate. The updated 2005 estimate was 142 l/hd/d compared to 139 l/hd/d in 1999.

This updated median value is not an annual average figure. Rather it is a snapshot made at a particular time of year (spring). As expected the median value in 1999 in the autumn is lower than the value determined in spring 2005 but this could be attributed to sampling and measurement error. Consistent monthly measurement would yield base seasonal weather related consumption. Until then, the 1999 value of 139 (139.1 to 4 sig. fig.) will remain the default assumption in Scottish Water's water balance calculations.

For information, the results of the 2005 study compared to the 1999 estimates by legacy authority are shown in Table A2.1 below:

Table A2.1 Median PCC for Scotland reported against 1999 result

Legacy Authority	1999 Mean PCC (l/head/day) (September/November 1999)	2005 Mean PCC (l/head/day) (March/April 2005)
East	144	152
West	136	141
North	149	148
Scotland	139	142

The current structure of Scottish Water, split into four operational areas, makes the legacy authorities' estimates unusable. Any attempt to estimate area-specific PCC values based on the data supporting the 1999 or 2005 Study would be undermined by the limited number of sample zones in each area leading to potential statistical bias. The 1999 PCC all-Scotland estimate was therefore used for all area calculations. As recommended in the 1999 Study (p. 33 and 42), the median value of 139.1 l/hd/day was used in preference to the mean value, as it is not distorted by extreme values.

Calculation of Unmeasured Domestic Water Delivered

In order to derive an estimate of UDWD for each of the four operational areas, the following formula was used:

UDWD (Ml/d) = CU + PL + UGSPL

$= [(PCC*POP)+(PLav*PROP*PCF*ICF*HDF)+(USPLR* PROP)]*10^{-6}$

where PCC = per capita consumption = 139.10 l/head/day (not area-specific)
POP = population (No), should be equal to value entered in A1.73
PLav = average plumbing losses = 0.5 (l/prop/hour, not area-specific)
PCF = Pressure Correction Factor (dimensionless, area-specific when available)
ICF = Infrastructure Condition factor (dimensionless, area-specific when available)
HDF = Hour-Day Factor (hours, area-specific when available)
USPLR = underground supply pipe leakage ratio (l/prop/day, not area-specific)
UDWD for Scotland, which is the value to be entered in row A2.1, consists of the sum of the 4-Area UDWDs.

Plumbing Losses
A UK-average value for plumbing losses (PLav) is provided in the Managing Leakage Report E p.15 (Table 4.1) based on research into night flow measurements:

PLav = 0.5 l/prop/hour (at period of minimum night flow, assuming AZNP = 50m and average infrastructure condition).

This estimate was used as follows to calculate plumbing losses in each operational area:

PL (Ml/d) = Plav * PROP * HDF * PCF * ICF * 10^-6

With Plav = 0.5 l/prop/hour
PROP = number of properties in the Area
HDF = Hour-Day factor in the Area
PCF = Pressure Correction Factor = $(AZNP/50)^{1.5}$
ICF = Infrastructure Condition Factor (note that ICF reflects the condition of the distribution system infrastructure, and is used here as a surrogate for the condition of the domestic plumbing systems in the area concerned)

A2.2 Underground Supply Pipe Leakage

This section covers lines as detailed below:
A2.2 Unmeasured domestic UGSP – Billed
A2.3 Unmeasured domestic UGSP – Void
A2.6 Measured domestic UGSP – Void
A2.20 Measured non-domestic UGSP- voids
A2.29 Unmeasured non-domestic UGSP – Billed
A2.30 Unmeasured non-domestic UGSP – Void

Background

Supply pipe leakage estimates are required for different categories of properties, namely metered and unmetered, household and non-household, billed and voids. A recent pilot study (April/May 2006) to sample unmetered domestic supply pipe flow rate and data from active leakage control in different areas of Scottish Water (undertaken under Q&SII) has made it possible to derive a refined estimate of average supply pipe leakage across Scotland. However, the study does not yet provide the level of detail necessary to produce specific values for the different categories of properties shown in Table A2 (Water Balance).

As with last year's Return, in order to apportion the all-Scotland estimate of supply pipe leakage between categories, the proportions reported for each category by Water & Sewerage companies in the Ofwat 2004-05 Annual Return were used. It must be noted however that the property categorisation in the WIC Return differs slightly from that in the OFWAT Return as displayed in the table below.

Table 2.2 Categories of properties for which a specific estimate of supply pipe leakage is required:

OFWAT Return		WIC Return	
T10.16	Internally metered household	A2.2	Unmeasured domestic – Billed
T10.15	Externally metered household	A2.3	Unmeasured domestic – Void & Exempt
T10.14	Unmeasured household	A2.6	Measured domestic – Void
T10.17	Void properties	A2.20	Measured non domestic – Void
		A2.29	Unmeasured non-domestic – Billed
		A2.30	Unmeasured non-domestic – Void

The extrapolation method is detailed in section 2 of the methodology statement below.

Methodology

1 – Estimation of Scotland average supply pipe leakage

An overall estimate of supply pipe leakage for Scotland was carried out based on the burst and background (BABE) methodology, using data from active leakage control work across Scottish Water and a company specific estimate for flow rate.

The methodology was reviewed in AR05, but at that time the calculated figure was not used because it was significantly different from AR04 i.e. 64.8 (l/p/d).

The revised methodology has been used this year. A refined value of 61.5 l/p/d was derived based upon a survey of unmetered domestic supply pipe leakage flow rates (April/May 2006) and 27% property coverage of swept areas.

The key assumptions and results of the calculation are summarised below:

Swept areas

- Number of DMAs with data on number of SP bursts 444
- Number of Properties covered 668,825
- Number Supply Pipe Leaks detected 1,695
- Assumed burst duration 365 days/yr
- Estimated mean burst flow rate 1.05 m^3/hr

Unswept areas

- Number of Properties covered 1,800,018
- Number of bursts outstanding 4,561.8

Results

- Supply Pipe Burst Leakage 48.3 l/prop/d
- Supply Pipe Background Leakage 13.2 l/prop/d
- **Supply Pipe Total Leakage 61.5 l/prop/d**

2 - Apportionment of all-Scotland average supply pipe leakage to different categories in Table A2

The following assumptions were made in order to apportion the total supply pipe leakage estimate between the required property categories based on values from Water and Sewerage companies in England and Wales:

- The difference between supply pipe leakage in void properties and in billed properties is the same in relative terms for all property types and is equal to the difference reported between total void and total billed properties.
- The ratio of metered to unmetered void properties is the same as that of metered to unmetered billed (split not available in OFWAT Returns).

Based on the above assumptions, it was possible to extrapolate supply pipe leakage estimates for the categories not explicitly reported in the OFWAT Returns but needed to derive component values for the WIC Return. The result of this analysis is summarised in Table A2.3 below.

Table A2.3

Summary Results – Supply Pipe Leakage			A1 Line Ref.	A2 Line Ref.	Property Count ('000)*	UGSP Leakage (l/prop/d) **	UGSP Leakage Ml/d
Billed Properties	Domestic	Unmeasured	A1.1	A2.2	2205	62.8	138.5
		Measured	A1.12	N/A	0.5	23.5	0
	Non domestic	Unmeasured	A1.66	A2.29	47.74	54.3	2.6
		Measured	A1.22	N/A	80.3	26.7	2.1
Exempt	Domestic	Unmeasured	A1.10a	A2.3	60.9	62.8	3.8
Void Properties	Domestic	Unmeasured	A1.11	A2.3	56.9	67.2	3.8
		Measured	A1.13	A2.6	0.0	33.1	0.0
	Non domestic	Unmeasured	A1.67	A2.30	7.7	58.1	0.4
		Measured	A1.23	A2.20	3.1	28.6	0.1
Total (A1.69)			A1.69	N/A	2462.4	61.5	151.4

* Source: Table A1

** from 'Calculation' spreadsheet

Supply Pipe Leakage Confidence Grade

Reliability Band

This year's estimate of total supply pipe leakage (UGSPL, in l/p/d) has changed from 64.8 to 61.5 (affirming the decision to re-use the AR04 figure in AR05). It is based on Scotland specific data, using a larger sample of average burst flow rate and frequency, but still relies on limited sample information on key parameters such as burst duration, pressure or hour-day factor. These data sets still require improvement. Due to these remaining limitations, SW considers that the reliability grade C applies (reliability C is defined as "extrapolation from limited sample for which Grade A or B data is available"). Based on this definition, the supply pipe leakage values (in l/p/d) extrapolated for the various property categories that are reported in Table A2 were also given a Reliability Grade C.

Accuracy Band

The sensitivity test carried out in AR04 was reviewed in conjunction with the improved sample data for burst frequency and average flow rate, but it was concluded that the accuracy band should remain unchanged at 4.

Recommendations for improving future estimates

Scottish Water is currently reviewing the UKWIR best practice document Ref. No. 05/WM/08/32 to inform any proposed methodology change. Furthermore a system and process is being considered for the routine collection of supply pipe leak flow rate and frequency data as part of active leakage control.

A2.4 –Unmeasured Domestic Per Capita Consumption

This is a calculated field [Water Delivered – USPL (billed) – USPL(void)]. Unlike the value of PCC used in line A2.1, this figure includes plumbing losses (hence why it is a higher value than the 139.1 l/hd/d reported in the 1999 PCC study).

A2.1 –A2.4 Future Years

Future projections in line A2.1 are based on the predicted change in population and property count for future years. This shows a slight increase in unmeasured domestic water delivered (13 Ml/d Report year + 1 and 8 Ml/d Report year +2). Domestic population is forecast to increase due to influx of Eastern European workers and there is a predicted increase in the number of domestic properties.

Lines A2.2-A2.3 have been brought forward from this year as there is no trend available to predict changes to underground supply pipe leakage.

A2.5-8 Measured Domestic

A2.5 - Volumetric data has been supplied, as at 31 March 06, sourced from the HiAffinity billing system.

The consumption of water has increased compared to the previous year. This is due to the data cleansing activity carried out in 2005/06.

A2.7 - Scottish Water does not undertake routine meter calibration of the domestic customers. However a meter under-registration figure of 3.1% is applied. This is the water and sewerage companies' average for 2004-05 (same fig as 2003-04) as stated in table 16a of the "Security of supply, leakage and the efficient use of water 2004-2005" report.

The confidence grade has been dropped from C3 to C5 this year to reflect the adoption of an England and Wales AR05 figure.

A2.9-21 Measured Non-Domestic

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of March 2006. The volume of water supplied has not changed in any significant way but what has changed is the profile. Compared to the previous year there has been a reduction in all the non standard volume classifications (A2.12 – A2.14) and a move into LUVA volume tariff classifications (A2.11a – A2.11b). This change is also replicated in the volumes reported in the standard tariff classifications (A2.9 – A2.11).

It should be noted that the volume that was reported in the relief classifications (A2.15) has now been consumed within the balance of the table lines. This was a result of the withdrawal of the relief in the previous year.

A2.17 Measured Non-Domestic Water Delivered (non-potable)

Data for this year's Return is based on last year's submission and comprises data from the legacy East West and North authorities.

Work has been carried out to update the non-potable register. Although the reported volume 12.35Ml/d is the same as last year, four new properties have been added and one removed.

The total therefore may change upon completion of full cleansing of the non-potable register.

A2.19 – Scottish Water does not have a scheme of charges for non-potable water. 64% of the reported non-potable volume has been reported from the HiAffinity billing system and is based on individually negotiated charge rates. The remaining 36% of the volume is estimated based on a previously returned volume where charge rates are unknown.

A2.21 - Scottish Water does not undertake routine meter calibration of the non-domestic customers. However a meter under-registration figure of 4.5% is applied. This is the water and sewerage companies' average for 2004-05 as stated in table 13a of the "Security of supply, leakage and the efficient use of water 2004-2005" report. Last year's average in England & Wales was 4.6%. Confidence Grade has been dropped from C3 to C5 this year to reflect the adoption of an England and Wales AR05 figure.

A2.22-31 Unmeasured Non-Domestic

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of March 2006. The volume calculation used is 37.3 m3 per £'000 of rateable value (37.3 = 1000 x 2.55p (per £RV) / 68.3p (per m3). The decrease is as a result of the reduction of total RV in A1.76 – A1.78.

A2.22-31 Unmeasured Non-Domestic

To calculate the volumes in A2.22-A2.25 a supply pipe leakage allowance of 2.7Ml/d was added.

A2.31 The 11% increase in the estimated water delivered per unmeasured non-domestic customer reflects the reduction in the estimated number of unmeasured customers.

A2.32-40 Water balance

A2.32 – Total water delivered to domestic and non-domestic properties.
The 2% decrease is principally due to reduced supply pipe leakage and reduced volume from non-domestic customers.

A2.33 Distribution system operational use (DSOU)

Estimates were based on a detailed analysis of the different components of DSOU for the whole of Scotland, using as much area-specific data as possible.

As last year, Operational Use methodology was made up of the following components with similar methodology unless otherwise stated:

1. Total volume from reservoir cleaning and remedial works. .
2. New mains commissioning and disinfection and mains rehabilitation.
3. Water Quality (Customer Complaints).
4. Water Quality (Regulation).
   Additional samples included for chemical and crypto sampling.
5. Planned flushing and swabbing (again, reported as zero).
6. Mains shutdowns (repair of bursts and events).
   Interruptions to supply were used to calculate mains shutdown non-burst events (excluding mains bursts and rehab activities already estimated in other components of DSOU). Last year's methodology consisted of using a Strumap expression to trace from each burst/event to the nearest valves available to isolate the network and calculate the length of main. The diameter and length then calculated the volume of water to be drained. The burst events were linked to Work Order numbers to allow details of whether the main was shut down. This average volume per burst event has been used again this year

The result is an estimated operational use of 5.41 Ml/d compared with 8.67 Ml/d last year. The reduction is due to 619km less mains rehabilitation (primary DSOU component) than last year, not accounting for non-burst related interruptions to supply (AR05 - 0.05Ml/d) and fewer water quality related operational events requiring flushing. Comparison with individual companies shows that SW DSOU is higher than some companies (e.g. Severn Trent and UU

- refer to Table 2.7 below). 5.41Ml/day remains the best available Scotland-specific estimate for operational use.

For comparison, Ofwat estimates for operational use from 1997/98 to 2004/05 are shown in Table A2.4 below:

Table A2.4: Ofwat estimates for operational use

Operational Use, Ofwat all-industry averages	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05
m^3/km/day	0.205	0.226	0.262	0.257	0.303	0.303	0.289	NA
% of DI	0.42	0.49	0.57	0.57	0.65	0.65	0.61	0.7

Table A2.4 shows a steady upward trend from 1997/98 to 2001/02 (60% increase in m^3/km/day), but some stabilisation in more recent years. This may be due to the fact that some effort has been made by companies in recent years to obtain better quality data for these components so as to justify the submitted figures.

For comparison, Ofwat estimates in l/prop/d are shown below:

Table A2.5: Comparisons of operational use

	Volume, Ml/d	Properties 000's	l/prop/d
Scottish Water	5.41	2,469	2.19
Welsh Water	7.02	3,897	1.8
Northumbrian	10.00	3,354	2.98
Severn Trent	8.0	9,877	0.81
UU	9.68	9,092	1.06
UK Water and Sewerage average	85.72	57,840	1.48

It should be noted that the average English & Welsh Water & Sewerage companies DSOU, expressed as a percentage of DI, is 0.7%. The Scottish Water DSOU, expressed as a percentage of DI, is 0.2%.

A2.34 Water taken legally unbilled (WTLU)

In AR04, in the absence of a consistent analysis of WTLU across Scottish Water, the Ofwat 2002-03 average value of 7.4 l/prop/day was used for all four areas of Scottish Water. Last year several components were identified that can contribute to the WTLU and estimates made of the water used by these activities. The following components were included and using the same methodology as last year, an updated estimate was calculated:

1. Water Used at SW Wastewater Treatment Works
   A list of all SW wastewater treatment facilities was obtained, along with details of treatment capacity (as population equivalent) and process type (activated sludge etc). The median value from metered PPP treatment works was used to estimate, on a population equivalent basis, the water used by all SW primary, secondary and tertiary treatment works.

2. Water Used at SW Depots
A list of all SW offices, laboratories and depots was obtained, along with numbers of staff working at each location. Consumption was assigned to each location on a PCC basis with uplifts to allow for increased consumption at laboratories and depots due to operational activities.

3. Wheelie Bin Washing
Estimated weekly consumption was obtained from a commercial operator and the annual consumption from wheelie bin operations estimated using the number of standpipe licenses issues by SW.

4. Street Cleaning Operations
An estimate of the volumes of water used by street cleaning operations was obtained from Aberdeen city council and a pro-rata estimate made on a population basis.

5. Fire Service
Scottish Executive statistics on numbers and categories of fires in Scotland were used along with information from Lothian and Borders Fire Service to estimate the volume of water taken. An allowance was also included for the water used during training sessions.

6. Building Work
SW issue standpipe licenses to building contractors for use at construction sites, although it is believed that many unlicensed standpipes are also used for this purpose. A conservative estimate of the volume used daily at a site was made and combined with the number of standpipe licenses issued to give an estimate. A comparison was made between this derived figure and another estimate based on a Severn Trent estimate of $80m^3$/new property. Reasonable agreement was obtained between the two, which gave some confidence in the estimate based on issued licenses.

172 more licenses were issued this year compared to last year. In total building work licenses accounted for 9.5 Ml/d of total DSOU.

7. Sewer Jetting/Clearing
The estimated consumption by SW activities was based on an assumed volume of water used per operation and the number of jetting jobs recorded on SW corporate systems. Commercial sewer jetting was based on the same assumed volume per operation, the number of issued licenses and an estimate of the number of weekly call-outs.

8. Other standpipe licenses
Last year 190 licenses of this category were granted by Scottish Water. This year 421 licenses were granted. These licenses cover the following activities: Civil Engineering, Gardening, Shows/Markets, Building Maintenance, Graffiti Removal, Street & Road Cleaning, Road Maintenance, Vehicle Washing, Crop Spraying, Geotechnical Investigation, Sewer/Gully Cleaning and Quarrying.

No specific volume can be estimated so volumes are extrapolated from available standpipe volume information.

The sum of the above components gave a WTLU estimate of 24.93 Ml/d last year and 35.43Ml/d this year. The increase is mainly due to more licenses in use for building work and other purposes. Table A2.6 below shows a comparison with England and Wales:

Table A2.6: Comparison of WTLU

Comparison with England and Wales	Volume, Ml/d	Properties 000's	l/prop/d
Scottish Water	35.43	2,469	14.35
Welsh Water	7.16	3,897	1.81
Northumbrian	4.93	3,354	1.47
Severn Trent	13	9,877	1.32
UU	29.13	9,092	3.2
UK Water and Sewerage average	141.5	57,840	2.45

It should be noted that the average English & Welsh Water & Sewerage companies WTLU, expressed as a percentage of DI, is 1.1%. The Scottish Water WTLU expressed as a percentage of DI is 1.5%.

A2.35 Water taken illegally unbilled (WTIU)

The WIC commentary states that

"Illegally taken water should only be reported here and included in the water delivered total if it is based on actual occurrences using sound and auditable identification and recording procedures. If it is not based on these it should be classified as distribution losses (A2.36)."

In the absence of better information the assumptions used last year have been re-used:

1. Occupied Voids
   A figure of 5% occupancy was used as a reasonable estimate after consideration of studies by Welsh Water and Southern Water that indicated occupancy rates of 5% and 37% respectively. The lower value from Welsh Water (5%) was chosen as the number of occupied properties in Scotland is obtained from local council returns, and local councils keep a close eye on void properties for taxation purposes. The number of occupied voids was multiplied by the average household occupancy rate and PCC to give an estimate of this component of the WTIU.

2. Building Work
   An estimate of water taken illegally at building sites from unlicensed standpipes was calculated as for the WTLU component on the assumption that 25% of such standpipes are illegal.

3. Fire Hydrant Misuse
   The number of reported incidents of misuse was taken from SW corporate records and an assessment made of the water used before repair, using information on work-practices obtained from SW operations staff.

The sum of the above components gave an estimate for WTIU of 2.82 Ml/d last year and 4.42 Ml/d this year. The principal reason for the increase is attributed to illegal use associated with building work.

The Table below shows a comparison with England and Wales:

Table A2.7: Comparison of WTIU

Comparison with England and Wales	Volume, Ml/d	Properties 000's	l/prop/d
Scottish Water	4.42	2,469	1.79
Welsh Water	1.24	3,897	0.32
Northumbrian	3	3,354	0.89
Severn Trent	11.32	9,877	1.15
UU	10.4	9,092	1.14
UK Water and Sewerage average	61.1	57,840	1.06

It should be noted that for the average Water & Sewerage company in England and Wales. WTIU, expressed as a percentage of DI, is 0.5%. The Scottish Water WTIU expressed as a percentage of DI is 0.2%.

A2.36 Distribution losses

Total Leakage minus Unmeasured Domestic supply pipe losses = Distribution Losses. Refer to section A2.2 WIC Return Simplifying Assumptions above. Confidence grade has been reduced from C4 to D4. As Distribution losses is a residual of the water balance its confidence should be D not C.

A2.37 Total Leakage

Method 1 Night Flow Measurement: The independent ('bottom-up') estimate of total leakage is 895 Ml/d. This is 7% lower than last year's value of 964 Ml/d. It should be noted that flow data coverage is different from last year's.

This year's estimate is based on a night flow monitoring coverage of about 47% of total properties in Scotland, up from 35% last year. This year's 47% coverage is split into 45% from DMA night flow coverage and 2% from Water Supply Zone night flow coverage. This comes from a current DMA property coverage in Scotland of 63%. The Q&SIII target property coverage is 96%.

In spite of improved coverage, the difference between the 'bottom-up' and the 'top-down' estimate of leakage still remains large. This can partly be explained by the fact that the areas for which night flow data are available are also the areas where leakage detection and subsequent burst repairs have taken place. The current night flow monitoring coverage is still limited and cannot be assumed to be representative of the whole of Scotland. Finally, other elements of the water balance are still uncertain, not least the estimated unmeasured domestic consumption, which makes up a significant proportion of total distribution input.

Table A2.8: Water Balance Comparison – 2002/03 - 2005/06– Integrated Flow Method (IFM) and Night Flow Method

Scottish Water	2002-03 Return (Ml/d)	2003-04 Return (Ml/d)	2004-05 Return (Ml/d)	2005-06 Return (Ml/d)	Difference between 2005/06 and 2004/05 (Ml/d)	% Difference between 2005/06 and 2004/05
A2.38 DI	2377.97	2386.5	2377.92	2332.25	-45.66	-2%
A2.1 Unmeasured domestic	837.67	854.15	851.34	851.98	0.63	0%
A2.5 Measured domestic	0.33	0.25	0.21	0.25	0.04	19%
A2.9 - 2.16 Measured non-domestic	443.29	467.68	457.73	435.22	-22.52	-5%
A2.22 - 2.25Unmeasured non-domestic	93.00	56.34	51.77	46.22	-5.55	-11%
A2.33 DSOU	5.62	7.41	8.67	5.41	-3.26	-38%
A2.34 WTLU	11.95	18.33	24.93	35.43	10.50	42%
Bottom Up Total leakage	885.8	928.44	953.78	894.67	-59.11	-6%
A2.37 Top down Total leakage	1132.07	1145.53	1139.30	1104.05	-35.25	-3%

Note: For line A2.37, the top-down estimate of leakage was used, as the independent 'bottom-up' estimate was still considered unreliable this year. Only when sufficient DMA coverage (targeted for Q&SIII) is achieved and the two estimates approximately reconcile will Scottish Water start using the DMA or 'bottom-up' estimate to populate this line (see further explanations in commentary on Line A2.39 below).

Method 2 Integrated Flow Method: For reporting and comparison purposes, the most reliable leakage estimate remains that based on the Integrated Flow Method (Total Leakage = Distribution Input minus all demand components other than leakage), i.e. 1132 Ml/d in 2002/03 Ml/d and 1146 Ml/d in 2003/04, 1139 Ml/d in 2004/05 and 1104 Ml/d in 05/06.

The top-down estimate of leakage relies on the accuracy of the other key components of the water balance, notably of the estimated domestic per capita consumption (PCC). An update of the PCC study carried out last year suggests that domestic PCC has remained fairly stable since 1999. However in the absence of a continuous domestic consumption monitor, the estimation of PCC remains uncertain. Scottish Water is currently reviewing options for a continuous domestic consumption monitor.

This year's estimate indicates a further reduction in leakage as a result of active leakage control, pressure management and mains rehab carried out since 2003/04. It is anticipated that establishment of a defined focus on pro-active leakage management, in conjunction with future increased DMA coverage shall deliver further significant and sustainable decreases in leakage.

A2.38 Distribution Input

This year the distribution input reconciled to 9% of the sum of the separately estimated water balance components. Hence a reliability band of C has been allocated. The value has been calculated from works output meter readings and has an accompanying accuracy band of 4.

Several projects with the aim of increasing confidence in Distribution Input are progressing:

- Identification of DI meters for replacement as part of a meter improvement programme.
- Identification of DI meters for calibration or verification as part of a meter improvement programme.
- Scoping of options to deliver Distribution Input business end user needs as laid out in last years Distribution Input document.

A2.39 Difference in water balance

As stated in Line A2.37 (Total Leakage), the most reliable leakage estimate remains that based on the Integrated Flow Method (Total Leakage = Distribution Input minus all demand components other than leakage), i.e. 1104 Ml/d this year. This is the estimate that should be used for reporting and comparison purposes.

The Water Balance relies on an accurate coverage of night flow measurement as described in section A2.37 but also on customer billing records. Using the Integrated Flow Method, any error in reporting measured and non-measured water delivered will be reflected in the leakage figure, instead of appearing as the Difference in Water Balance (A2.39). The reported difference in water balance will therefore be zero. However, Scottish Water will still report the independent estimate of leakage in the commentary together with the actual difference in water balance.

When the difference in water balance resulting from using the independent estimate of total leakage becomes less than 5%, it is suggested that the water balance should be reconciled using the MLE methodology, as recommended in OFWAT reporting requirements. Scottish Water will however keep reporting the pre-MLE water balance in the commentary.

For future years, the forecast change in distribution input was calculated to reflect exactly the change in its components. This ensures consistency in the calculations. As a result, the difference in the water balance remains constant over the next two years.

A2.40 – Assessment of overall water balance

This year's water balance has been given a confidence grade of C4 as per last year. Following definitions and guidelines, the reliability band for the overall water balance has been awarded a C as the water balance components reconcile with measured distribution input to within 10% (to achieve band B, the water balance components must reconcile with measured distribution input to within 5%). The accuracy band of 4 was based on the individual components of the water balance.

A2.41-43 Bulk Supplies

A2.41 – Bulk supply imports

Scottish Water has no bulk supply imports or exports.

A2.42 – Bulk supply exports

Scottish Water has no bulk supply imports or exports.

A2.43 – % of distribution input through PPP treatment works

Scottish Water does not have any water treatment PPP works.

Table A3 Properties and population – wastewater

A3.1-13 Unmeasured Domestic - Properties

See lines A1.1 to A1.11

A3.14-17 Measured Domestic - Properties

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005. As part of the data cleansing that was carried out during the period, a number of reviews were carried out. This has led to an increase in A3.14 by 49 compared to last year. Line A3.16 (Number of properties with no surface water drainage) has reduced by almost 100%. This is all due to the data cleansing project.

A3.18-30 Measured Non-Domestic - Properties

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005. The number of measured properties has increased by 1,950 (3.4%) compared to the previous year. The majority of the increase is in line A3.20 which saw an increase of 1,835 (3.3%) compared to the previous year. The majority of the increase is due to new customers being added and customers moving from unmeasured to measured services. The increase is not as large as forecast from last year due the amount of data cleansing within the year.

A3.25 Throughout the year a large amount of data cleansing and the removal of the relief resulted in an increase of 273 (35.2%) properties. This brings the number more in line with the number of customers with no charge in line A1.21.

A3.29a An increase of 156 (70.3%) reflects the more accurate reporting and the effect of the data cleansing that has been carried out.

A3.30 The number of voids has decreased by 2,970 (53.4%) compared to the previous year. This reflects a business decision on the flagging applied to vacant properties. As part of the data cleansing project carried out in 2004/05, a review of a batch of properties with no customers assigned was carried out and flagged appropriately. This process is continuing and it is likely that an increase in 2006/07 will be reported.

A3.31-49 Measured Non-Domestic - Meter Sizes: Actual Installed Meters

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005.

No significant change has occurred in the number of actual meters but what has changed is the profile year on year. This change reflects the meter right sizing project and the majority of the change in A3.35 accounts for the additional customers that have moved from unmeasured and new customers being added to the data base in the reporting year. The increase in A3.40 is a direct result of SW reviewing what services properties received as part of the data cleansing project.

It should be noted why the percentage increase of A3.26 and A3.49 do not correlate. This is due in part to the amount of data cleansing. Also throughout the reported period a number of customers who were previously thought to have a measured waste service did not do so. The removal of these of the services has suppressed the increase compared to the property numbers.

Below is a breakdown of the electro-mechanical meters.

Size	Number
15mm or smaller	0
20mm	0
25mm	0
40mm	1
50mm	5
80mm	3
100mm	5
150mm	1
200mm	1
250mm	0
300mm	0
450mm	0
Total	16

The reduction of A3.34a (Electro-mechanical meters) reflects the policy within Scottish Water to remove such meters as they come to the end of their life cycle. No significant change in wastewater occurred in the period compared to water as reported in A1.27a.

A3.50-68 Measured Non-Domestic - Meter Sizes: "Tariff" Meters

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of September 2005.

Below is a breakdown of the electro-mechanical meters.

Size	Number
15mm or smaller	0
20mm	0
25mm	0
40mm	1
50mm	5
80mm	3
100mm	5
150mm	1
200mm	1
250mm	0
300mm	0
450mm	0
Total	16

The number of meters has reduced by 251 (0.4%) compared to the previous year although the profile of the sizes has not changed significantly.

A3.69-76 Unmeasured Non-Domestic - Properties

The Annual Return has been populated from a regulation return data base with a cut of the Hi Affinity billing system as at end of March 2006. Significant changes in the makeup of these lines have occurred compared to the previous year. Below are detailed reasons for the main changes.

A3.70 In the report year there was a reduction of 13,606 (24.7%) compared to the previous year. This was indicated in the previous year's commentary. The changes that have occurred can be broken down into three distinct areas.

A: Customers who were previously being charged for waste water that through data cleansing have been identified as not receiving the service.
B: Customers who are no longer a billable customer due to the property being vacant and/or classified as "Gone away".
C: Customers who have moved from unmeasured to measured services.

A3.72 This increase is a result of data cleansing. When the three areas came together as one, each area had a different method of recording the no charge customers. As part of the standardisation that was carried out, all customers were added to the system and clearly flagged as no charge customers. This has, in the case of waste water, resulted in an increase compared to the previous year.

A3.74 An increase of 4,059 (67.2%) compared to the previous year is a direct result of the investigations that were carried out as part of data cleansing in the reported period.

A3.76 The number of voids has decreased by 15,240 (62.1%) compared to the previous year. This reflects a business decision on the flagging applied to vacant properties. As part of the data cleansing project carried out in 2004/05, a review of a batch of properties with no customers assigned was carried out and flagged appropriately. This process is continuing and it is likely that an increase in 2006/07 will be reported.

A3.77-80 Surface Water

A full review of the area based charging was carried out as part of the data cleansing project. As a result it has been identified that all area based customers are being charged on standard tariffs.

A3.81-84 Summary – Population

See lines A1.71 to A1.72

A3.85-119 Rateable Value Base

As stated above the major move in the customer number relates to the unmeasured services. The rateable value for these customer has fallen by £141.9m (10.3%) compared to the previous year. The overall profile within this table has also altered in shape. The main reasons are detailed below, but some of the other minor changes reflect the phasing out of the non standard tariff.

A3.86 The rateable value for properties with use <100Ml/yr at standard tariff (Foul Water) has increased by £175.23m (9.6%) compared to the previous year. This is due mainly to the investigations carried out under the data cleansing project and customers moving from unmeasured to measured services through the year.

A3.98 The rateable value for properties with use <100Ml/yr using roads drainage has increased by £171.15m (9.5%) compared to the previous year. This is due mainly to the investigations carried out under the data cleansing project and customers moving from unmeasured to measured services through the year.

A3.111 The rateable value for measured properties with no surface water drainage has seen a reduction of £147m (89.8%) from the previous year. This reflects the data cleansing that went on through the year. As part of the data cleansing, customers who received a wastewater service should also by definition have roads drainage service. Any customers who did not comply with the above rule were reviewed and adjusted to bring them into the full charge. This has now been reflected in the increase in A3.92 of £152.45m (8.8%)

A3.115 The rateable value for unmeasured properties with no charges has increased by £4.86m (108%) compared to the previous year. This is due to data cleansing and the fact that we reviewed a large section of the customer base as stated above.

A3.113a, A3.114b and A3.114e All these lines relate to charity relief. As all the relief has been ceased all the rateable values have been consumed in the other three major classifications through this table.

Table A4 Sewage volumes and loading

A4.1-19 Sewage – Volumes

A4.1 This figure relates to 95% of the total unmeasured household water volume. It is based on 95% of the per capita water consumption for the unmeasured household population connected to wastewater as follows:

139.1 / 1000000 x 0.95 x Population of unmeasured domestic properties.

A4.2- A4.6 A reduction of 3.14ml/d (6.77%) compare to prior year reflects the reduction outline in section A3.85 – 119 (Rateable value) above.

The unmeasured volume calculation used is:

($36.4m^3$ = 1000 x 4.08p (per £RV) / 112.2p (per m^3).

A4.7 – A4.19 A reduction in volume of wastewater returned of 11.1ml/d compared to the previous year reflects the reduction in the volume of water being used, as wastewater is calculated as a percentage of the water, and the amount of data cleansing that was carried out in the reported period.

Once again the overall profile has altered due to the ceasing of the relief changes compared to prior years.

A4.16 A 4% reduction in the volume of compared to prior year reflects a decline in the customer number linked to the lower volume being created by the remaining customers. Volume of Trade Effluent has been completed on a calendar year basis.

A4.19-45 As in last year's Return, these lines, with the exception of A4.39, report loads received at Scottish Water treatment works only, i.e. PPP works are excluded.

A4.19 - The volume of public and private septic tank emptyings is recorded at area offices, and collated centrally.

For greater consistency with other lines, the volume from commercial septic tanks has been excluded. The volume reported here now corresponds to the loads reported in lines A4.27 and A4.28. The load from commercial septic tanks is included in lines A4.29 and A4.30. This is the reason for the large fall from last year's figure. Had the same approach been adopted this year the figure would have been 37.9 Ml. This reduction is due to a significant fall in the volume of sludge taken to Troqueer and Perth, and also due to the fact that all sludges in the South West Area were taken to sludge treatment centres.

As in last year's Return, the volume reported here is restricted to sludge loads delivered to wastewater treatment works, i.e. sludges delivered to sludge treatment centres are excluded.

The volume is not expected to change significantly in future.

A4.20-39 Sewage – Loads

The methodology used in this section is broadly the same as last year, and so no changes to confidence grades have been reported.

A4.20 This figure is a brought forward figure from Line A3.83 Population Connected to the Wastewater Service population. This figure has been derived by using the General Register Office for Scotland (GRO) 2001 Census extrapolated to the mid Report year. These figures are available by Unitary Authority and were used to transfer an occupancy rate to the corporate address point file. A summation of those address points and attached population within the Scottish Water Sewered Area boundaries provided a connected population per Sewered Area. These figures were adjusted to align with those provided by the Unitary Authorities for billed addresses, an adjustment which is required to take account of the backlog of updates to the Sewered Area boundaries which would capture more properties than at present. The populations within the Sewered Areas were summed according to which operational area they are within and summed for Scotland as a whole.

The connected population increased by 0.63% from last year, and the projected increases for the next two years are 0.11% and 0.12%

A4.21 - A4.23 - Resident populations have been allocated to individual wastewater treatment works as described in the introduction to Table E8. The level of treatment at each works is recorded corporately, so the total population receiving a certain level of treatment is readily determined.

The population with effluent receiving primary treatment or better has increased in line with the general increase, but there has been a further increase of 0.9% as a result of upgrades to septic tanks and sea outfalls. A similar pattern is apparent in the population with effluent receiving secondary treatment or better, but the increase is less marked because of the correction of an error made last year when two primary works, Lerwick and Stornoway, were reported as secondary.

The population is expected to increase slightly over the next two years, but the population receiving secondary treatment or better will increase by between 1.7% and 1.5% more than the general population increase each year as primary works, sea outfalls and septic tanks are upgraded. For primary treatment or better, the figures are between 1.7% and 1.6% above the general increase.

A4.24 - The method for determining the non-domestic load at individual treatment works is the same as last year, and is described in the introduction to Table E8. As above, the level of treatment at each works is recorded corporately, so the total load receiving a secondary treatment is readily determined.

The non-domestic load has decreased by 5% since last year, but this is within the margin of accuracy for the data and is not thought to be a significant difference.

The load receiving secondary treatment is expected to increase by about 2% in each of the next two years as sea outfalls, septic tanks and primary works are upgraded.

A4.25 - A4.26 - COD is taken from measured data, used in trade effluent charging, and BOD has been calculated as COD/2 using the same methodology as for Table E8. Unsettled values have been used to ensure that the figures reported here are consistent with Table E8.

The BOD loading has increased by about 6%, but the COD loading has decreased by 3%. However, both these variations are within the margin of accuracy for the data, and are not considered to be significant.

The load receiving secondary treatment is expected to increase by about 0.8% next year and 1.3% the following year as sea outfalls, septic tanks and primary works are upgraded.

A4.27 - A4.30 - The method for determining these loads at individual treatment works is described in the introduction to Table E8. The total receiving secondary treatment has been assessed from the category of treatment recorded in the corporate system.

As noted under A4.19 above, loads received at sludge treatment centres are now excluded. A4.29 and A4.30 include all other tankered loads, comprising commercial, wastewater and water treatment sludges. This is to provide consistency with the loads reported in E9.4. Previously, only commercial sludges were reported here. The loads for commercial sludges this year are 390 t/yr COD and 73 t/yr BOD. The reduction in public and private septic tank loads is due to a greater proportion of these being taken to sludge treatment centres. There is no clear reason for the increase in commercial sludge loads.

While some variation in load is observed from year to year, no significant trend in loading is anticipated over the next two years. A small increase due to upgrading of primary works is expected in 2007/08.

A4.31 - The corresponding figure in E8.18 is 78,901 tonnes. The small discrepancy is due to other loads, namely water treatment sludges discharged to sewer and return liquors arising from imported sludges, which are not tankered to the works. These are included in Table E8 but not in any of the lines in Table A4 that contribute to the total in A4.31. They have, however, been included in the total reported in A4.34, which corresponds to the total in Table E8.

The increase of 3.5% since last year is mainly due to the increases in population and trade effluent load, and to the fact that tankered wastewater and water treatment sludges are now included in the total. The calculated increase of 1.6% in each of the next two years is due mainly to the planned upgrades to primary works, septic tanks and outfalls, with a small element due to population increase.

A4.32 - The figure reported here is taken from Table E8, and is based on the estimated load received at the works. The increase of approximately 700 t/yr is due mainly to the fact that three works, Balivanich, Lerwick and Stornoway, were incorrectly classified as providing secondary treatment last year.

In each of the next two years, the load will decline by about 15% as works are upgraded to provide secondary treatment.

A4.33 - The figure reported here is taken from Table E8, and includes the load receiving preliminary treatment but not screened discharges. The decrease of approximately 230 t/yr is due mainly to the upgrade of Thurso to secondary treatment standard.

The load will decline by about 50% next year and 70% the following year, as works are upgraded to provide primary or secondary treatment.

A4.34 - This figure is taken from E8.18 and is the estimated load received at treatment works and sea outfalls. It corresponds exactly to the totals reported in E8.18, but it should be noted that the Column defined as "Total" in E8.18 (231,560 kg/day or 84,519 t/yr) specifically excludes the load on septic tanks (6,623 kg/day or 2,418 t/yr), while A4.34 includes all works.

The increase of 2.6% since last year is due mainly to the increase in the load from trade effluent.

The load is expected to increase slightly in line with the increase in domestic population.

A4.35 - The figure given is the settled COD figure used in the charging scheme.

A4.36 - The figure given is the pH-corrected suspended solids of "average sewage" used in the charging scheme.

No change is anticipated in the average figures used in the charging scheme.

A4.37 - The equivalent population served has been calculated from the total load received at the works (Line E8.18) assuming the average load to be 60g BOD/head/day. The component due to non-resident population had been omitted from this total.

The increase of 2.6% since last year reflects the change in the total in A4.34 above.

A4.38 - This figure has been determined on the same basis as Line A4.37, but restricted to works where a known numerical consent is in place. The information on consent conditions is held in a corporate database.

The number of numerical consents has decreased from 1213 to 1129 but the percentage of the population equivalent covered by these consents has increased from 96% to 97%. This, combined with the general increase in load, is reflected in the increase of 3.6% in population equivalent.

The loads reported under A 4.37 and 4.38 are expected to increase in line with the general increase in load.

A4.39 - The load received at PFI works has been calculated on the same basis as the load on Scottish Water works reported in Line A4.34.

The increase arises from the modification in methodology reported in the commentary on Table E8. BOD load has been assessed as COD/2, in line with the definitions given in the guidance, rather than using BOD sample results directly. In general, at Scottish Water works, this makes no overall difference to the load, but when PFI works are included, the new methodology results in an increase of 10% in estimated trade effluent load. However, in the case of Meadowhead, the COD/BOD ratio is 3.4

This load is expected to increase in line with the general increase in population.

A4.40-45 Sewage – Facilities

A4.40 - This is the number of treatment works reported in Table E8. The figure includes septic tanks, but does not include preliminary works, which are included as sea outfalls in Line A4.41.

The increase of 19 works since last year is due to the construction of new works to replace untreated sea outfalls, although partially offset by rationalisation of works elsewhere. It is anticipated that the number of works will continue to increase gradually, as the programme of replacing outfalls continues.

A4.41 - This is the number of sea outfalls reported in Table E8, including preliminary treatment works.

The number of outfalls has fallen by 65 as a result of the installation of new septic tanks and treatment works. This number will continue to decline as outfalls are replaced by treatment to comply with legislative requirements.

A4.42 - The available capacity has been taken as the design capacity of works, taken from the database used to populate Table H. Several entries in this database are estimated, and will be subject to review, so a low confidence grade is attached to the data. Preliminary works and sea outfalls are not included in this total.

The capacity will rise by about 1% in each of the next two years as new treatment works are brought on line.

A4.43 - This is the figure reported against sea outfalls (including preliminary works) in Table E8, assuming a load of 60 gBOD/head/day. The component of the load arising from non-resident population has been excluded from the total.

The decrease from last year's figure is due to the reduction in the number of outfalls noted above. The load treated by outfalls will continue to decrease as new treatment works are commissioned, by about 25% next year and 33% in the following year.

A4.44 - Unsatisfactory outfalls are those agreed with SEPA as requiring to be upgraded, and the list is held by the Regulation and Strategy Section

No outfalls have been removed from the list in the report year as a result of delays to the construction projects concerned. Of the remaining outfalls, Castletown and Stonehaven should be addressed by the end of 2006/07 and West Barns by the end of 2007/08.

A4.45 - This figure has been derived from the load reported in Table E8 against those outfalls identified as unsatisfactory in Line A4.44, assuming a load of 60 gBOD/head/day.

The reduction in population equivalent results from a revised estimate of the population at Stonehaven. The population equivalent will reduce in line with the programme of improvements outlined under A4.44 above.

A4.46-53 Sewage Sludge Disposal

The table below illustrates the base data from which the percentage sewage sludge disposal after treatment at Scottish Water operated sludge treatment facilities is calculated.

Table A4.1: Sewage sludge disposal routes

	TDS (as in E10.2)	%
A4.46 Percentage sewage sludge to farmland - raw.	0	**0.00**
A4.47 Percentage sewage sludge to farmland – conventional.	9,631	**35.97**
A4.48 Percentage sewage sludge to farmland - advanced.	3,805	**14.21**
A4.49 Percentage sewage sludge to incineration.	0	**0**
A4.50 Percentage sewage sludge to landfill.	2,232	**8.34**
A4.50a Percentage sewage sludge composted	1,510	**5.64**
A4.50b Percentage sewage sludge to land reclamation	9,597	**35.84**
A4.51 Percentage other sewage sludge disposal.	0	**0**
A4.52 Total sewage sludge disposed	26,775	100.00

This year the quantities reported are the total sludge treated at the sludge treatment facilities including the sludge destroyed through the treatment process. This is in accordance with the methodology used in England & Wales and agreed with the Reporter at a technical meeting with Scottish Water.

A4.46 – A4.52 Figures are reproduced from Scottish Water Sludge model and Scottish Water Sludge Management System "Gemini II". The amount of sludge disposed to each disposal route was totaled and presented as a percentage of the total Scottish Water sludge production detailed in **A4.52**.

A4.46 - "Percentage of sewage sludge to farmland- raw"- Scottish Water does not recycle sludge by this method.

A4.47 - "Percentage of sewage sludge to farmland- conventional" - this has increased only slightly due to changes in the overall percentages.

A4.48 - "Percentage of sewage sludge to farmland- advanced" - this has increased as Scottish Water has reduced the quantity of sludge recycled to land reclamation due to tightening application rates and increased costs.

A4.49 - "Percentage of sewage sludge to incineration" Scottish Water does not process sludge by this method.

A4.50 - "Percentage of sewage sludge to landfill" has increased due to the loss of land reclamation recycling route due to SEPA's alteration of application rates and no other outlet for raw sludge available.

A4.50a – "Percentage of sewage sludge composted" has increased as it is now cost effective for Scottish Water compared with landfill.

A4.50b – "Percentage of sewage to land reclamation" has decreased due to changes due to SEPA's tightening of application rates.

A4.51 – "Percentage other sewage sludge disposal" has decreased to 0% as Scottish Water only recycles to the named outlets.

A4.53 - Is reported as 0% as all Scottish Water sludges have met the criteria of the proposed recycling outlet.

Forecasts have been provided for A4.46 to A4.51. In 2006/07, there will be a reduction in total sludge treated by Scottish Water through greater utilization of PFI outlets.

Confidence grades are low due to difficulties projecting figures and actual disposal routes with available information.

Commentary for Report Year plus 1 & Report Year plus 2

Customer base growth assumptions used in the Annual Return A tables and reflected in the P tables for 2005/06 to 2006/07 and 2006/07 to 2007/08 are based on the growth adopted in the Final Determination. Growth assumptions differ from those evident in the Final Determination in only three respects:

- Growth in households;
- Unmetered non-households moving to metered tariffs; and
- Trade effluent customers paying full and "capped" published charges.

Household Growth

As explained in the commentary for tables A1 & 3 and P1 & 5, the number of unmetered households for 2005/06 in Annual Return tables A & P is based September 2004 WIC4 with growth from the councils' Ctaxbase return (04/05 to 05/06). Growth assumptions from the final determination are then added. As explained in the commentary for tables A1 & 3 and P1 & 5 the 2005/06 blend of households has then been adjusted to reflect the one year benefit to Scottish Water due to councils using their discretionary powers to reduce second home discounts to a minimum of 10%.

The number of unmetered properties moving to metered tariffs.

The Final Determination assumed that metered tariffs would apply from the time that meters were installed. The Scottish Executive has indicated that metered tariffs should not apply at currently unmetered properties unless a customer has paid for a meter to be installed. The Commission has proposed other circumstances when metered charges should apply such as existing properties coming into charge for the first time.

This return therefore assumes that 2,000 unmetered properties will move onto metered tariffs in report year +1 and a further 2,000 in report year +2.

The average metered water use and rateable value assumed for these properties is consistent with the Final Determination assumptions of 304m^3 and £8,822 rateable value.

The number of trade effluent customers with capped charges moving on to full charges

The Final Determination assumed that increases in trade effluent bills for those trade effluent customers on published rates but not being billed at the full rate should be capped at 15%. Against an overall price cap of 0.99% a number of "capped" customers were assumed to move to full charges. Under the 2006/07 Scheme of Charges the cap on bills was set at 0.99%. As a consequence no customers would move onto full charges.

Table B1 Water Availability

General comments

Table B1 has been produced in accordance with the WIC guidelines but there have been some changes to the data used for these calculations compared with the AR05 return. These changes are a result of the work Scottish Water has done this year to submit its first Water Resource Plan (WRP) to SEPA. The process of preparing the WRP involved developing and agreeing methodologies with SEPA for various data elements and preparing a long term strategy for data improvement. Any data improvements as a result of WRP06 have been incorporated into this annual return. The most significant changes have been redefining some of the WRA boundaries, particularly in Central Scotland.

The 2006 WRP is the first stage of a programme to bring water resource planning in Scotland up to UK water industry best practice by 2008. The water companies in England and Wales have been preparing water resource plans since 1999 and have been able to develop the sophisticated data collection and analysis processes required for water resource planning. These processes are under development by Scottish Water with advances in data monitoring, data accuracy, demand forecasting and supply demand balance assessment being focused on the 2008 water resource plan.

Therefore, changes to B1 data in AR07 and AR08 should be expected in response to the data improvement programme required for the WRP.

Further information about our approach to Water Resource assessments can be found in our Water Resource Plan Main Report.

The major changes to the 2005/06 Table B1 submission from 2004/05 are:

- Redefinition of WRA boundaries;
- Inclusion of raw water mains loss;
- WRA boundaries incorporated into GIS;
- Adjustment for dry year demand

Methodology

The estimation of headroom requires standard supply/demand balance calculations for each water resource area (WRA). The calculation for % headroom in each WRA, with % headroom defined by the WIC as:

% Headroom Definition: The difference between water available for use and the annual average demand (distribution input (DI)) as a % of the annual average demand.

Headroom is calculated as follows:

% Headroom per WRA = [WAFU – (DI)] / (DI)]

The following steps were taken to determine % headroom in each WRA and are detailed below:

- Calculation of average annual distribution input (DI)
  DI data is the average daily volume of water supplied by each WTW into each WRA as reported in Line A2.38 and Table E4 adjusted for the dry year demand.
- Determination of the deployable output (DO)
  DO is generally taken as the minimum of (a) the reliable source yield (once all water order requirements have been met) minus WTW loss and raw water mains loss, (b) the

Treatment Works output capacity, or (c) the raw water conveyance capacity minus WTW loss. The deployable output has been assessed against a target Level of Service. We have used variable LOS across the business and have adopted a 1 in 30 LOS for the smaller demand centres areas where the impacts of a drought would be more easily managed and fewer customers would be affected. For larger demand centres SW have adopted a 1 in 50 LOS.

- Calculation of Water Available For Use
  DO adjusted for outage allowance
- Determination of headroom bands by population.

Dry year demand

We have adjusted the annual average demand to calculate the headroom that would have been available in 2005/06 had it been a dry year.

We do not have Scottish Water specific data or analysis to robustly adjust the demand for a dry year. Instead DI has been increased by 3% to represent demand in a dry year. This has been benchmarked against English and Welsh water companies where typical dry year demand uplift figures result in an overall increase in demand of between 2 – 5%. Furthermore, the 3% uplift has been agreed with SEPA as part of the WRP06. We plan to investigate this element in more detail for WRP08.

This is the first time we have included an adjustment for the dry year demand. We have re-run table B1 from AR05 using the dry year adjustment to show the impact that this has on the data. The results are shown in Table 1.

Table 2: Comparison between AR05 data as reported to AR05 data adjusted for a dry year demand.

Line Ref.	Description	Report Year -1 2004-05	Report Year -1 CG	Report Year - adjusted for a dry year demand 2004-05	Report Year - adjusted for a dry year demand CG
	Resource Areas				
B1.1	Number of water resource areas	255	B2	255	B2
B1.2	Number where headroom < 2%	116	B2	123	B2
B1.3	Number where headroom > 2 ≤ 5%	6	B2	8	B2
B1.4	Number where headroom > 5%	133	B2	124	B2
	Headroom				
B1.5	Total population	4,913	B2	4,913	B2
B1.6	Population in areas where headroom < 2%	2,085	B3	2,538	B2
B1.7	Population in areas where headroom > 2 ≤ 5%	229	B3	44	B2
B1.8	Population in areas where headroom > 5%	2,599	B3	2,330	B2
	Restrictions on water use				
B1.9	% population affected by hosepipe restrictions	0	A1	0	A1
B1.10	% population affected by drought orders	0	A1	0	A1
B1.11	% population affected by sprinkler/unattended hosepipe restrictions	0	A1	0	A1

Identification of Water Resource Areas

The Water Resource Area (WRA) is the fundamental planning unit for water resource management and it is important that these are properly defined. Much effort has been taken to improve the understanding of discrete WRA in Scotland, and the areas were defined by aggregating water operational areas (WOA) into the correct WRA.

For AR06 we are reporting 240 WRA. This is a reduction from 255 WRA reported by Scottish Water in the 2004/05 submission. In addition to a net reduction of 15 WRAs, there have been a number of zones which have been renamed due to boundary changes. For example, WRA 243 which included Kaim, Muirdykes, Neilston, South Moorhouse and Picketlaw in 04/05, has now been split into separate standalone zones for each WTW and WRA 243 just refers to Kaim WTW.

The changes can be summarised as follows:

WRAs renamed:

- 18 WRAs renamed to reflect changes to WRA boundaries.
- 8 WRAs in Central Scotland revised and disaggregated (see section on WRP).

WRAs removed from list:

- 13 WRAs removed due to 8 recent and 5 imminent WTW closures and the network is now supplied by neighbouring WRA; and
- 3 WRAs removed to reflect current operational practice i.e. ability to share resource between two or more WTW.

WRAs added to list:

- 1 New WRA created for WTW that were wrongly matched into WRA last year.

For comparison, we have re-worked this year's data back into last year's WRAs. This can be seen in Table 2 below. Minor changes had to be made to last year's structure to allow for the eight WTW closures which occurred during 2005-06. The DI and population for these have been matched to the neighbouring WRA which now serves the area. Otherwise the structure is as used last year.

Table 2 shows an increase in population in both the >5% headroom band and the >2 ≤ 5% band, but a decrease in the ≤ 2% band compared with AR05. There were 30 WRAs which moved to a different headroom band. Some of the major changes include:

- Clatto, Lintrathen, Whitehillocks - almost 280,000 population moved from the <2% headroom band to the >5% band due to a 7.5 Ml/d reduction in DI
- Castlehill, Camphill, Ashgrove – 86,000 population moved from the >2 ≤ 5% band to the >5% band due to a 1.5 Ml/d reduction in DI
- Afton, Bradan, Penwhapple – 225,000 population moved from the >5% band to the >2 ≤ 5% band due to an increase in DI of 0.5 Ml/d.
- Perth – 50,000 population moved from the >5% band to the <2 % band due to an increase in DI of 3.5 Ml/d.

Table 3: Comparison of Table B1 with 2004-05 WRA structure

Line Ref.	Description	AR05 2004-05	AR05 CG	AR06 data using AR05 boundaries 2005-06	AR06 data using AR05 boundaries CG
	Resource Areas				
B1.1	Number of water resource areas	255	B2	255	B2
B1.2	Number where headroom ≤2%	116	B2	116	B2
B1.3	Number where headroom > 2 ≤ 5%	6	B2	6	B2
B1.4	Number where headroom > 5%	133	B2	133	B2
	Headroom				
B1.5	Total population	4,912.53	B2	4,944.22	B2
B1.6	Population in areas where headroom ≤2%	2,085.17	B2	1,822.54	B2
B1.7	Population in areas where headroom > 2 ≤ 5%	228.70	B2	369.11	B2
B1.8	Population in areas where headroom > 5%	2,598.67	B2	2,752.57	B2
	Restrictions on water use				
B1.9	% population affected by hosepipe restrictions	0	A1	0	A1
B1.10	% population affected by drought orders	0	A1	0	A1
B1.11	% population affected by sprinkler/unattended hosepipe restrictions	0	A1	0	A1

Water Resource Plan (WRP)

For WRP06, a Central Scotland WRA was created. The Central Scotland WRA was a merger of the WRAs that previously existed for Lanarkshire, Edinburgh, Glasgow and Forth Valley and accounted for 50 % of Scotland's population. This large WRA was created after discussions with SEPA about the degree of interconnectivity in the network between these areas and it was agreed for the WRP that this would be one WRA. However, this WRA definition is not satisfactory because it masks the headroom deficits in Lanarkshire and the WTWs on the south side of Glasgow and Paisley that were reported in AR05. The formation of the Central Scotland WRA would effectively move 11% of the population (circa 500,000 people) from the <2% headroom band to the > 5% headroom band.

Scottish Water aims to define WRAs that are accurate in terms of identifying areas of resource surplus or deficit and are manageable for the reporting requirements of the WRP. It was recognised during the production of the WRP that the Central Scotland WRA was not giving an accurate reflection of localised resource shortfalls and over the next year we will be looking at the optimal way to define the water network in the central belt in terms of WRAs. This will become particularly important once the new Milngavie WTW is in operation and the deployable output available for Glasgow is reduced.

Main Table B1

For this year's table B1, the Central Scotland WRA has been broken into the smaller WRAs that are expected to be use next year. These WRAs are: Dumbartonshire, Glasgow & Forth Valley, Edinburgh & Lothians, Lanarkshire, Muirdykes, Neilston, Picketlaw and South Moorhouse. Table 3 shows the comparison between the B1 data as reported this year to the data that would be reported if Central Scotland were reported as a single WRA.

Table 4: Comparison between table B1 as reported this year to B1 that would be reported if Central Scotland were reported as a single WRA.

Line Ref.	Description	With single WRA for Central Scotland		As reported with Central Scotland WRA broken into smaller WRAs	
		2005-06	CG	2005-06	CG
	Resource Areas				
B1.1	Number of water resource areas	233	B2	240	B2
B1.2	Number where headroom ≤2%	104	B2	109	B2
B1.3	Number where headroom > 2 ≤ 5%	2	B2	2	B2
B1.4	Number where headroom > 5%	127	B2	129	B2
	Headroom				
B1.5	Total population	4,944.22	B2	4,944.22	B2
B1.6	Population in areas where headroom ≤2%	1,404.02	B2	1,932.08	B2
B1.7	Population in areas where headroom > 2 ≤ 5%	92.41	B2	92.41	B2
B1.8	Population in areas where headroom > 5%	3,447.79	B2	2,919.73	B2
	Restrictions on water use				
B1.9	% population affected by hosepipe restrictions	0	A1	0	A1
B1.10	% population affected by drought orders	0	A1	0	A1
B1.11	% population affected by sprinkler/unattended hosepipe restrictions	0	A1	0	A1

Determination of the Deployable Output (DO)

Water Resource Yield

Reliable yield is the maximum continuous output that can be met from a water resource without failure, where failure is defined as the inability to meet the expected demand without the imposition of management restrictions out with normal operational limits, at a stated frequency.

Recent yield assessments for all major water resource areas have been done using the methodology and software (AQUATOR-HYSIM) that was developed for Scottish Water under the SNIFFER Surface Water yield and Operational Reliability project[2].

The yields for minor catchments (predominantly in the North West) and for areas where there is not sufficient data to allow an AQUATOR-HYSIM model to be built, have been assessed using the Low Flow Studies methodology (LFS) developed by the Institute of Hydrology[3]. This is an empirical method and has lower confidence than the SNIFFER approach.

The water resource yield is net of any water order constraints or capacity constraints in the raw water assets and infrastructure, for example, capacity of raw water pump station.

Water Use Licences - Controlled Activities Regulations

Historically we have had rights to abstract water for public supply purposes through Water Orders and other Statutory Orders that totalled almost 600 pieces of legislation. On 1 April 2006 abstraction rights were transferred to Water Resource Authorisations. These will be regulated by SEPA under the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR) and bring all abstractions, impoundments and associated

[2] Scotland and Northern Ireland Forum For Environmental Research; Surface Water Yield Project (a joint venture including the three Scottish Water Authorities, SEPA and the Water Service in Northern Ireland); Water Resource Associates (WRA), report in press.
[3] now Centre for Ecology and Hydrology

engineering works as well as point source discharges and disposal to land under a common framework of controls. Under CAR, we need to demonstrate a reasonable requirement for water, provide compensation water, allow for the passage of migratory fish and ensure the efficient use of the water.

All points of abstraction >10m^3/day require a CAR registration or licence which will set a limit for the maximum daily abstraction. Where an abstraction constraint was previously in place through a Water Order, this abstraction constraint transfers to CAR unchanged. However many of our existing points of abstraction do not currently have abstraction limits under the existing Water Order legislation and for these sites we have applied for abstraction limits based on current operational practice.

These licences have not yet been issued by SEPA but this should happen before the AR07 return. This may change the calculation of deployable output.

Raw Water Losses
Where the DO is constrained by raw water availability i.e. Water Order abstraction limit or Water Resource Yield, the DO must be adjusted to account for losses from the raw water system. We have included losses from raw water mains and process losses from WTW in our assessment of DO.

(i) Raw Water Mains Loss
In the majority of cases do not currently measure the volume of water abstracted at the source. In most cases the volume of water is measured as it enters the WTW and/or as it leaves the WTW. The volume measured as it enters the works does not truly reflect the volume of water taken from the source due to the raw water mains losses, raw water operational use and non-potable supplies en route to the works.

We made a first estimate of losses from the raw water mains for each water resource for the CAR licences and for the WRP based on a function of estimates of the length of pipe and the flow in the pipe. These losses have been included in table B1 for the first time.

Our estimates of raw water losses will be greatly improved by the introduction of abstraction monitoring at our water sources over the next two years as part of the measurement and monitoring programme.

(ii) Water Treatment Works Losses
While there are similar water treatment works processes in use across Scotland, their on-site configurations are very rarely the same and their characteristics are generally dependant on age of construction, the actual process design used and the source water being treated.

A high level approach has been used in determining water treatment works losses. The approach adopted has been to categorise each works by process type, take a representative sample and calculate the average process losses. This calculated loss has then been applied to all processes of that type. Further losses have been estimated to take into account losses through on line monitoring equipment. Accurate site specific values have been used where available.

Calculation of Water Available for Use (WAFU)

Outage Allowance

Data for outage is based on regional assessments using the methodology recommended in the EA Water Resource Planning Guidelines, namely the approach set out in the "Operating methodology" of the UKWIR report "Outage allowances for water resource planning", published in March 1995 (Ref: 95/WR/01/3). Where data was not available or the methodology used was not comparable with procedures used in the rest of Scotland, default

outage figures have been adopted. These default figures range from 5% for medium and larger water resource zones to 10% for small isolated zones.

Determination of target headroom allowance

This has not been included in the AR06 annual return. Scottish Water removed the allowance for target headroom in the calculation of available headroom in response to WIC auditor's comments for AR05. We have continued this approach in AR06 and our calculation of available headroom does not include an allowance for target headroom.

B1.2-4 Resource Areas

WRAs have been added to the corporate GIS as part of the WRP06. Over the next two years, working towards a fully robust reporting structure for WRP08, we will further disaggregate the WRA boundaries and verify with SEPA. Therefore confidence grades have remained the same as last year. We will continue to review confidence grades of the key components of the headroom calculation, including distribution input.

B1.5-8 Headroom

Confidence Grades have improved this year from B3 to B2 due to population estimates being calculated for each WRA by Water Operational Area (WOA).

B1.5: The population figure is brought forward from Table A1.71 and is made up of the following components:

- Population in unmeasured domestic properties
- Population in measured domestic properties
- Population not in households

Further details can be found in Table A1 Commentary.

Population methodology is summarised below:

- WOA and Unitary Authority polygons were taken from the corporate GIS
- The Ordnance Survey Address Point Reference (OSAPR) data was used to determine the total number of properties by WOA and Unitary Authority.
- Spatially referenced billing data from Hi-Affinity allowed the number of billed properties to be calculated by WOA. In this case the number of billed properties from High Affinity refers to metered domestic, metered non-domestic and unmetered non-domestic properties.
- The number of billed properties was deducted from each WOA to determine the number of unmetered domestic properties.
- Occupancy rates per Unitary Authority per domestic address point were applied to estimate population in each WOA. These estimates were then adjusted to give the stated unitary total population in unmetered properties.
- Populations not in households are reported by Unitary Authority. The population has been assigned to the largest WRA in each Unitary Authority.

For consistency, the population reported by WRA was derived from the Water Resource Plan 2006 (WRP06) with an adjustment for the population in measured domestic properties. This category has been updated from 418 properties to 481 properties in line with AR06 Table A1. Also, where we have disaggregated the Central Scotland WRA, WOAs were used to apportion the population. A slight adjustment of 1541 people was added to the newly created Glasgow & Forth Valley WRA. This adjustment is due to slight changes in boundaries between the production of WRP06 and AR06.

Headroom Bands

As discussed in previous submissions, the band sizes are rather narrow, thus for instance the mid-band of >2% and < 5% has low counts and adds little information, whilst the lower and upper bands have high counts.

The rational for specifying 2% and 5% as break-points for Table B1 is not clear as in the field of water resources these magnitudes are below reliably detectable thresholds for most of the variables, such as metered consumption. Furthermore, Scottish Water's estimate of target headroom requirements for each WRA range from 5-10%. This means that SW considers minimum available headroom required for a WRA before it can be deemed to be in surplus is >5%.

We believe that more meaningful information would be gained by altering the band sizes and including negative ranges and by reporting target headroom or comparing available headroom against target headroom. We would welcome the opportunity to discuss how these band widths are used and interpreted by the WIC so that we can understand how the headroom banding corresponds to our own assessment of target headroom requirements.

B1.9-11 Restrictions on Water Use

There have been no restrictions on water use during the Report Year

Table B2 Pressure and Interruptions

B2.1-10 Properties receiving pressure/flow below reference level

General comments

A new corporate low pressure register is being developed. This new register will allow individual properties receiving low pressure to be recorded and tracked until they are removed. This will enable lines B2.4, B2.5 and B2.10 to be completed for the 2007 Annual Return. At present the register is being piloted in a part of the North East Operational Area. Data from the Level 1 DMA reports has been utilised to add properties to the register along with specific Scottish Water Solutions projects.

B2.1 – Refer to Line A1.69.

B2.2 - Data is taken from the 2004-2005 WIC Return.

B2.3 – Additional properties have been added based on figures contained in Level 1 DMA reports developed as part of the Capital Investment Programme. Additional data were added from the pilot test of the corporate low pressure register.

B2.4 – Following investigation of low pressure complaints, no feedback loop/procedure exists to document at a corporate level whether a specific asset has caused the low pressure.

B2.5 – Following investigation of low pressure complaints, no feedback loop/procedure exists to document at a corporate level whether operational changes have caused the low pressure.

B2.6 – Properties removed based on figures generated from review of available Level 1 DMA reports.

B2.7 – Properties removed based on completion of Capital Investment.

B2.8 – Properties removed through re-zoning of DMA boundaries.

B2.9 – Calculated field. This has been given a confidence grade of C4. The total number of properties has increased from AR05. The majority of additions have originated from Level 1 DMA reports mainly in the North East and South West

B2.10 – At present no feedback loop/procedure exists to document exclusions at a corporate level.

B2.11-46 Properties affected by planned and unplanned interruptions, and restoration times

We have used our corporate systems to provide the data for these rows. Data for this section is similar to that in the WIC5 quarterly returns but differs slightly because it has been updated after the end of March 2006 to include more 'interruption to supply sheets' returned from operational areas and general housekeeping of the corporate systems.

However, this year we have low confidence in the data for interruptions because it has identified serious shortcomings in our processes and procedures for capturing data concerning interruptions. The shortcomings include:

- Inconsistent processes on data capture
- Lack of returns for data input
- No common system being used
- No single person or group accountable for the data, systems and processes

We cannot quantify the effect of the shortcomings in our processes and procedures but they may have led to some under-reporting of interruptions. The following tables show the apparent improvement in performance from 2004/05 implied by the corporate data. We cannot verify that this apparent improvement reflects the underlying performance, rather than the shortcomings in processes and procedures for capturing data.

Planned Interruptions

Description	04/05	05/06	% Change
Number of planned interruptions	7,696	5,347	- 30.52
Number of properties affected	252,652	216,927	- 14.14

Unplanned Interruptions

Description	04/05	05/06	% Change
Number of unplanned interruptions	3,844	3,213	- 16.42
Number of properties affected	140,849	121,591	- 13.67

Unplanned Interruptions Restoration Time

Description	04/05	05/06	% Change
properties restored in >6 hours	33,520	33,509	- 0.03
properties restored in >12 hours	9,103	7,259	- 20.26
properties restored in >24 hours	915	1,242	+ 35.74
properties restored in >48 hours	506	1	-99.80

Our corporate system for data concerning interruptions to supply is an Access database, which had been used by West of Scotland Water to report to the WIC from October 2000.

This database was adopted for the whole of Scottish Water to allow quarterly and annual reporting.

Throughout 2005/06, we have encountered problems in all of our four operational areas with the database. Two of our operational areas continued to use the Interruption to Supply database. In a third area, a spreadsheet was created to allow the collation of information and to support the production of the WIC5 reports. The fourth area – the South West - no longer had the use of the database due to system faults which could not be restored. This area was therefore used as a trial for the Integrated Management System (IMS) to collect all interruption data via a hand held device. This was intended to remove the need for operators to complete paper forms, from which data had not always been captured and entered into the database. However, the urgency of the work led to the specification for the IMS system failing to take into account the minimum reporting requirements. Therefore, the system when implemented did not have mandatory input fields for data capture relating to planned or unplanned interruptions. This has resulted in incomplete data being captured within IMS.

We have recognised that these shortcomings in data collection are unacceptable and have established a group to identify and establish a corporate system for collating the data required, increase the quality and quantity of data and to establish a consistent set of business rules for data collection.

The shortcomings arose in part because we lacked a single group or person with unique accountability for ensuring that systems and processes are in place to capture the data required. This is being rectified with the new Information, Data and Reporting section that has been created as part of Scottish Water's restructuring in May 2006. That section is now accountable for systems and processes that are required to provide adequate reporting both internally, for good business management, and externally for regulatory reporting.

Table B3 Sewage Flooding

General Comments

The Lines within Table B3 (Sewage Flooding) are arranged in four distinct groupings reflecting four areas where Scottish Water is required to report the measure of flooding of properties from the public sewerage system. These four areas are:

- Annual Flooding due to Overloaded Sewers (Lines B3.1 – B3.6)
- Annual Flooding due to Other Causes (Lines B3.7 – B3.13)
- Clean-Up Response Times (Lines B3.14 – B3.22)
- Properties At Risk of Flooding (Lines B3.23 – B3.36)

The information used to report these figures is collated from the following main corporate sources: the Promise System (the Scottish Water customer contact management system); the Sewer Flooding Register Corporate Satellite Application (CSA) and Ellipse (Work & Asset Management System).

B3.1-6 Annual Flooding – Overloaded Sewers

The submission is based on figures sourced from the Promise and WAMS (Ellipse) corporate systems which record customer contacts and sewer incident information.

Scottish Water generally has low confidence in the data being gathered and reported on sewer incidents, because of the discrepancy between the data reported from corporate systems and that identified by the IFOC (Internal Flooding Other Causes) Verification Exercise, described in the commentary to lines B3.7 – B3.13. However, we believe that the limited number of internal flooding incidents that occur each year due to overloaded sewers

is relatively more robustly recorded than flooding due to other causes. The data from the corporate systems has therefore been used to populate Lines B3.1 – B3.6 without adjustment.

The number of properties flooded in the year is reported as 64, a reduction on last year's total of 181. This decrease is generally attributed to the reduction in the number of storms that occurred across Scotland last year but it is accepted that the data may not be complete. The Confidence Grade for Lines B3.1 – B3.3 has remained unchanged from that of last year at B4, reflecting the data robustness problems discussed in the commentary on Lines B3.7 – B3.13.

There was one event classed as 'severe' during the report year occurring in Aberlour, which affected four properties. This classification was based on data fields in Promise completed by Operations staff attending the flooding clean-up.

The numbers for garden and highway flooding (Lines B3.5 & B3.6) have been extracted from the Promise System records. The figures reported have been assigned a low confidence grading (C5) because these figures may be under-estimated due to issues that remain with data collection from site.

It is believed that the reporting of sewer flooding will always be somewhat under-reported as Scottish Water relies on customers advising it of such occurrences.

B3.7-13 Annual Flooding – Other Causes

The information for lines B3.7 to B3.11 is not derived directly from corporate systems. Rather, it is reported on the basis of the IFOC Performance Verification exercise output4, which was used to forecast our performance in its Delivery Plan submitted to Ministers on 26 May 2006. This exercise indicated that many more properties are flooded due to other causes than are shown by the data in the corporate systems and we are reporting the higher estimates in these lines. Line B3.7 shows the estimated number of properties flooded due to other causes, excluding those believed to be due to lateral sewer failures, which are assumed to be 80% of the total[5]. The data in Line B3.7 therefore represents flooding due to other causes in main sewers and is equivalent to that reported by the WaSCs in England and Wales. Lines B3.8 to B3.11 have been determined on the basis of Line B3.7 using the proportional distributions within the actual data reported from our corporate systems.

The information for lines B3.12 to B3.13 is reported from the corporate systems without adjustment.

The IFOC Performance Verification exercise has caused Scottish Water to increase substantially its estimate of the number of properties internally flooded due to other causes, but also to reduce the confidence grade to C5, reflecting the uncertainty that remains about this data.

Work to improve the data capture, systems and processes for sewer flooding information forms one of the early tasks of the new Information, Data and Reporting group that has been created in Scottish Water's restructure of May 2006. That group is charged with making material improvements to the robustness and confidence in the sewer flooding information.

B3.14-22 Clean Up Response Times

The reported figures for Lines B3.14 to B3.22 are derived from the Promise system from the records which are created by sewer squads as they complete on site activity.

[4] The IFOC Performance Verification exercise is described in papers: "AR06 Table B3 Commentary sewer flooding reference v01.doc" and "IFOC Verification Report v0.2.doc".

[5] Derived from interviews with operational staff and limited data on corporate systems.

B3.23-26 Properties at Risk of Flooding

The At Risk Flooding Register is Scottish Water's corporate database used to manage the properties at risk of flooding. The Register forms an important part of Scottish Water's overall Flooding Strategy. The Register is managed with information gathered from historical sources, local knowledge, Drainage Area Studies, customer contact records, investigations, asset data improvement projects and from the Investment Programme.

The Register is the source of the data used to populate the "At Risk" Flooding section of Table B3.23 – B3.36.

The figures reported in these Lines are derived from the totals of those properties which are reported as flooded, and have had the flooding confirmed using historical information.

The following table shows the figures submitted annual returns from 2002/03 to this year, 2005/06.

Line Ref	Description	02/03	03/04	04/05	05/06
B3.23	2 in 10 at end of year	433	620	778	653
B3.24	1 in 10 at end of year	515	485	565	577
B3.25	Total at risk	1014	1105	1343	1230
B3.26	Total props. At risk but not flooded in last 10 years (exc. exceptional weather)	0	23	0	0

The decrease in the number of properties on the Register is due to the removal of properties through better information gathered during the customer surveys pilot study6 and the Q&SII Capital Investment Programme.

The total number of properties on the "At Risk" Register is 1230 within 521 flooding clusters.

The confidence grades for lines B3.23 – B3.25 remains unchanged at B4. Flooding data is now held in a corporate system but there remain records from legacy asset databases, some of which do not have the backup documentation required for higher confidence grades. It is anticipated that confidence will increase following the upload of data gathered from customer surveys to the Flooding Register. The customer surveys pilot study also demonstrated that there may be properties which experience internal flooding which are not currently held on the Flooding Register as the customer has not reported the incident to Scottish Water. There are also a number of unrecorded, historically installed Non Return Valve (NRV) temporary solutions masking overloaded sewer flooding problems which are not recorded on the Flooding Register.

Line B3.26 is reported as zero. Currently Scottish Water does not have ten years of historical data and therefore is not in a position to report this line. This remains unchanged from last year.

[6] The customer surveys pilot study is described in: "AR06 Table B3 Commentary sewer flooding reference v01.doc"

B3.27-28 Problem status of properties on register

Scottish Water has continued to address a number of internally flooded properties by utilising temporary improvement solutions and flood contingency plans. These interim solutions prevent or reduce the risk of occurrence of internal flooding at a property by installing devices such as periscope vents, non-return valves, flood guards and sandbags.

Work is ongoing to deliver temporary solutions where possible and in the past year 34 properties have received such protection. Currently there are 119 properties on the Flooding Register with interim solutions, requiring permanent solutions.

It should be noted that these measures do not affect the need, nor priority of a permanent solution to the flooding problem but are targeting an improved customer service where economically possible to do so.

It should be noted that not all problems can be alleviated using such measures due to site conditions and/or reasonable cost.

The confidence grade for line B3.27 has been increased to A1. A full list of properties which have been fitted with temporary solutions is recorded on the CSA. Business procedures have been produced for this process going forward in Q&SIII.

B3.29-32 Annual changes to register

Line B3.29 reports 244 properties in 16 projects having been removed through Scottish Water action. 8 projects which are due to remove a total of 103 properties from the at risk register are still to be completed under the Q&SII contract. These projects were not delivered on time due to circumstances out with the control of Scottish Water, i.e. SEPA, Railtrack, and other external agencies.

The results of the customer survey pilot study are reflected in line B3.30 and B3.31. The majority of properties removed due to better information is due to the pilot study. The properties added this year, B3.31, are as a result of continuous investigation work and a data backlog which required to be processed after the flooding tactical application had undergone user-testing.

No properties have been added due to increased demand. Current processes and the introduction of Development Impact Studies together with a wider availability of Drainage Area Studies have reduced the risk of properties being added due to an increase in demand. Scottish Water requires a Development Impact Study to be carried out on all new developments and where necessary changes to the network are made to mitigate any detriment to the existing system.

B3.33-36 Problem solving costs

The figures for line B3.33 this year were supplied using the total cost of all the Capital Projects completed during 2005/06 obtained from Scottish Water's Capital Investment Management System (CIMS) and information relating to the number of properties removed from the Flooding Register for each project.

Sixteen investment projects were completed last year at an average cost per property of £64,490. These projects were solved using solutions that presented little engineering complexity. However the future projects, which are being assessed currently for Q&SIII, are more problematic and complex and are likely to lead to higher costs per property. The average cost per property is higher than that reported in AR05 due to more complex projects being delivered at the end of the Q&SII period following a long design lead in time.

The interpretation of the costs to be reported for permanent solutions OPEX costs (Line B3.34) is those costs which are the operating costs of permanent capital investment solutions (e.g. pump running costs). The total OPEX costs for the projects completed during 05/06 have been divided by the total properties removed. A confidence grade of C4 has been given to this line as costs are only estimates at design stage.

The average temporary problem solving cost (CAPEX), line B3.35, was derived from the total cost of temporary solutions installed in the reporting year '05/06, divided by the number of properties in each temporary solution scheme. This produced an average cost of £4,762 per property. A confidence grade of A2 has been given to this line as all temporary solutions are known and all costs information was obtained from CIMS.

Line B3.36 has been reported as missing as the cost of maintaining temporary solutions are likely to be minimal and are not recorded.

Overall Performance Assessment (OPA)

It should be noted that there are explicit differences between the definitions provided by WIC and those provided by Ofwat for 'sewer incidents' and 'properties flooded'. These differences will have implications for the calculation of the OPA scores for the 'flooding incidents due to other causes' and 'flooding incidents due to overloaded sewers' and therefore appropriate account must be taken of the figures reported in Table B3 of this annual return when calculating the OPA score.

Table B4 Customer Care – enquiries

General comments

Customer enquiry data is captured on the following corporate systems:

- Hi-Affinity
- Promise

Hi-Affinity is the corporate billing system, which is used to log Billing, Charging, Metering and Change of Payment Method enquiries. Information is captured by the Business Contacts Team via telephone, letter, email or fax, and logged in accordance with the relevant procedures. All data reported from Hi-Affinity is held in and extracted from an Access Database.

Promise is the corporate customer management system, which is used to log all customer enquiries categorised as "other enquiries" such as enquiries relating to water supply, sewage service etc. Information is captured by the Household Contacts Team via telephone, letter, email or fax, and all enquiries logged on Promise are done so in accordance with the relevant procedures. Any Billing, Charging & Metering enquiries received by the Household Contacts Team are either dealt with at source and logged on Promise, or passed to the Business Contacts Team to be logged on Hi Affinity. Promise data is loaded daily into a Customer Contact Data-Mart, and is extracted using the corporate reporting tool, Business Objects.

As data can be refreshed out-with the quarter, the sum of enquiry data submitted throughout the year in the quarterly WIC 5 reports may not equal the Annual Return enquiry figures.

B4.1-13 Billing/Charging/Metering enquiries

B4.1 – 4.7 There has been a 61,205 (22.95%) reduction in the total number of Billing, Charging & Metering enquiries logged during 2005/06 when compared with 2004/05. This reduction in the volume reflects the quality of the bills that have been issued to customers, reducing the need for further contact. This has been achieved through the data cleansing activity that has gone on throughout customer accounts in the reporting period.

B4.8 – 4.13 An overall shift in the in the profile shows an increase by 6.2% to 88.16% of total contacts dealt with within 2 days. The number of enquiries that were dealt with in-between 2 and 5 days has gone up from 2.49% to 4.92%. These positive moves are a result of increased efficiency of the Business Contacts Team, who aim to reduce the number of repeat contacts received by resolving each enquiry at the point of contact, and reducing the length of time taken to action or respond to each enquiry.

It is worth noting that the number of customers who had a response greater than 20 days is now less than 1% and down 4,510 compared to the previous year.

B4.14-26 Change of Payment Method Enquiries

B4.14 – 4.20 There has been a 23.41% increase in the number of Change of Payment Method enquiries logged during 2005/06, amounting to an increase of 1,863 enquiries in total over 2004/05. This is due to an ongoing drive by the Business Contacts Centre to set customers up on payment plans such as direct debit, which results in an increase in Change of Payment Method type enquiries.

B4.21 – 4.26 The number of Change of Payment Method enquiries dealt with within the GSS period of 5 days has remained high at 98.08%, an increase of 0.03% over 2004/05. This demonstrates that although there was a 23.41% increase in the total number of Change of Payment Method enquiries, focus on dealing with these enquiries within the GSS period of 5 days has remained high.

B4.27-39 Other Enquiries

B4.27 Scottish Water's method for calculating the number of "Other Enquiries" received is as follows:

Other Enquiries = N – (T + B) + W

Where:

N	=	Number of Calls Answered on Customer Contact Lines (B6.3)
T	=	Number of Telephone Complaints
B	=	Number of all Billing, Charging, Metering & Change of Payment Method Contacts (B4.1 + B4.14)
W	=	Number of Written Enquiries

The total number of other enquiries received throughout 2005/06 has reduced by 7.04% over 2004/05, amounting to a reduction of 31,783 enquiries in total. The Household Contact Centre is constantly seeking to improve efficiency, and as a result reduce the number of repeat contacts. This is reflected in a reduction in the amount of other enquiries.

B4.28 – 4.39 99.94% of other enquiries in 2005/06 were dealt with within 10 days, a further improvement in performance on last year. As outlined above, increased efficiency ensures that a high proportion of enquiries are dealt with within 10 days.

B4.40-52 New Customer Set up

There have been 23,827 new customers set up on Hi Affinity for billing throughout 2005/06, which amounts to 7,132 (23.04%) fewer customers than in 2004/05. The reporting year 2004/05 saw Scottish Water bring together three billing systems. As part of the post implementation of the project a number of customers required to be re-set up. Currently it is not possible to provide a time banded breakdown for each new customer set up on Hi-Affinity, however development is ongoing to improve the reporting structure surrounding new customer set-up.

Table B5 Customer Care – Complaints

General comments

Customer complaint data is captured on the Promise corporate system.

Promise is the corporate customer management system, which is used to log all customer complaints received, whether by telephone, letter, email or fax. Any Billing, Charging, Metering and Change of Payment Method Complaints requesting a written response, whether telephone or written, are also logged on Promise. Any telephone Billing, Charging, Metering and Change of Payment Method complaints not requesting a written response are dealt with at source, and logged on Hi-Affinity.

Promise data is loaded daily into a Customer Contact Data-Mart, and is extracted using the corporate reporting tool, Business Objects.

As data can be refreshed out-with the quarter, the sum of enquiry data submitted throughout the year in the quarterly WIC 5 reports may not equal the Annual Return enquiry figures.

B5.1-13 New Written Complaints

B5.1 – 5.7 The total number of written complaints received has fallen by 1,725 compared to 2004/05, a reduction of 20%. The constant drive by the Customer Contact Centre to resolve each complaint at the point of contact has been the catalyst for this reduction in written complaints.

B5.8 – 5.13 All written complaints are handled by the Customer Relations Team, who attempt to ensure that all written complaints, where possible, are answered within the GSS period of 10 days. 2005/06 saw 99.8% of written complaints dealt with within 10 days, an increase of 0.2% over 2004/05.

B5.14-26 New Telephone Complaints

The number of telephone complaints requesting a written response has decreased from 14 in 2004/05 to 10 in 2005/06. All of these complaints were dealt with within 2 working days. Such a small number of these types of complaint illustrate the ability of our customer advisors to deal with complaints at the point of contact, therefore reducing the need for a customer to demand a written response to a telephone complaint.

B5.27-38 Complaints by Category

Complaints by category include all types of complaints, both written and telephone. They are categorised into each WIC category as shown below:

WIC Category	Increased by over 2004/05	% Increase over 2004/05
Breach of Duty	0	0
Water Supply	15975	17
Water Infrastructure	7022	35
Water Pressure	788	5
Water Quality	3238	12
Water Treatment Works	12	44
Sewage Service	-5083	-9
Sewage Infrastructure	808	10
Sewage Treatment Works	85	12
Administration	1346	9
Outwith Jurisdiction	-139	-80
Billing, Charging & Metering	-536	-26

The table above shows each WIC Category and the associated increase/decrease in the number of complaints logged on Promise. It can be seen that the largest increase of complaints has taken place in the "Water" categories. These increases can be attributed to a summer period which saw a sustained period of fire hydrant vandalism, resulting in many customers losing water supply, experiencing poor pressure or discoloured water. In total, 2005/06 saw a 9.85% increase in the number of complaints logged on Promise when compared with 2004/05.

Table B6 Customer Care – Other

General comments

All telephone statistics relating to our advertised customer contact lines are supplied from the Nortel Symposium database, which automatically logs each call received on a customer contact line. All customer contact traffic is routed through the telephony systems in the Fairmilehead Office, via the following advertised customer contact numbers:

Customer Service Helpline: 0845 601 8855
Emergency Helpline: 0845 600 8855
Business Helpline: 0845 602 8855

Telephone statistics relating to other areas of the business, used in the calculation of line B6.2, comes from the Kingston Telephone Management System. This system is managed from the Bullion House Office in Dundee.

B6.1-9 Telephone Contacts

B6.1 The total number of calls received on customer contact lines in 2005/06 has reduced by 4.71% over 2004/05.

B6.2 Line B6.2, the total number of calls on customer contact lines as a percentage of all calls received uses the following calculation:

B6.2 = C/A * 100

Where:

C	=	Number of calls received on customer contact lines (B6.1)
	=	919,293
A	=	Number of calls received on all lines within Scottish Water
	=	3,426,211

B6.3 – 6.9 The total number of calls answered within 30 seconds as a percentage of calls answered has dropped from 93.51% in 2004/05, to 90.06% in 2005/06. Similarly, the total number of calls abandoned has increased by 12,876 over 2004/05. This equates to 3.44% of the total calls received on customer contact lines in 2005/06. The decrease in performance can be attributed to very high call volume during the summer period of 2005/06. As outlined previously in the "other enquiries" section, a sustained period of fire hydrant vandalism in the summer of 2005/06 heaped demand on the Household Contact Centre, resulting in a high number of calls taken.

B6.8 All Lines Busy has a zero return due to a Message Link service which results in every customer call receiving either an agent response or a pre-recorded message specific to an event occurring in the customers STD area code.

B6.10-20 Private Septic Tank Emptying

Septic Tank emptying data is captured on the septic tank management system, Gemini. The data entered in the 2005/06 Annual Return has been extracted from Gemini.

There has been a 50.68% reduction in the total number of septic tank emptyings requested throughout 2005/06. Customers are encouraged to join the scheduled septic tank emptying scheme, which provides a scheduled service at a lower charge than an ad-hoc empty.

There has been no increase in the number of scheduled septic tank emptyings carried out in 2005/06, therefore it appears that demand for the service has decreased when compared to 2004/05. In total, 11,815 emptyings were carried out in 2005/06, a 20.23% reduction on 2004/06.

Similarly, the number of ad-hoc emptyings carried out in 2005/06 has decreased by 64.34% when compared to 2004/05. The proportion carried out within 30 days, which is now no longer a GSS standard, has increased slightly from 87.05% in 2004/05 to 88.51% in 2005/06.

B6.21-29 Keeping Appointments

Data for Keeping Appointments comes from a data-mart containing information from the Promise system. It includes only appointments made with Customer Operations Field Customer Advisors. These appointments are agreed by telephone directly with the customer, and as such no failures exist.

There has been an increase of 1,010 appointments in 2005/06 when compared with 2004/05. The figure submitted in 2004/05 was made up of data from 2 systems, a proportion from a paper based system managed by the customer relations team, and a proportion from the data-mart. The 2005/06 data is taken from a full run of data from the data-mart.

Table B7 Customer Care – GMS Performance

B7.1-8 Planned Interruptions

Of the total number of reported planned interruptions, 99.40% were given 48 hour notice, 99.70% were given a restoration time, and 98.03% were restored on or before the advertised time. A total of 18 GSS payments were claimed in 2005/06, amounting to £709.99. A one off GSS payment of £69.99 was made to a non-domestic customer for delays by Scottish Water due to a planned interruption, and the remainder are standard GSS amounts.

B7.9-17 Unplanned Interruptions

In total, 98.60% of reported unplanned interruptions complied with GSS. A total of 179 payments were claimed in 2005/06, 85 more than in 2004/05. The total amount paid of for Unplanned Interruption GSS failures is £6,771.98. A one-off GSS payment of £131.98 was made to a domestic customer for an unplanned interruption, and the remainder are standard GSS amounts.

B7.18-22 Sewer Flooding

247 payments were made to domestic customers, totalling £45,817.73, and 84 payments were made to non-domestic customers, amounting to £47,522.80.

B7.23-27 Request to change method of payment enquiries

There were 118 Change of Payment Method Enquiries throughout 2005/06 that were dealt with in more than 5 working days. No significant changes have occurred in the year.

Currently the system in place fails to identify accurately between Billing, Charging & Metering and Change of Payment Method GSS payments. Following a review of the amount of payments made throughout the year for Billing, Charging & Metering and Change of Payment Method enquiries, all payments made for Change of Payment Method enquiries are included in line B7.32.

B7.28-32 Other Billing/Charging/Metering enquiries

A total of 3,255 Billing, Charging & Metering Enquiry failures occurred throughout 2005/06. This is a reduction of 6,713 failures when compared to 2004/05, which amounts to 67.35% overall.

Currently, the total number of Billing, Charging & Metering failures reported includes all types of failures both GSS and non-GSS (contacts not applicable to GSS payment, internal contacts etc). It has been noted by the Reporter that a review of this process would be advisable as he feels there should be a stronger correlation to the number of payments made reported. This has been reflected in the B4 confidence grade.

This process of automatic GSS payments went live in January 2006. There have been 43 GSS failures paid out automatically in the last quarter of 2005/06. A proportion of these payments were non-standard GSS amounts which were authorised by the billing contacts manager due to special circumstances, explaining why the amount paid out in GSS is not simply the number of failures multiplied by £20.

Currently the system in place fails to identify accurately between Billing, Charging & Metering and Change of Payment Method GSS payments. Therefore B7.32 is made up of both, Change of Payment Method and Billing, Charging & Metering elements.

B7.33-37 Written Complaints

There has been a reduction of 21 written complaint failures in 2005/06, when compared to 2004/05. This amounts to a reduction of 55.26% overall. A payment has been made for each failure.

B7.38-42 Telephone Complaints where written response is requested

No failures occurred during the year, however there have been 3 GSS payments made by the customer relations team relating to special circumstances.

B7.43-50 Keeping Appointments

There have been 1,333 appointments made in 2005/06, which is an increase of 312% over 2004/05. Although no failures where recorded, there have been 14 payments granted when an appointment had been made verbally but not kept.

B7.51-52 Ex Gratia Payments Made

There have been 170 more ex-gratia payments made in 2005/06 than in 2004/05, amounting to £215,940.08 in 2005/06, a reduction of £30,316.42.

B7.53-57 Water Ingress to Gas Mains

No instances of failure to provide information within the time period occurred in 2005/06.

B7.58-62 Meter Applications

No instances of failure to provide an estimate within the time period occurred in 2005/06.

B7.63-72 Pressure

B7.63-67
(A) - Failure to inform customer of result of investigation within 5 working days
No instances of failure to inform customer within the time period occurred in 2005/06

B7.68-72
(B) - Instance of Low Pressure
There was 1 failure and 1 payment made during 2005/06 for a customer affected by an instance of low pressure.

B7.73-82 Major Incidents

B7.73-77
(A) - Failure to provide information
No instances of failure to provide information within the time period occurred in 2005/06.

B7.78-82
(B) - Failure to provide alternative supplies
No instances of failure to provide alternative supply within the time period occurred in 2005/06.

B7.83-87 GMS Payment

(A) - Failure to make payment within 10 working days
No instances of failure to make a payment within the time period occurred in 2005/06.

C Tables – Quality

Table C1 Water Quality Outputs – Compliance

General Comments

- All data in this table are for the calendar year 2005.
- Data in lines C1.1 to C1.19 and C1.22 to C1.23 are taken from the Laboratory Information Management System.
- The zones in lines C1.3 to C1.15 are regulation water supply zones as defined in The Water Supply (Water Quality)(Scotland) Regulations 2001, i.e. an area designated for the purpose of the Regulations with a population of not more than 100,000 and in which all the premises are supplied for domestic purposes from the same water source or combination of water sources.
- The confidence grade given is A1 as data are extracted from LIMS with limited data cleansing required.

C1.1-4 Summary

C1.1 – These are the determinants which have a limit specified in The Water Supply (Water Quality)(Scotland) Regulations 2001. Free and total chlorines and colony counts, for example, are not included. The number has decreased from 152,318 to 146,216. This decrease is due to a rationalization of water treatment works, service reservoirs and regulatory water supply zones.

C1.2 – These are determinants that exceed the limits specified in The Water Supply (Water Quality)(Scotland) Regulations 2001. No allowance has been made for temporary derogations allowed under these Regulations. The number of failing determinants has decreased from last year's 879 to 654. This decrease is due to asset improvements over the last year.

C1.3 - See definition above of regulation water supply zone. These zones are set at the beginning of each year. There was a reduction in the number of zones between 2004 and 2005 due to asset rationalization.

C1.4 - This is the number of zones that have a determinant that exceeds the limits specified in The Water Supply (Water Quality)(Scotland) Regulations 2001. No allowance has been made for temporary derogations allowed under these Regulations. Some zones will have failed for more than one determinant, however each failing zone has only been counted once.

C1.5-15 Specific parameters Within Water Supply Zones

C1.5 to C1.14 – These are the zones that exceed the limits specified in The Water Supply (Water Quality)(Scotland) Regulations 2001 for the determinant shown. No allowance has been made for temporary derogations allowed under these Regulations. Some zones failed more than once, however each failing zone has only been counted once.

C1.15 – These are the zones that exceed the limits of parameters, both specified in the Water Supply (Water Quality)(Scotland) Regulations 2001 (other than those detailed in lines C1.5 to C1.14) and detailed in the Annual Water Quality Report. No allowance has been made for temporary derogations allowed under these Regulations. Some zones fail for more than one determinant, however, each failing zone has only been counted once. As required under the 'Annual Return Information Requirements' Appendix 1 lists the zones failing for all other parameters.

C1.16-19 Samples Taken for Water Leaving the WTWs

C1.16 - The number of samples taken for coliforms has decreased since last year due to water treatment works rationalization.

C1.17 - The variance in the number of samples with coliform failures in 2004 and 2005 is within a tolerable range.

C1.18 - The variance in the number of samples with faecal coliform failures in 2004 and 2005 is within a tolerable range.

C1.19 – In 2005 there was a significant increase in Cryptosporidium sampling due to fuller implementation of the sampling programme as defined in the Cryptosporidium (Scottish Water) Directions 2003. As a result the number of Cryptosporidium positive results has increased.

C1.20-23 WTWs/Service Reservoirs

C1.20 Number of untreated supplies

The number of untreated supplies is the number of individual properties that are supplied either from a connection to a raw water main before a treatment works or directly to the raw water source that feeds a treatment works. Scottish Water has no supply zones supplied with raw untreated water.

This year's Return has been updated following work to identify additional non-potable, non-domestic customers.

The 274 properties comprise:

- Unoccupied
- In process of disposal from legacy authority housing stock
- Derelict / abandoned
- Agricultural use only (outbuildings etc.)
- Multiple units counted as one e.g. single supply to large estate.

C1.21 – The temporary derogations granted by Scottish Ministers under the Water Supply (Water Quality) (Scotland) Regulations 2001 are known as Authorised Departures. Authorised Departures are granted on a water supply zone basis.

C1.22 – The number of service reservoirs in use has increased from 1111 in 2004 to 1127 in 2005. The number here includes all sample points associated with service reservoirs in use for all or part of 2005. This excludes break pressure tanks which are not sampled and multiple compartments of service reservoirs and clear water tanks, which have a single sample point on the combined outlet.[7] Service reservoirs can be taken out of use temporarily for repair or refurbishment. When in use they must be monitored under the Regulations. The number of service reservoirs in use can increase because when a treatment works is closed due to the completion of a mains extension it is often converted into a service reservoir.

C1.23 – The variance in the number of service reservoirs having >5% of coliform samples is within a tolerable range.

[7] Line C1.22 is significantly different from line E6.17 as the latter includes break pressure tanks and clear water tanks.

Appendix 1 – List of zones failing for all other parameters

2005 Zone Name	PCV Parameter
Achaphubuil	Copper
Alnwickhill A	Antimony
Alnwickhill B	Clostridium perfringens (incl. spores)
Amlaird	Antimony
Balmacara	Bromate
Balnain	Bromate
Blairlinnans South	Antimony
Boardhouse Orkney	Quantitative odour
Boardhouse Orkney	Quantitative taste
Bradan A	Antimony
Camps	Clostridium perfringens (incl. spores)
Clatto West	Clostridium perfringens (incl. spores)
Corrie Arran	Bromate
Craighead	Isoproturon
Craighead	Pesticides: Total
Craigie	Ammonium
Cromarty	Nitrate
Daer Balmore	Clostridium perfringens (incl. spores)
Daer Camps	Antimony
Daer Camps	Clostridium perfringens (incl. spores)
Dornie	Clostridium perfringens (incl. spores)
Dougliehill	Antimony
Drumelzier	Nitrate
Dunside	Ammonium
Earlish Skye	Clostridium perfringens (incl. spores)
Elphin Knochan	Clostridium perfringens (incl. spores)
Fairmilehead A	Clostridium perfringens (incl. spores)
Gallowhill Banff	Ammonium
Garve	Bromate
Glenconvinth	Bromate
Invercannie	Ammonium
Kilmelford	Chromium
Lintrathen	Clostridium perfringens (incl. spores)
Lomond Hills	Benzo (a) pyrene
Lomond Hills	PAH - total
Mannofield East	Ammonium
Mannofield East	Flumethrin
Mannofield North	Ammonium
Mannofield South	Ammonium
Mannofield West	Ammonium
Mannofield West	Quantitative odour
Mannofield West	Quantitative taste
Marchbank A	Nitrite
Marchbank B	Nitrite
Milngavie M1	Cyanide
Muirdykes	Antimony
Muirdykes	Clostridium perfringens (incl. spores)
Muirlands School	Bromate
Neilston	Antimony
Ness Western Isles	Bromate
Newmore	Quantitative odour

2005 Zone Name	PCV Parameter
North Ronaldsay Orkney	Copper
Penwhirn Palnure	Clostridium perfringens (incl. spores)
Picketlaw South Moorehouse	Antimony
Rawburn	Enterococci
Rawburn	Nitrite
Saddell	Chromium
Scourie	Clostridium perfringens (incl. spores)
South Moorehouse	Antimony
Tomatin	Copper
Turriff	Nickel
Turriff	PAH - total

Table C2 Water Quality Outputs – Asset Performance

General Comments

- All data are for the calendar year 2005.
- All data were taken from the Laboratory Information Management System and where appropriate cross referenced with the published Annual Water Quality Report 2005.
- Compliance value is taken to be the prescribed concentrations or value (PCV) in The Water Supply (Water Quality)(Scotland) Regulations 2001. With the exception of coliforms and turbidity the regulatory PCV limits apply at customer taps rather than water treatment works. Therefore there is no regulatory requirement to sample for the parameters in lines C2.5 to C2.8 and C2.13 to C2.24 at water treatment works.
- The number of treatment works tested refers to those works that were in use for all or part of the period 1st January 2005 to 31st December 2005. Some works closed during this period but have been sampled and so are included in the figures.

C2.1-4 Coliforms

C2.1 - The number of water treatment works tested for coliforms has decreased in comparison to last year due to rationalization of water treatment works.

C2.2 - The variance in the number of water treatment works where samples exceeded the coliform compliance value is within a tolerable range.

C2.3 to C2.4 – Not in use.

C2.5-8 Trihalomethanes (THMs)

C2.5 to C2.8 – There were no water treatment works tested for THMs in 2005. There are no regulatory requirements in The Water Supply (Water Quality)(Scotland) Regulations 2001 to take THMs at water treatment works.

C2.9-12 Turbidity

C2.9 - The number of water treatment works tested for turbidity has decreased in comparison to 2004 due to rationalization of water treatment works.

C2.12 - The number of water treatment works where <10% of samples exceed 50% of the compliance value was determined by subtracting the sum of C2.10 and C2.11 from C2.9.

C2.13-16 Aluminium

C2.13 - The number of water treatment works tested for aluminium has decreased in comparison to 2004 due to rationalization of water treatment works.

C2.16 - The number of water treatment works where <10% of samples exceed 50% of the compliance value was determined by subtracting the sum of C2.14 and C2.15 from C2.13.

C2.17-20 Iron

C2.17 - The number of water treatment works tested for iron has decreased in comparison to 2004 due to rationalization of water treatment works.

C2.20 - The number of water treatment works where <10% of samples exceed 50% of the compliance value was determined by subtracting the sum of C2.18 and C2.19 from C2.17.

C2.21-24 Manganese

C2.21 - The number of water treatment works tested for manganese has decreased in comparison to 2004 due to rationalization of water treatment works.

C2.24 - The number of water treatment works where <10% of samples exceed 50% of the compliance value was determined by subtracting the sum of C2.22 and C2.23 from C2.21.

Table C3 New Obligations – Water

General Comments

- Water supply zones in lines C3.1, C3.10, C3.13, C3.16, 3.18 and 3.20 are water supply zones as defined in The Water Supply (Water Quality) (Scotland) Regulations 1990, i.e. an area designated for the purpose of the Regulations with a population of not more than 50,000 and in which all the premises are supplied for domestic purposes from the same water source or combination of water sources. Undertaking information continues to be reported against the water supply zones that were in existence under the 1990 Regulations rather than the 2001 Regulations which did not become enforced until 25th December 2003. Reporting in this way is to maintain reporting consistency over the Q&S2 period.
- Undertakings in lines C3.1, C3.10, and C3.13 are taken to be Undertakings relative to section 76E of the Water (Scotland) Act 1980. These are agreed with the Scottish Executive when a treatment works/water supply zone fails to meet a standard. The Authority then gives an undertaking that the treatment works will be upgraded or improved by a certain date.
- Undertakings in lines 3.16, 3.18 and 3.21 are based upon risk assessments carried out in accordance with the Cryptosporidium (New Water and Sewerage Authorities) Direction 2000 which was re-issued in April 2002 as the Cryptosporidium (Scottish Water) Directions 2002.
- Lines C3.21a, C3.21c and C3.21e are based upon annual risk assessments carried out in accordance with The Cryptosporidium Directions (Scottish Water) 2003 which were issued on 19th December 2003. These revised Directions place new obligations on Scottish Water and change the risk assessment procedure.
- Lines C3.1 to C3.15 are reported for the financial year since the Undertakings are linked to project delivery. Lines C3.16 to C3.21f are reported for the calendar year as with

C3.1-3 Drinking Water Directive (98/83 EC)- A) Lead pcv = 25 µg/l

C3.1 - The number has decreased from last year's figure of 41 to 29 as a result of the installation of orthophosphate dosing at water treatment works, rezoning to deliver water

from another supply, lead communication pipe replacement, and change in requirements with DWQR agreed. This reflects the progress of the capital programme.

The base number of lead undertakings for 2005-06 was higher than last year's figure for undertakings, increasing from 41 to 51. This is due to the addition of zones supplied by Daer (9) and Innerleithan (1) water treatment works.

Daer WTW was thought to have an operational phosphate dosing plant during the collation of the 2004-05 annual return. However, due to technical reasons the installed plant cannot currently be operated and therefore the 9 zones associated with Daer WTW have been added to the list of lead undertakings.

Innerleithan WTW was not previously included in the list of lead undertakings due to the use of Seaquest which it was hoped could be approved for use instead of orthophosphate for suppressing plumbosolvancy. It has been identified that Seaquest dosing is not having the desired effect on lead and it is therefore due to have orthophosphate dosing installed.

C3.4-6 Lead pcv = 10 µg/l

C3.4 - There are currently no undertakings to meet the 10 µg/l standard. This may change in future years when there is more clarity on the requirements to meet the 10 µg/l standard by 2013.

C3.7-9 Trihalomethanes pcv = interim

C3.7 - There is no interim THM standard in the Water Supply (Water Quality) (Scotland) Regulations 2001.

C3.10-12 Trihalomethanes pcv = final

C3.10 - The number has decreased from last year's figure of 93 to 61 as a result of the completion of a number of new works and mains extensions.

C3.13-15 Other parameters

C3.13 - The number has decreased from last year's figure of 24 to 21 due to completion of projects within the capital programme.

C3.16-21 The Cryptosporidium (New Water and Sewage Directive) Direction 2000

C3.16 – The Authority has no Water Supply Zones with a risk assessment score >100.

C3.18 – No change to figure.

C3.20 –The number has decreased from last year's figure of 28 to 19 due to completion of a number of new works and mains extensions.

C3.21a – The Authority has 35 Water Supply Zones with a risk assessment score >100. This is a slight increase on last year's figure but the variance is within tolerable levels.

C3.21c – The Authority has 94 Water Supply Zones with a risk assessment score between 50 and 100. This is an increase on last year's figure but the variance is within tolerable levels.

C3.21e – The Authority has 243 Water Supply Zones with a risk assessment score <50. This is a reduction on last year's figure but the variance is with tolerable levels.

Two water treatment works were not given 2006 risk assessments which relate to 2005 data. This was due to being mained out by 31/12/2004 and as a consequence no data was available during 2005 to complete the risk assessment.

C3.31-33 The Abstraction Directive,

The Abstraction Directive does not currently apply to any Scottish Water assets. This may change with the introduction of the Water Environment and Water Services Act. Any implications will be reported in future years.

C3.34-36 The Birds Directive, The Habitats Directive

Nil return is submitted for these lines as Scottish Water has not been requested by SNH or SEPA to carry out works associated with these directives. Again the Water Environment and Water Services Act may introduce new obligations which will be reported in future years.

Table C4 Wastewater Quality Outputs – Asset Performance

The base asset list used for reporting this table is the database of wastewater treatment works maintained by Scottish Water's Strategy & Planning section, which is referred to in the introduction to Table E8. This database records works consent type and whether or not it is sampled. Not all works are as yet consented, and work is continuing with SEPA to confirm the full list of consented discharges.

Wastewater treatment works compliance is reported by SEPA on a monthly basis. The Strategy & Planning section compiles an internal report on a monthly basis. This report identifies those works that have been agreed with SEPA as failing, as well as the reason for failure. There were issues with compliance reporting from SEPA in the early part of 2005. This led to a number of unknown failures that contributed to the number reported. Throughout the year there was an issue with outstanding sample results that could not be cleared prior to the return. This resulted in the Scottish Water sample registers being incomplete. Therefore, the SEPA December compliance report was used as the source of data.

This table is reported for the calendar year 2005 (this is the same as the previous year). Wastewater treatment works compliance has generally not improved in comparison to the previous year due to a combination of; late completion of capital projects coinciding with tightening consent standards and the issue with the SEPA sample reporting.

C4.1-3 All discharges

This refers to both numeric and non-numeric consents, so the numbers of consented and sampled works are the totals of two-tier, single-tier, non-sanitary and non-numeric consents reported below. The number of compliant works is the number of consented works less the number of confirmed failing works reported in line C4.19.

The changes in the numbers of consented and sampled works are partly a result of data improvements, and partly due to continuing work with SEPA to confirm the sampling regime at works. Confidence grade for discharges sampled in the year has remained at B2. Data received from SEPA is stored in a single source data file.

Total discharges sampled in the year, line C4.2, is reported as 787. This is more than the number reported last year and can be put down to SEPA sampling more works. This figure includes works with non-numeric consents, line C4.17. These works are not actually sampled by SEPA but are visited for inspection.

C4.4-9 Look-up Table Lower Tier Consents and Upper Tier Consents

These two sets of results refer to the same set of consented and sampled works, so lines C4.4 and C4.7 are identical, as are lines C4.5 and C4.8. The figure reported in line C4.6 is the number of works that are consented, minus the number that are not compliant with the look-up table in the appendix of the consent. This figure is calculated on the principle that any failure, whether it is of the lower tier parameter or the upper tier parameter, is counted as an exceedence. The determination of whether a works is compliant or not, is therefore made by comparing the number of "exceedences" against the permissible look up table value (per consented parameter). The same upper tier exceedences are also counted in line C4.9.

C4.10-12 Single Tier Consents

This section reports works that have only one numerical limit per parameter in their consent. Single tier compliance varies from two tier compliance, where any parameter failure occurs in a single sample, this means that the sample fails. Compliance is measured on the basis that 75% of all the samples must be compliant or any instance where a result is more than double the consented standard.

The total number of consents reported in line C4.10 has fallen from last year as SEPA is currently making a general move from single tier consents to two tier consents and hence the total number of compliant works reported in line C4.12 has fallen.

C4.13-15 Absolute non Sanitary Consents

This section reports works that have only non-sanitary parameters in their consent. Consents that contain both sanitary and non-sanitary parameters are included in either two-tier or single-tier as appropriate.

C4.16-18 Non-numeric Consent

This section reports works that have descriptive consents and are sampled by visual inspection only. The number of such consents has increased slightly since last year, because of the move by SEPA away from single tier consents noted above. In some cases a descriptive consent has been used rather than a two tier consent.

C4.19-21 Discharges confirmed as failing

C4.19 - This is the confirmed number of failing works at the end of the calendar year 2005. As discussed in the introduction to this table, the main reason for the increase in this figure compared to last year is the issue experienced with SEPA reporting and the late completion of capital projects.

C4.20, C4.21 – The list of failing works has been recorded in the Strategy & Planning database used to report loads in Table E8. The figures reported here are thus consistent with Table E8. The confidence grade remains at B3 for C4.20. The confidence grade reported under line C4.21 was incorrectly reported last year as B2. This has been modified to B3 as the calculation uses the same population data as for C4.20.

C4.22-24 Pollution Incidents

The reporting of pollution incidents is the responsibility of Scottish Water's emergency planning department. Incidents are reported for information only to the Scottish Executive and are not categorised as category 1, 2 or 3. For this reason zero and non-applicable has been entered for these lines.

However, these incidents are now being captured and categorized (for 2006/07) and figures will be available for reporting in next year's Return.

Table C5 Wastewater Quality Outputs – Asset Performance.

Table not completed, as agreed with WIC.

Table C6 Wastewater Quality Outputs – New Obligations

This Table reports commissioned projects in the Report Year which delivered against the nine key investment drivers relating to new quality obligations. Some works have multiple drivers and therefore the population equivalent will appear more than once in the table. The population equivalent is calculated from the Asset Inventory records. A number of CSOs also have multiple drivers and therefore appear in the total delivered under more than one driver.

C6.1-6 Driver WQ1: Control of Pollution Act 1974 S34

Improvements were undertaken at 31 WWTPs or discharges including Thurso, and Grantown on Spey. There were two schemes that had sewerage system upgrading work carried out in the year, at Drumbuie & Durinish Septic Tank and Lady Septic Tank.

C6.7-16 Driver WQ2: Improvements to poor or seriously polluted waters

Improvements were undertaken at 54 WWTPs including Allers, Bothwellbank, Kirriemuir and Scholland in Virkie. There was 1 Surface Water Discharges/Industrial Estates upgraded against this investment driver in the Report Year at Blairgowrie. First-time sewerage was provided for parts of communities such as Tayvallich, St Mary's, Gorthleck and Port Charlotte.

A total of 53 CSOs were upgraded in the 2005/06 period, such as those at Helensburgh, Moodiesburn and three at Peebles. All 53 UCSOs, from the agreed 429 UCSO list were delivered.

C6.17-22 Driver WQ3: Protection of Risk

Improvement works were undertaken at 19 discharges including Helensburgh, Brodick, Lamlash and Whinnyfold. Phosphorous control was undertaken at 19 sites including Aviemore and Keith.

C6.23-34 Driver EC1: UWWTD Directive

Improvement works were undertaken at 89 Inland Water CSOs such as two in Esk Valley, Peebles, Kirriemuir and Lockerbie. 81 of these CSOs are on the 429 agreed list of UCSOs to be completed in the Q&S2 period.

Upgrading works were also performed at 93 inland WWTPs or discharges, including Aviemore, and a number of first time treatment upgrades in the Western Isles.

Under the Coastal Waters driver, there were 5 CSOs, for example, 2 in Wick, and 60 STWs enhanced through improvement works in this period such as Thurso, Tarbert, Lamlash and Burravoe in the Western Isles. All of the improved CSOs were part of the 429 list.

Through the EC 1/5 driver, there were a total of 19 CSOs improved including 5 at different projects in Dumfries, one at Dundee, Devonside and Paisley with the remaining 11 in Helensburgh under the sewerage scheme project. All of these CSOs are on the 429 list. The remaining Estuarial Waters driver saw 4 STWs being advanced; including one at Newburgh.

C6.35-38 Driver EC2: Bathing Waters Directive

Improvement works were undertaken at 9 CSOs such as Perceton Town, and King's Link in Aberdeen and 5 at Irvine Town, with all 9 on the list of 429 UCSOs. Improvement works were completed at 8 WWTPs including Rockcliffe, Dunnet, and Kingsbarns.

C6.39-42 Driver EC3: Shellfish Waters

There were 8 sites where improvement works had been undertaken, including those at Tarbert, Barcaldine, and Minard. There were 4 CSOs upgraded in the Reported Year under this driver all of which are on the 429 list of UCSOs. The confidence grade was downgraded from last year's reported grade of A2 to B2 this year, as last year there were no CSOs which were upgraded under this driver whereas this year the 4 CSO's that have been upgraded have been confirmed as being completed by S&P but yet to obtain SEPA sign-off.

C6.43-46 Driver EC4: Freshwater Fish Directive

Improvement works were undertaken at 5 sites, for example, Coursington, Eaglesham and Uplawmoor STW's. There were no CSOs upgraded in the Reported Year.

C6.47-49 Driver EC6: Sludge (Use in Agriculture) Directive

In the 2005/06 period, there were 3 improvement works including Caithness, Duns and Galashiels, as part of the Sludge (Use in Agriculture) Directive.

C6.49a-c Driver EC8: Habitats Directive

Out of the 8 planned sites that were identified for the QS2 programme as requiring works under this directive there are 7 remaining as 1 of the sites at Edderton has been aggregated into the other project at Edderton. There were 3 improvement works completed in the Reported Year at Lybster, Brora, and Ulsta in Yell. There was a downgrading of the confidence grade for 6.49c from A1 last year to B2 this year as there were no sites which had been completed under this directive, whereas in the current reporting year, there were 3 improvement works confirmed by S&P but yet to obtain SEPA sign-off.

C6.50 Driver EC9: Dangerous Substances Directive

Mauldslie and Neilston were 2 of the 7 sites where improvement works were carried out in the 2005/06 period.

Table C7 Water Mains Activities

C7.1-9 Water Mains Rehabilitation Under Agreed Programme of Works

The Q&S 2 mains rehabilitation programme has an agreed output of a reduction in condition grade 4 & 5 water main by 3051 kms. It was estimated at the start of the programme that this would be achieved by different methods and that a length of mains would be replaced (C7.3) and a smaller length relined (C7.4). This would require programmes of work in an estimated 255 Water Supply Zones (C7.2).

The mains rehabilitation programme is primarily delivered by Water Supply Zones (WSZs) and not Water Quality Zones (WQZs) and as such the figures reported (C7.1, C7.2 and C7.9) are reported as WSZs. Additionally the programme is delivered and reported by financial year over the Q&S 2 period and is therefore reported by financial year in the Annual Return and not by calendar year.

The confidence grade for line C7.2 has been set at C4 since the start of the programme because mains rehab is specifically driven by the agreed target length of mains rather than water supply zones. Therefore the number of WSZ that fall within the programme could change once the programme is complete i.e. once detailed investigation of the WSZ has been carried out; the length of mains requiring rehabilitation becomes apparent. On completion of the programme, 252 WSZ were involved in the programme of work, which in hindsight indicates that the original 255 estimate was a good estimate.

The number of WSZs (C7.1) is taken from GIS. Scottish Water prioritised all WSZs at the beginning of the Q&S 2 period. Programming rehab by WSZ allows schemes to be developed at a level of detail which addresses all the relevant rehab issues at a more distinct level than WQZ. Out with the priority WSZ, additional lengths of main that contribute to the totals (C7.6 and C7.7) are replaced on a hotspot basis plus a short length from reactive maintenance. The total length of main replaced this report year is 482 kms (C7.6) and the total length relined is 24 kms (C7.7). The total lengths estimated for C7.3 and C7.4 were not realised as other methods were used to achieve the Q&S 2 target to remove 3051 kms of condition grade 4 and 5 mains.

The length of mains subject to pre-appraisal surveys is 168 kms (C7.5) in this reporting period. There is a lag of 12 months from completion of a rehabilitation scheme before an accurate post-appraisal is carried out. The length of main with post-appraisals is now at 828 kms (C7.8). The length of mains is identified from GIS.

The data for work undertaken in the report year has been provided by Scottish Water Solutions from the project monitoring developed by the programme delivery team and from the data used to populate Table G – Capital Expenditure.

C7.10-14 Water Resource Planning

C7.10 is the number of established DMAs at the report year end. 95% of these DMAs can be found in Perform Spatial Plus with the balance provided from SWS' DMA reporting. The number of notional DMAs that SWS indicated would be handed over last year was not fully realised. Last year, 45 DMAs were forecast under line C7.12 to be created as part of the Edinburgh and West Lothian leakage project. Although SWS actually delivered 31 of the proposed 45 leakage DMAs during 2005-06, this addition was offset by a reduction in the 387 DMAs which SWS stated were awaiting delivery to SW at the end of 2004-05, and which were included in AR05 line C7.10. Of the 387 DMAs, 35 did not meet the necessary handover criteria.

C7.12 is the estimated number of DMAs that are being established in the 2006-2007 report year. This programme of DMA establishment has yet to be finalised and as such the confidence of this data has been reduced to a B4.

The property coverage (C7.13) and the lengths of mains (C7.14) covered by established DMAs at year end were largely obtained from the DMA reporting tool, Perform Spatial Plus, with the balance provided by SWS. The calculations use data from line A1.69 Total number of properties and line E6.8 Total length of mains.

Table C8 Sewer Activities

C8.1-9 Sewer Rehabilitation Programme

C8.1 The number of sewage drainage areas has been interpreted as responding to the number of Drainage Area Study (DAS) Zones across Scotland. These Zones represent the boundaries within which a Drainage Area Study would be undertaken to produce a Drainage Area Plan. A high Confidence Grade is associated with this figure reflecting the relatively

static nature of these boundaries. It is anticipated that only minor alterations to these boundaries would ever be required, The total number of sewage drainage areas has decreased by one this year. Two areas (RF01 & RF02) have been merged together (into RF02) to more accurately represent the drainage area, based on the DAS which has been carried out. The confidence in this data remains high with a reported confidence grade of A1.

C8.2 The number of sewage drainage areas subject to a programme of work has been assumed to be the number of Drainage Area Study (DAS) Zones which contain a sewer rehabilitation (or replacement) scheme completed or partially completed (Q&SII – Q&SIII overhang) as part of the current sewer rehabilitation target for the Quality & Standards (Q&S) II investment period.

This figure has been collated from the Capital Investment pre Scottish Water Solutions Sewer Rehabilitation Programme (2002-2004), Current Scottish Water Solutions Sewer Rehabilitation Programme (2003 – 2006) and remaining Rehabilitation to be carried out in (Q&SII) via the Phase3 Capex1 Area Planner Hotspots.

The sewer rehabilitation needs across Scotland have been identified from the Drainage Area Studies along with local rehabilitation requirements promoted by local Area Planners and Operational staff.

Scottish Water Solutions sewer rehabilitation programme included a number of schemes which are now complete, hence an increase in confidence grade from B3 to A1.

The figure does not include those sewer replacements carried out as part of flooding alleviation or overflow improvement projects.

General Statement

The following two lines relate to the amount of sewerage which has or is to be rehabilitated or replaced in the current Investment Period. In previous Annual Reports the length of sewerage which has been rehabilitated could not be distinguished from that which has been replaced. For this Report year there is a clear distinction between what length of sewerage has been rehabilitated and what length has been replaced as the method of improvement has been recorded and therefore reported against Lines C8.6 & C8.7.

The sewerage length which is yet to be rehabilitated or replaced cannot be distinguished as the method of improvement has not been designed to date. As it is expected that the majority of the sewerage improvement will be via sewer rehabilitation (as is supported by the information which has been returned to date) then all of the lengths are reported against Line C8.4 with C8.3 reported as missing.

C8.3 This Line has been assumed to be the length of sewer identified for replacement or which has been replaced in the current (Q&S II) target for sewer rehabilitation. The figure reported however is zero with an M (Missing) Confidence Grade due to the reasons identified above.

C8.4 This Line has been assumed to be the length of sewer identified for rehabilitation or which has been rehabilitated in the current (Q&S II) target for sewer rehabilitation. The figure reported here is the total figure for Line C8.3 and C8.4 for the reasons described above. This is a true representation of the original Capital Investment Team Programme, which was the total length of all known proposed rehabilitation schemes at the start of (Q&SII).

C8.5 This line has been interpreted as the length of sewerage which has been assessed by CCTV survey in the report year, generated from the current database containing all CCTV survey data produced from the Drainage Area Study (DAS) programme. This does not include any CCTV survey work undertaken by rehabilitation contracts immediately prior to

design. It is not expected that these types of surveys will be entered into the database as they will not reflect the state of the sewer post rehab. The reported figure is consistent with that reported in Table D6.

C8.6 This line is assumed to be the length of sewerage which has been replaced in the report year. Length of sewers replaced in report year totals 4.2km. There is now a process for data collection for all sewerage replacement that has been undertaken this year by Scottish Water Solutions Sewer Rehabilitation Project Delivery Team. For completed sewer rehabilitation projects, the Project Delivery Team are required to submit "As Built" packages to Strategy & Planning to an agreed format. This allows "Acceptance Request" and "Capex5" sign off by the Strategic Planner. Due to the quality of data now returned to Strategy & Planning there is an increase in the confidence grade for this line and is now reported higher than last year as A1.

Sewer Flooding Alleviation Schemes are omitted from this line as they are not deemed to be part of the Sewer Rehabilitation Programme.

C8.7 This line is assumed to be the length of sewerage which has been rehabilitated in the report year. The length of sewers rehabilitated in report year totals 98.62km. There is now a process for data collected for all sewerage rehabilitation that has been undertaken this year by Scottish Water Solutions Sewer Rehabilitation Project Delivery Team. For completed sewer rehabilitation projects, the Project Delivery Team are required to submit "As Built" packages to Strategy & Planning to an agreed format. This allows "Acceptance Request" and "Capex5" sign off by the Strategic Planner. Due to the quality of data now returned to Strategy & Planning there is an increase in the confidence grade for this line and is now reported higher than last year as A1.

Sewer Flooding Alleviation Schemes are omitted from this line as they are not deemed to be part of the Sewer Rehabilitation Programme.

C8.8 Post rehabilitation surveys have been undertaken this year intended to update the records held in the CCTV database. The total reported here is therefore the sum of the length of sewers which have been either rehabilitated or replaced during the year. At the end of the Report year however none of these records have been returned to Scottish Water's CCTV database. These records will update the records in the following year superseding the existing records.

C8.9 The number of DAS Zones which have had a sewerage rehabilitation project completed within its bounds are reported in this line. The data has been collected from completed projects and only includes where all projects within a DAS Zone have been completed as part of the (Q&S II) programme. This figure has been collated from the Capital Investment pre Scottish Water Solutions Sewer Rehabilitation Programme (2002-2004), the current Scottish Water Solutions Sewer Rehabilitation Programme (2003 – 2006) and remaining Rehabilitation to be carried out in (Q&S II) via the Phase3 Capex1 Area Planner Hotspots. Scottish Water Solutions sewer rehabilitation programme included a number of schemes which are now complete, hence an increase in confidence grade from B3 to A1.

C8.10-12 Critical Sewers

As the length of sewer promoted to be rehabilitated or replaced is derived in the Drainage Area Studies and the CCTV work they undertake is concentrated on the critical sewer network then all of the rehabilitation work undertaken is assumed to be on the critical network. The lengths reported for sewers which have been rehabilitated and those which have been replaced is therefore the same as the lengths reported for all sewers in Lines C8.6 and C8.7.

For completed sewer rehabilitation projects, the Project Delivery Team require to submit “As Built” packages to Strategy & Planning to an agreed format, this allows “Acceptance Request” and “Capex5” sign off by the Strategic Planner. Due to the quality of data now returned to Strategy & Planning there is an increase in the confidence grade for this line and is now reported higher than last year as A1.

Sewer Flooding Alleviation Schemes are omitted from this line as they are not deemed to be part of the Sewer Rehabilitation Programme.

C8.12 A refinement to the AR05 methodology, by which the length of critical sewers has been calculated, resulted in an increase in the overall critical sewer length. This change is reported in this line and is consistent with Line D6.16. The confidence grade for this line remains unchanged from AR05 and is reported as B3.

C8.13-16 Drainage Area Plans

General Statement

At present Scottish Water has an ongoing programme for the production of Drainage Area Plans (DAPs). The figures relating to this programme of work are reported in Table D6. This programme covers the first time creation of DAPs but does not currently provide for the maintenance of these Plans once created. The figures reported for the following Lines therefore reflect the absence of DAP maintenance to date.

Periodic maintenance is seen as essential to prolong the useful life of the DAPs and therefore get full benefit of the initial cost of their creation (currently projected at approximately £40m). Proposals for the maintenance of DAPs (as well as additional First Time Creation studies) have been included for the Quality & Standards (Q&S) III investment period as the upkeep of the valuable DAP assets is seen as essential to sustain a full understanding of the sewerage network, how it interacts with both customers and the environment, and for the planning of future development of the network and in assisting with its efficient Operational running.

The Quality & Standards (Q&S) II investment period priority was, and is, for the first time production of Drainage Area Plans. The Q&S III investment period will have DAP maintenance as a priority together with the extended DAP coverage for the unsatisfactory intermittent discharge environmental and flooding due to overloaded sewers enhancement programmes and to support the production of the Annual Strategic Capacity Report and Development Plans.

To improve the management and control of Scottish Water’s Drainage Area Plans the following initiatives have been put into place;
DAP models have been loaded onto an Oracle InfoWorks database which is the corporate model library
Interim procedures are in place for the issue of DAS models to internal and external parties
The DAS supporting information is in the process of being documented archived

Survey data from DAPs has been loaded onto the corporate GIS.

C8.13, C8.15 and C8.16 These Lines are all reported as zero reflecting the absence of DAP maintenance provided for in the current investment period. The confidence grade for these figures is recorded as A1 reflecting the absolute knowledge that no maintenance has been carried out. Table D6, Lines D6.21 to D6.25 Activities – Studies report the current status of Drainage Studies.

C8.14 21 Drainage Area Plans are currently being updated as part of the Q&SIII UID programme or due to development Pressures.

D Tables – Asset Information

Table D1 Workload Commissioned Assets – Water Service

Tables D1 to D3 are populated automatically from Tables G5 and G6 and individual confidence grades and commentaries are included where appropriate.

D1.1-21 Asset Replacement

Table D1 records replaced/refurbished, new and enhanced assets commissioned in the Report Year 2005-06. This is based on Scottish Water's approved investment programme to meet the requirements of legislative driven quality improvements and on-going capital maintenance to ensure that the necessary level of service is maintained.

Commissioned assets have been analysed and allocated to either replaced/refurbishes or new/enhanced as appropriate. The financial information on project capital expenditure has been reconciled with the corporate financial management system. Asset data on completed projects was obtained from Project Managers providing details of the assets commissioned through an Asset Data Capture Form for Table G and upload scripts for Ellipse to ensure that the Asset Inventory was updated. Mains rehab lengths and size band diameters were provided with the associated financial costs in a rehab pro forma by Scottish Water Solutions. The Capital Investment Monitoring System has been upgraded to enable the Q&SIII Programme to be monitored and this included an Asset Module which will enable asset data to be stored within the corporate system. The asset data reported in the 2005-06 Return will be updated into CIMS.

Rolling programmes have been shown as commissioned in 2005-06 to ensure that the completed assets are included. However the lower confidence grade reflects concern that not all assets refurbished through minor works have been recorded in Table G.

Where there were more than 5 asset types included within a single project, these have been rolled up to enable the reporting to be as representative as possible of the investment incurred.

D1.1-3 Water Resources

D1.1 – work to meet the requirements of the Reservoirs Act has been progressing. However, a number of reservoirs are included in more than one programme of work resulting in some sites appearing more than once in the commissioned assets.

D1.42-43 Water Storage

D1.42 – the upgrade of service reservoirs as part of the SEMD requirements is included against this line.

D1.47-51 Water Mains

D1.47 – The new and enhanced potable water mains figure includes the lengths of main resulting from new developments. As Scottish Water only makes payments to developers up to the reasonable cost limits for new developments, the investment reported does not reflect the actual costs to developers.

Investment on the installation of PRVs and logging equipment, maintenance of large valves and installation of operational meters are not recorded in Table D1 as there are no asset codes to report against.

Table D2 Workload Commissioned Assets – Wastewater Service

Table D2 records replaced/refurbished and new/enhanced assets commissioned in the Report Year 2005-06. This is based on Scottish Water's approved investment programme to meet the quality requirements of UWWTD, Bathing Waters Directive and the Control of Pollution Act, together with capital maintenance and infrastructure renewals to ensure that the necessary level of service is maintained.

Commissioned assets have been analysed and allocated to either replaced/refurbishes or new/enhanced as appropriate. The financial information on project capital expenditure has been reconciled with the corporate financial management system. Asset data on completed projects was obtained from Project Managers providing details of the assets commissioned through an Asset Data Capture Form for Table G and upload scripts for Ellipse to ensure that the Asset Inventory was updated. Sewer rehab lengths and size band diameters were provided with the associated financial costs in a rehab pro forma by Scottish Water Solutions.. The Capital Investment Monitoring System has been upgraded to enable the Q&SIII Programme to be monitored and this included an Asset Module which will enable asset data to be stored within the corporate system. The asset data reported in the 2005-06 Return will be updated into CIMS

Rolling programmes have been shown as commissioned in 2005-06 to ensure that the completed assets are included. However the lower confidence grade reflects concern that not all assets refurbished through minor works have been recorded in Table G.

Where there were more than 5 asset types included within a single project, these have been rolled up to enable the reporting to be as representative as possible of the investment incurred.

D2.10-14 Sewage Treatment Works

D2.10 and D2.40 A number of the completed Wastewater Quality projects included septic tanks which should have been reported as 5033 or 5034. To enable these to appear in the commissioned assets, they have been entered in Table G6 as 5032. A number of existing septic tanks have been refurbished in the Report Year which required to be entered as 5032 although the tanks serve larger populations.

D2.31-33 Sewers

D2.31 and D2.32 The new and enhanced critical and non-critical sewers resulting from new developments are included in the commissioned assets and represent the assets adopted. As Scottish Water only makes payments to developers up to the reasonable cost limits for new developments, the investment reported does not reflect the actual costs to developers.

Table D3 Workload Commissioned Assets – Support Services

Table D3 records the new or enhanced and refurbished or replaced support services commissioned assets. Details of the asset changes in the year through the support services were obtained from the Programme Managers.

D3.9 Telemetry Systems

D3.9 and D3.29 A number of replaced or upgraded telemetry outstations will have been included within the refurbishment or upgrading of assets which have been included in D1 and D2. Similarly, new telemetry outstations associated with new sites will have been included against the assets in D1 and D2.

D3.13-16 Other Non-Operational Assets

D3.13 This line reports investment on non-operational properties relating to essential maintenance on tenants' houses.

Table D4 Asset Changes – Water, Wastewater and Support Services

The data presented in Table D4 shows the difference in the asset stock due to the following:

- Unified approach to asset classification using Ellipse and GIS.
- Improved understanding of the asset types and banding factors using data cleansing workshops.
- Improved costing information.
- Assets being decommissioned or sold.
- Improved methodology and data provision for gap filling of unknown assets.

Table D5 Asset Performance and Activities – Water Service

D5.1-6 Asset performance indicators

D5.1 Mains bursts
The burst incidence rate is based on the number of burst repairs reported in E6.11 divided by the length of potable pipe reported in E6.8. The burst incidence has reduced to 186 per 1000km of pipe. This is principally due to the capital investment in water mains infrastructure which has been targeted to reduce the number of mains bursts. Additionally there has been a small increase in the length of mains. This assessment is based on good quality data across Scottish Water and provides a consistent picture across the operating areas.

D5.2-5.6 Water Condition, performance and risk.
The water infrastructure and non-infrastructure percentages are based on H Table data.

D5.7-11 Activities

The total number of Distribution Zone Studies (DZSs) identified (D5.7) is the total number of all the current Water Supply Zones within Scottish Water; these were identified from GIS. The number of zones has decreased due to the ongoing process of redesigning boundaries.

The DZSs programme, which is linked to the mains rehabilitation programme, is complete for Q&S2 and there are no ongoing studies (D5.8). There were zero ongoing studies reported last year although three studies covering two rehabilitation schemes were carried out as late additions to the rehabilitation programme. The number of completed studies (D5.9) refers to the total number of studies completed in conjunction with the mains rehabilitation programme. There were a number of studies reported last year as complete which have now been removed from the completed list as the associated rehabilitation schemes are actually phased schemes and as such the studies are only partial studies and not complete studies.

The percentage of detailed distribution zone studies completed (D5.10) is 8.58%, which relates to 17.53% of properties covered by studies (D5.11). The net reduction in property coverage is due to the removal of the incomplete studies.

Table D6 Asset Performance and Activities – Wastewater Service

D6.1-9 Asset Performance Indicators

D6.1 The sewer collapse rate is lower than last year at 50 per 1000km of sewer (lateral sewers and rising mains are included in this calculation). The sewer collapse figure per 1000km of sewerage is reported consistently with the data collection exercise used for the performance and condition assessment undertaken for Table H4. The Confidence Grade assigned to this line remains at B4 based on lines E7.8 and E7.14 which are used to calculate this figure.

D6.2 to D6.4 Sewer Overflows

General Statement

In 2002 Scottish Water compiled a Combined Sewer Overflow Database as part of its asset management process. The database was created through the merging of the overflow records of the three previous Authorities. The database initially contained the records of unsatisfactory overflows from the three predecessor Authorities but now contains records on all overflow types across Scotland – both satisfactory and unsatisfactory. To reflect the database now containing overflows of all types the database is now referred to as the Intermittent Discharge Register, aligning the terminology with the Water Companies in England and Wales. An Unsatisfactory Combined Sewer Overflow would now fall under the more encompassing description of unsatisfactory Intermittent Discharge (uID).

Data improvement on the register is being addressed through continual liaison with operations staff and through Drainage Area Studies, a programme of which has been ongoing throughout Quality and Standards (Q&S) II and which is continuing to provide clarification of the overflow asset inventory and characteristics on performance in terms of hydraulics (flooding) and environmental (pollution sources). The register is also being updated with improved assets reaching the beneficial use stage through investment projects.

D6.2 Number of Unsatisfactory CSOs

The number of uCSOs which have been removed from the uID Register, ie are now classified as satisfactory, totals 127. The exercise to classify intermittent discharges for the planning of the Q&S III investment period has continued this year. This involved linking uCSOs with downgraded Water Bodies that were identified by SEPA from their water quality and aesthetic monitoring programme. As a result of this an addition of 14 uIDs were made. Table D6.2 below details the uCSO changes.

Table D6.2 - uID Balance Annual Return 2006

Line D6.2	Opening Balance	Removed from Q&SII Programme as work not required	Removed SW Action	Q&S II Additions	Q&S III Additions[3]	uID Outstanding Balance
2005/06	940	42	88	3	0	813

Refer to file "WIC 2006 Line D6 E7 Workings v3.xls" for additional information on the source of the figures used in this table

D6.3 Number of CSOs

The total number of Scottish Water's CSOs this year is reported as 3900. A net total of 125 CSOs have been removed from the Register from AR05 due to the updating of the ID Register with information from Drainage Area Studies and ongoing data cleansing to remove any duplicate records. Information improvements are ongoing with Drainage Area Studies completed throughout the Report Year. CSO data is now held in a corporate system however there remain records from legacy asset databases that do not have the backup documentation required for Reliability Band "A" or Accuracy Band "1".

D6.4 Percentage of uCSOs

The percentage of all CSOs which are classed as unsatisfactory has fallen from last year (23.1% to 20.8%). This is due to the remedial work carried out on uCSOs in 2005 to 2006 (174 resolved). The comments sheet does not allow a comment to be added and should read the same as D6.3.

D6.5 to D6.9 Wastewater condition performance and risk

The sewer infrastructure and wastewater non-infrastructure percentages are based on H table data. The comments sheet for line D6.5 can not be edited, it should read as line D6.6.

D6.10-20 Activities - Critical Sewer Investigations

D6.10 The opening balance for this year's Return has been produced from a database containing all CCTV survey data produced from the Drainage Area Study (DAS) programme and from other CCTV surveys carried out by Scottish Water and its predecessor Authorities. As the procedures for Drainage Area Studies require CCTV surveys to be carried out on only critical sewers the vast majority of the database relates to Scotland's critical network. A small number of non-critical sewer surveys will be present from survey work executed out with the DAS Programme.

The opening balance for this year's return has been calculated by querying the data for surveys undertaken prior to 1st April 2005. This is a full re-assessment of the opening balance, rather than an adoption of last years closing balance, to account for the additional data which has been added to the database over the last year representing historical survey work undertaken prior to the report year.

The length reported is the length of sewer for which there is a CCTV survey, not the total length of CCTV survey work undertaken. The total therefore only includes a sewer's length once even though it may have been surveyed more than once.

D6.11 The estimation of a sewer condition grade for those sewers which have not been subject to a CCTV survey is not a process which is followed by Scottish Water at present. The figure reported this year, as with last year, is therefore zero. The confidence grade assigned is A1 as Scottish Water does not individually assess the condition grade of sewers which have not been inspected or subject to other observations.

D6.12 The closing balance for the 2004 Return has been used as the opening balance for the 2005 Return and the confidence grade for this line is unchanged.

D6.13 The figure for the length of new critical sewers has been taken from capital investment programme outputs and from Developer Services information for the report year. A process to collect and report the information required from these sources is in place whereby a summary of the sewer lengths and what intervention was undertaken is reported. The figure reported in this line is a summary of these feedback reports. An assessment of whether the length of sewer reported is critical or non-critical is not made, the assumption has been made

that the full length is critical. New critical sewers which were not in asset inventory in AR05 have been added using the methodology applied for Table H4.

An assessment of the Developer Services new sewer records constructed this year was made by assigning critical status to those which had a large diameter. This identified 2.7km of sewer.

D6.14 This length has been produced from the Scottish Water CCTV database with a query run to assess the length of sewer surveyed during the report year. The length reported is the length of sewer for which there is a CCTV survey, not the total length of CCTV survey work undertaken. The total therefore only includes a sewer's length once even though it may have been surveyed more than once (e.g. from each end of the sewer).

D6.15 The figure reported for the length of sewers assessed by estimating during the year is zero. The confidence grade assigned is A1 as Scottish Water do not does not individually assess the condition grade of sewers which have not been inspected or subject to other observations.

D6.16 The critical sewer length has been assessed this year using an enhanced approach of the methodology applied last year. The Sewer Rehabilitation Manual (GIS based method) has been adopted where the sewer depth, material, usage & size in combination with the sewers proximity to geographic features is used to allocate criticality in terms of relative cost consequences covering traffic disruption and engineering difficulties. The process therefore makes an assessment of every sewer in the network based upon these factors and allocates a criticality category A, B (critical sewers) or C (non critical). This approach has increased the amount of critical sewers this year, the difference being reported in this line as reclassified. The confidence grade remains unchanged from last year as B3 reflecting the confidence in the asset inventory data reported in Table H4.

D6.17 No critical sewers have been abandoned this year.

D6.18 The length of sewers assessed by CCTV inspection has increased again this year to 14.5% of the sewerage network (excluding laterals in calculation). This reflects a continuing improvement of asset data and asset condition information.

D6.19 The total length of sewers assessed by estimating during the year is zero. The confidence grade assigned is A1 as Scottish Water do not does not individually assess the condition grade of sewers which have not been inspected or subject to other observations.

D6.20 The length of critical sewer closing balance has increased from last year reflecting the enhancement to the methodology for assessing critical sewers. The figure expressed in terms of a percentage of the network (excluding laterals in the calculation) is 33.5% which is considered to be more representative of the network and closer to the industry mean in England & Wales.

D6.21-25 Activities – studies

D6.21 The number of Drainage Area Study Zones (DAS Zones) has increased this year to reflect the total number of DAS Zones in Scotland. All DAS Zones are planned to have some form of study carried out on them during Q&S III, if not already conducted in Q&S II. These will range from full Drainage Area Studies to desktop exercises.

D6.22 The number of ongoing Studies has reduced from last year reflecting a number of Studies which have been completed and a further clarification of the DAS Zone boundaries relationship with the DAS Projects which were commissioned by the former Authorities. The number reported relates to the status of the DAS Zones as a whole, for example if the

majority of the Projects within a DAS Zone are ongoing then the DAS Zone has been counted as ongoing.

D6.23 The number of completed Studies has increased from 88 in AR05 to 133, reflecting a number of studies which have been completed and a further clarification of the DAS Zone boundaries relationship with the DAS Projects which were commissioned by the former Authorities. The number reported relates to the status of the DAS Zones as a whole, for example if the majority of the projects within a DAS Zone are complete then the DAS Zone has been counted as complete.

D6.24 The percentage of studies completed has decreased from last year's Return. This percentage is based on the number of Studies identified for study (Line D6.21) which has not been constant each year as the planned programme has changed according to drivers in that time. All DAS zones have now been identified for some form of study during Q&SIII. Hence, the percentage of studies completed represents the percentage of all Drainage Area Zones which have a completed study. It is anticipated that this will enable consistent reporting and comparisons to be made using this line of data in future annual returns.

D6.25 The percentage of properties covered by completed studies has increased from last year representing the increase in the number of completed Drainage Area Studies reported in line D6.23. The confidence grade has increased from A4 to A2 as this better reflects the accuracy bands of the data that contributes to this percentage.

E Tables – Operating Costs and Efficiency

General Comments

The Activity Based Costing Tables E1 and E2 were prepared using reports from the corporate finance system in a format consistent with WIC reporting requirements.

Scottish Water's Activity Based Management (ABM) software, Metify, has been used to allocate costs to WIC activities. However, as part of the internal control process we discovered £1.2m of costs that were incorrectly charged to PPP works. The commentary highlights this, where appropriate. However, if the Commission consider that this error is material, Scottish Water is happy to re-submit the appropriate tables.

Activity Based Costing was introduced during 2003/04 to develop and maintain a better understanding of cost behaviour throughout Scottish Water. As part of this exercise, costs were allocated to WIC activities enabling more accurate identification of costs, highlighting areas of costing inconsistency, and improving the basis of allocation across the company. The ABM results are continuously being reviewed and analyzed in order to improve cost allocation and have been used this year for the completion of the regulatory M&N tables.

Scottish Waters ABM strategy entails two main elements:

1. Operational Costing

A costing framework has been established which seeks to consistently capture operational costs by Asset and zone. The aim is to directly capture all costs which are directly attributable to running assets, which represents 80% of total operational costs. Items such as water rates are not directly attributable to assets, due to the current basis of Local Authority charging, hence the target is not 100%.

Some extrapolation was required in order to allocate costs from ABM grouped activities to individual assets and in the case of waste water; some further analysis was required to allocate costs to treatment stages. Consequently, the costs captured in the general ledger have been allocated to works and the remaining costs captured by ABM have been allocated to works based on design capacity (water) and actual loads (waste). The confidence grades in tables E4, E5, and E8-10 have been reduced to reflect this.

2. Activity Based Costing

The Activity Based Costing system (Metify) is used to capture the costs of activities and processes and to understand what drives the level of costs by activity. As well as helping to understand which areas are impacting costs, these drivers are also used as the basis for attributing costs to WIC activities.

The output from ABM is used as the basis for allocating shared service costs between WIC activities. This system provides a more cost reflective allocation of cost, as costs in these areas tend to be shared between WIC activities, e.g. a call centre operator answers water and wastewater calls, and an IT department supports IT applications which are used by both water and wastewater staff.

The quality of non financial driver data is crucial to understanding the costs of activities. Significant improvements have been made to the quality of non financial information, primarily through the rationalization of corporate applications, supporting processes and reporting systems. However, there is continued management focus in this area to enable further improvement.

In addition to shared service costing, ABM has been used to supplement operational costing systems, particularly where there were gaps in direct cost capture, e.g. Networks time capture. However, ABM holds activities at a higher level than individual asset, therefore some extrapolation was required in order to allocate costs to individual large and small works and in the case of wastewater, some further analysis was required to allocate costs to treatment stages.

Total Operating Performance in 2005/06 v 2004/05

There are no atypical costs included in the 2005/06 return. However, significant cost increases have been absorbed in 2005/06 associated with power, fuel and chemical price increases and costs associated with sludge-to-land as well as new operating costs associated with capital projects being completed.

Total operating expenditure excluding exceptional items (E1.26+E2.26-E1.23-E2.23), after correction for the incorrect transfer of costs to PPP works, reduced by £5.7m to £302.0m (as detailed below), but this is after absorbing increased costs of new trading activities of £16.6m and operating costs associated with new assets of £2.4m within 2005/06.

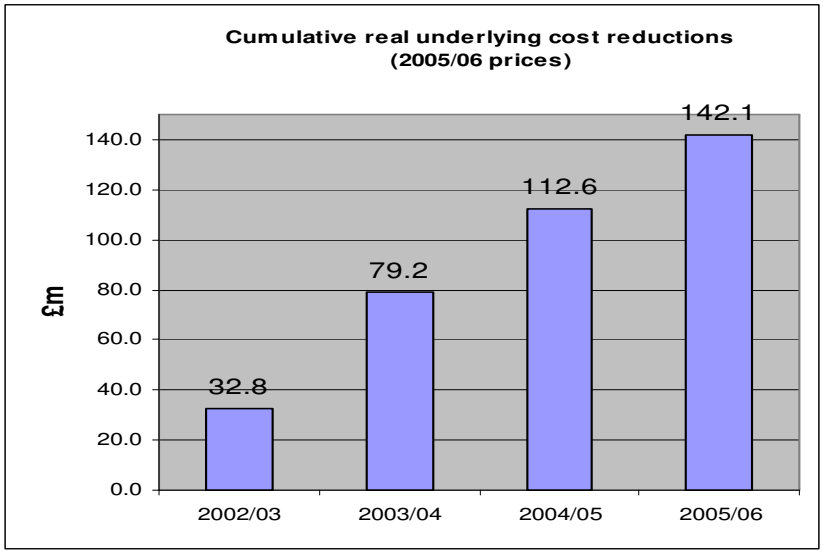
	2005/06 £m	2004/05 £m	Variance £m
Total operating costs – Water E1.26	186.741	215.336	28.595
Total operating costs – Waste E2.26	120.111	154.129	34.018
Exceptional costs – Water E1.23	-2.684	-33.760	-31.076
Exceptional costs – Waste E2.23	-2.200	-28.026	-25.826
	301.968	**307.679**	**5.711**

The table below reconciles total operating costs to the Statutory Accounts:-

	2005/06 £m	2004/05 £m	Variance £m
Statutory water and wastewater opex	253.8	272.9	19.1
Non statutory water and wastewater opex	5.2	6.6	1.4
Sub total	**259.0**	**279.5**	**20.5**
Other trading activities	44.7	28.1	-16.6
Costs per statutory presentation	**303.7**	**307.6**	**3.9**
Transport costs to PPP works	-1.7	-	**1.7**
Rounding difference	-	0.1	**0.1**
Costs per E tables	**302.0**	**307.7**	**5.7**

Nominal operating costs (excluding depreciation, PPP charges, and costs associated with new trading activities) reduced by £20.5 million to £259.0 million compared to £279.5 million in 2004/05. Continued focus on improving operating efficiency has driven this reduction in operating costs, out-performing by £6 million the target of £265 million, set by the former Water Industry Commissioner.

Real underlying operating costs, when compared to the similar costs of the three former water authorities in 2001/02 (i.e. excluding new operating costs associated with newly commissioned plant), have reduced by £142.1 million or 36% since the creation of Scottish Water as depicted in the graph below. However, when the cost base is adjusted to reflect cost increases beyond management control i.e. regulatory and local authority rates charges, the underlying operating cost reduction in the first four years of Scottish Water increases to 41%.



Functional Expenditure

Total functional expenditure (lines E1.12 & E2.12) reduced by £12.5m (7.6%) from 2004/05 (as detailed below) after absorbing an additional £2.4m of costs associated with new opex. This reduction in operating costs has been driven by the continued focus on improving operating efficiency through increased productivity and general efficiencies.

Analysis of functional expenditure -

	2005/06 £m	2004/05 £m	Variance £m
Total functional costs – Water E1.12	82.508	88.829	6.321
Total functional costs – Waste E2.12	69.560	75.770	6.210
	152.068	**164.599**	**12.531**

Total employment costs (E1.1, E1.10, E2.1 & E2.10) reduced by £8.3m (11.3%) from 2004/05 generated mainly from a 9% headcount reduction in the year combined with initiatives to reduce overtime payments. The average headcount employed during the year reduced by 369 or 9% to 3,693. Compared with the average level employed by the former water authorities in 2001/02 this equates to a reduction of 1,955 or 35% in the first four years of Scottish Water.

Power costs (E1.2 & E2.2) increased by £2.5m to £21.1m (13.4%), due to the impact of the significant prices increases and new operating costs associated with capital investment.

Hired and contracted costs (E1.3 & E2.3) reduced by £2.1m or 12.1% reflecting the reduced reliance on external contractors with more work being carried out in-house by SW employees.

Spend on materials and consumables (E1.5 & E2.5) reduced by £1.9m (13.4%) to £12.5m, due to initiatives that have reduced usage through process review and tighter controls.

SEPA costs (E1.6 & E2.6) increased by £0.2m or 3.6% reflecting the revised charging structure.

Other direct costs (E1.8 & E2.8) increased by £0.9m to £4.7m reflecting operational property maintenance costs of £1.8m charged in 2005/06 which were reflected in “general and

support costs" in 2004/05. This is a result of improved direct cost capture in the general ledger.

General and support other costs (E1.11 & E2.11) reduced by £3.9m or 12.8%. £1.8m of the reduction relates to the reclassification referred to in respect of E1.8/E2.8. The underlying £2.1m reduction reflects general cost reductions.

Business activities

Total business activities spend (E1.16 & E2.16) decreased by £3.9m or 8.7% from 2004/05 (as detailed below). Customer Service costs reduced by £2.2m as a result of general efficiency savings and 7% reduction in headcount. Within Scientific Services costs reduced by £0.3m or 2.3%, due to reductions in headcount and general efficiency savings. Costs associated with 'other business activities' reduced by £1.4m, principally as a result of the incorrect £1.2m charge to PPP works in 2005/06. Consequently, the underlying reduction was £0.2m.

	2005/06 £m	**2004/05 £m**	**Variance £m**
Customer services (E1.13 & E2.13)	25.715	27.928	2.213
Scientific services (E1.14 & E2.14)	11.645	11.916	0.271
Other business activities (E1.15 & E2.15)	4.723	4.977	0.254
Total business activities (E1.16 & E2.16)	**42.083**	**44.821**	**2.738**

Rates

Local authority rates (E1.17 & E2.17) increased by £2.9m or 12.6% from 2004/05 reflecting the change in the basis for calculating the rateable value of the water undertaking, coupled with the impact of the 2005 rating revaluation. The rateable value of the Water Undertaking increased from £32m to £50m, effective from 1 April 2005. Scottish Water is in the process of appealing the new rateable value.

Doubtful debts

Doubtful debt costs (E1.18 & E2.18) reduced by £5.2m to £28.3m, as detailed below. The domestic charge decreased by £3.4m or 11.9% reflecting improved local authority collection rates (in year collection increased to 92.7% from 91.8% in 2004/05).

The non-domestic charge was £1.8m lower than in 2004/05 reflecting improved cash collection and the reduction in aged debt during the year. Cash collection in the year improved by £43.3m from £343.1m in 2004/05 to £386.4m in 2005/06, an improvement of 12.6%. Gross non-domestic debt during the year reduced by £28.6m from £78.3m to £49.7m.

	2005/06 Charge	**2004/05 Charge**	**Variance**
Domestic	25.2	28.6	3.4
Non-domestic	3.1	4.9	1.8
	28.3	**33.5**	**5.2**

Exceptional costs

Exceptional costs (E1.23 & E2.23) reduced by £56.9m to £4.9m, and related to restructuring and transformation costs undertaken as the final part of the £200m spend to save programme.

Third party costs

Third party costs (E1.25 & E2.25) have been allocated between core and non core in accordance with WIC55 definitions.

Third party costs consist of:-

	2005/06 £m	2004/05 £m	Variance £m
Old (inherited) non core activities	5.200	6.786	1.586
New trading activities	44.700	28.103	-16.597
Core third party services	3.052	6.294	3.242
	52.952	**41.183**	**-11.769**

Capital maintenance

Capital maintenance costs (E1.36 & E2.36) reduced by £8.9m reflecting the reduction in overall depreciation charges driven by a £35m reduction in infrastructure maintenance charges partially offset by a £26.1m increase in non-infrastructure depreciation reflecting the significant capital investment programme carried out by Scottish Water over the first four years.

Water/Wastewater Split of Costs

The proportion of functional expenditure allocated to water activities was consistent at 54% in 2005/06 and 2004/05, as detailed in the table below.

	2005/06 £m	2005/06 %	2004/05 £m	2004/05 %
E1.12 Water	82.508	54%	88.829	54%
E2.12 Wastewater	69.560	46%	75.77	46%
	152.068	100.00%	164.599	100.00%

Of the £12.5m reduction in functional expenditure in the year, £6.3m or 50.4% of savings were generated in Water activities, with the remaining £6.2m in Wastewater. These reductions were made after absorbing increased power costs (£2.5m); increased costs associated with sludge-to-land primarily due to the impact of SEPA restrictions (£0.9m) and increased SEPA charges (£0.2m) of £3.6m. The savings are discussed in more detail below, but in summary the principal savings were as follows:-

- £8.3m (11.3%) saving in employment costs from 2004/05, reflecting the significant headcount reduction in the year. The average number of employees during the year reduced by 10%.
- Reduced reliance on external contractors with more work being carried out internally by SW staff, resulting in a reduction in operating costs.
- Improved operating efficiency resulting from business transformation projects.
- Continued focus on 'working smarter' and improved productivity which has driven further operating efficiency savings.

Table E1 Activity Based Costing - Water Service

E1.0-12 Service Analysis - Water: Direct Costs

Table 1a

Water Resources & Treatment E1.12

	NW	NE	SE	SW	Total
	£m	£m	£m	£m	£m
Functional expenditure:					
2005/06	10.017	7.661	6.604	14.331	38.613
2004/05	9.644	8.000	6.535	15.523	39.702
	-0.373	**0.339**	**-0.069**	**1.192**	**1.089**

Water resources and treatment costs were largely similar to 2004/05. Savings of £0.2m in employment costs, £0.6m in hired and contracted services, £0.3m in materials & consumables, £0.1m in power and £0.7m in general and support costs were partially offset by a £0.8m increase in other direct costs.

Water Distribution E1.12

	NW	NE	SE	SW	Total
	£m	£m	£m	£m	£m
Functional expenditure:					
2005/06	8.012	9.877	8.161	17.845	43.895
2004/05	9.752	11.103	9.185	19.087	49.127
	1.740	1.226	**1.024**	1.242	5.232

Water distribution costs reduced by £5.2m or 10.6%, from 2004/05. With savings of:-

- £3.9m in staff costs (17%), from the reduction in headcount and smarter working practices that have reduced overtime payments.
- £0.2m (3%) in hired and contracted services due to reduced reliance on external contractors
- £1.8m in general and support costs and £0.6m in materials, reflecting the reduction in overheads as a result of reduced headcount and general efficiency savings
- offsetting a £1.6m increase in power costs due to the impact of significant price rises.

The majority of the savings were spread fairly evenly across the four operational areas. These savings were again principally driven mainly by the by the headcount reduction and reduced reliance on contractors and overtime.

E1.13-26 Operating Expenditure

E1.13 - The allocation of Customer Service costs between water and wastewater was driven by ABM activities. Within ABM, costs were allocated using a number of activity cost drivers including the number of customer contacts from SW's Promise system and the number of bills issued. In total, Customer service costs reduced by £2.2m with £0.6m of savings in water as a result of a reduction in headcount and reduced costs of collection. The proportion of costs allocated to water increased from 48.5% in 2004/05 to 50.4% in 2005/06.

E1.14 – The allocation of Scientific Services costs to water and wastewater was driven by ABM activities. Within ABM, costs were allocated using a number of activity cost drivers including the number of sample visits and the number of tests analyzed in the year. Total expenditure on scientific services reduced by £0.3m but the split of costs charged to water increased from 75.8% in 2004/05 to 80.4% in 2005/06. The primary driver for this increase was driven by an increase the number of samples and tests which rose 49% and 46% respectively. Consequently costs charged to water increased by £0.3m year-on-year.

E1.15 – The distribution of the total costs of 'other business services' to water or wastewater was driven by ABM activities based on resource drivers. The total costs associated with 'other business activities' reduced by £1.2m.

E1.17 – Local Authority rates for operational waste water assets were captured directly at asset level in the general ledger. Rates for offices and depots were allocated to water and wastewater using ABM. Costs charged to water increased by £2.4m in the year as a result of the change in the basis for calculating the rateable value of the Water Undertaking, coupled with the impact of the 2005 rating revaluation.

E1.18 – Doubtful debts were allocated to water and wastewater from ABM based on the aged debt profile by customer and service.

E1.19-E1.23 – Exceptional costs total £4.9m and relate to restructuring and transformation costs undertaken as the final part of the £200m Spend to Save programme. These exceptional costs incurred during the year include staff severance costs of £3.1m and £1.8m of other costs associated with the fundamental restructuring and transformation of the business. These costs have been allocated to water and wastewater within ABM pro-rated on the basis of total charged and allocated costs.

E1.27-28 Reactive and Planned Maintenance (included in Opex)

The allocation of costs to Lines E1.27 and E2.27 was driven by ABM activities.

E1.29-36 Capital Maintenance

E1.29-E1.33 Depreciation is allocated between water and wastewater based on the asset information held in the fixed asset register. For other assets including IT, plant, machinery, vehicles and property, the total depreciation from the fixed asset register is allocated across all business activities (including other business activities) using ABM cost driver data.

E1.37-39 PPP Costs

Scottish Water has no PPP water treatment works.

Table E1c

The 2006/07 and 2007/08 forecast tables have been populated using the HCA numbers as reported in Scottish Water's Delivery Plan as prepared in May 2006. The costs have been pro-rated to services and activities using the 2005/06 E table data.

Table E2 Activity Based Costing - Wastewater Service

E2.0-12 Service Analysis - Wastewater : Direct Costs

Table 2a

Sewerage E2.12

	NW £m	NE £m	SE £m	SW £m	Total £m
Functional expenditure:					
2005/06	5.655	8.261	5.585	11.347	30.848
2004/05	6.397	9.075	6.753	12.571	34.796
	0.742	**0.814**	**1.168**	**1.224**	**3.948**

Sewerage costs reduced by £3.9m or 11.3%, from 2004/05. There were savings in most cost areas, with the most significant being a saving of £2.3m in employment costs (17.3%), £1.0m in hired and contracted services and £0.9m in general and support costs. These savings offset a £0.6m (15.6%) increase in power costs.

Costs in the South East area reduced by £1.2m or 17.3%, with savings generated from a £0.3m reduction in employment costs and a £0.6m saving on hired and contracted services. This cost reduction was driven by reduced reliance on external contractors and greater emphasis on "smarter" working to reduce overtime expenditure.

£1.2m of a saving was generated in Ops South West, where sewerage costs reduced by 9.7% year-on-year. This was principally driven by the substantial headcount reduction in the South West area (24.5% lower than in 2004/05) which generated a saving of £1.1m and the reduced reliance on external contractors which resulted in a saving of £0.2m, offsetting a £0.5m (33%) increase in power costs.

In the North West and North East operational areas functional costs reduced by 11.6% and 8.9% respectively, again principally driven by reduced headcount and more effective management of contractors.

Sewage Treatment

Sewage treatment costs are not split by operational area in the Annual Return. Year-on-year commentary is therefore provided on total treatment costs as summarized in the table below.

Sewage treatment	Total £m
Functional expenditure:	
2005/06	30.014
2004/05	32.140
	2.126

Sewage treatment costs reduced by £2.1m in 2005/06. This was driven mainly by savings on employment costs (£0.7m), materials costs (£0.5m) and general & support costs were £1.5m lower than at 2004/05 being partially offset by increases in hired and contracted services costs (£0.2m) and a 4% increase in SEPA costs (£0.2m).

Sludge Treatment E2.12

Sludge treatment costs are not split by operational area in the Annual Return. Year-on-year commentary is therefore provided on total treatment costs as summarized in the table below:

Sludge treatment	**Total £m**
Functional expenditure:	
2005/06	8.698
2004/05	8.834
	0.136

The sludge treatment costs reported in 2005/06 exclude £1.7m of Scottish Water costs associated with transporting sludge to PPP works. £1.8m of these costs were reported in table E2 in 2004/05 but these costs have been reported in table E3a in 2005/06 because their related explanatory factors are set out in table E3. Underlying costs are therefore flat year-on-year but this is after absorbing £1.4m of additional costs associated with the new SEPA regulations on the disposal of sludge to landfill sites (£0.9m) and improved direct allocation of power costs to sludge activities (£0.5m).

E2.13-26 Operating Expenditure

E2.13 - The allocation of Customer Service costs between water and wastewater was driven by ABM activities. Within ABM, costs were allocated using a number of activity cost drivers including the number of customer contacts from SW's Promise system and the number of bills issued. In total, Customer service costs reduced by £2.2m with £1.6m of savings in waste water as a result of a reduction in headcount and lower costs of collection. The proportion of costs allocated to waste services reduced from 51.5% in 2004/05 to 49.7% in 2005/06.

E2.14 – The allocation of Scientific Services costs to water and wastewater was driven by ABM activities. Within ABM, costs were allocated using a number of activity cost drivers including the number of sample visits and the number of tests analyzed in the year. Total expenditure on scientific services reduced by £0.3m but the split of costs allocated to waste activities reduced from 24.2% in 2004/05 to 19.6% in 2005/06. This was due to a swing in the mix of work to water (see E1.14 above). Consequently, costs charged to waste water reduced by £0.6m.

E2.15 – The distribution of the total costs of 'other business services' to water or wastewater was driven by ABM activities based on resource drivers. The total costs associated with 'other business activities' reduced by £1.4m reflecting the incorrect transfer of £1.2m to PPP works. Costs allocated to waste water reduced by £0.2m.

E2.17 – Local Authority rates for waste water operational assets were captured directly at asset level in the general ledger. Rates for offices and depots were allocated to water and wastewater using ABM. Costs charged to waste water increased by £0.6m in the year reflecting the impact of the 2005 rating revaluation.

E2.18 – Doubtful debts were allocated to water and wastewater from ABM based on the aged debt profile by customer and service.

E2.19- E2.23 – Exceptional costs total £4.9m and relate to restructuring and transformation costs undertaken as the final part of the £200m Spend to Save programme. These exceptional costs incurred during the year include staff severance costs of £3.1m and £1.8m of other costs associated with the fundamental restructuring and transformation of the business. These costs have been allocated to water and wastewater within ABM pro-rated on the basis of total charged and allocated costs.

E2.27-28 Reactive and Planned Maintenance (included in Opex)

The allocation of costs to Lines E2.27 and E2.28 was driven by ABM activities.

E2.29-36 Capital Maintenance

E2.29-E2.33 Depreciation is allocated between water and wastewater based on the asset information held in the fixed asset register. For other assets including IT, plant, machinery, vehicles and property, the total depreciation from the fixed asset register is allocated across all business activities (including other business activities) using ABM cost driver data.

Table E2c

The 2006/07 and 2007/08 forecast tables have been populated using the HCA numbers as reported in Scottish Water's Delivery Plan as prepared in May 2006. The costs been pro-rated to services and activities using the 2005/06 E table data.

Table E3 PPP Project Analysis

Table Overview

Table E3 provides details of the 21 PPP wastewater treatment works that are managed under 9 separate PPP Concession agreements.

The following works form part of each scheme:

PPP Scheme	Treatment works
Highland	Fort William, Inverness
Tay	Hatton
Aberdeen	Fraserburgh, Peterhead, Nigg, Persley
Moray Coast	Lossiemouth, Buckie, Banff/Macduff
AVSE	Seafield, Newbridge, East Calder, Blackburn, Whitburn
Levenmouth	Levenmouth
Dalmuir	Dalmuir
Daldowie	Daldowie sludge treatment centre
MSI	Meadowhead, Stevenston, Inverclyde

E3.0-6 Project Data

E3.0a North West: Highland, Moray Coast - part only (Lossiemouth)
E3.0b North East: Moray Coast - part only (Buckie & Banff/MacDuff), Aberdeen, Levenmouth
E3.0c South East: AVSE
E3.0d South West: Dalmuir, Daldowie, MSI

E3.1-2 The determination of resident and non-resident populations is the same as that described in the introduction to Table E8, and also used in E9.1 and E9.2.

The population figures have been taken from those used to complete lines E7.1 and E7.2, which were allocated to individual sewered areas (SAs). The population served by each works was taken to be the sum of all the SAs served by the works.

E3.3 The figures stated here are unsettled COD, which has been estimated from measured settled COD by applying a factor of 1.482. The records of settled COD are held in the Trade Effluent billing system. Unsettled COD has been used for consistency with load data, in which unsettled BOD has been used as being more representative of the load arriving at the works.

E3.4 This is the amount of sludge received from other sources comprising commercial, septic tank, water works and wastewater works sludges. Calculation of daily load was from yearly totals/365 and using 95.26 kgCOD/m3 for waste water works sludge and 48.70 kgCOD/m3 for water works sludge. For commercial sludges, the COD load was as measured. The annual quantities were derived from the Gemini Sludge Management System.

As last year, tanker loads that are fed directly to sludge treatment centres are no longer included in these figures.

The only significant load is that at Seafield. This has increased by 25% since last year, as a result of increases in septic tank and wastewater works sludges.

E3.5 The population equivalent has been assessed from the load received on the basis of 60g BOD/head/day. The method of determining load is fully described in the introduction to Table E8.

E3.6 Based on project status at 31 March 2006. Commissioning of Levenmouth WwTW (sludge dryer system), and Daldowie has yet to be completed. However, both plants are fully operational and meeting their output requirements.

E3.7-11 Scope of works

E3.7

Fort William	includes incoming sewer and 5 pumping stations
Inverness	includes a major pumping station and associated pumping mains
Hatton	includes extensive pumping mains and pumping stations
Nigg	includes incoming sewer and 6 pumping stations
Fraserburgh	includes short section of incoming sewer and 1 pumping station
Moray Coast	includes extensive pumping mains and pumping stations
Seafield	includes the Esk Valley Sewer, which is served by a number of storm water works and sewage pumping stations.
Newbridge	includes short section of incoming sewer and no pumping stations
Levenmouth	includes 5 pumping stations and associated rising mains and sewers
Inverclyde	includes short section of incoming sewer and 1 pumping station

E3.8 Only Daldowie does not include sewage treatment – it is exclusively a sludge treatment centre.

E3.9 The following projects comprise a sewage treatment facility with a common sludge treatment centre:

Highland at Inverness
Aberdeen at Nigg
Moray Coast at Lossiemouth
AVSE (except Seafield) at Newbridge
Dalmuir at Daldowie
MSI at Meadowhead

E3.10 The following works include incoming terminal pumping stations:

Fort William
Inverness
Hatton
Fraserburgh
Lossiemouth
Buckie
Banff/Macduff
Levenmouth

E3.11 No plants in this category

E3.12-16 Sewage Treatment – Treatability

E3.12-16 Not in Use

E3.17-22 Sewage Treatment - Effluent Consent Standard

E3.17-21 Data obtained from consents held as part of the PPP contract documentation and verified with the appropriate PPP Company.

The following works do not include any of the defined sanitary determinants within the CoPA consents and therefore a value of 0N has been applied:

Nigg
Peterhead
Fraserburgh
Banff MacDuff
Inverclyde

This is a change since the previous return where all consents were included.

E3.21 Phosphate consent at Newbridge, East Calder, Blackburn and Whitburn is defined as the mean concentration of <u>total phosphorus</u> in any series of samples in any period of 12 months.

E3.22 SEPA sample results for sanitary determinants (BOD, COD, SS, Ammonia, Phosphate) are obtained from the SEPA Annual Compliance Report which is provided by SEPA via Strategy & Planning. Single Compliance percentage is reported for each works, based on the total number of CoPA sample results and exceedances (upper and lower tier) for sanitary determinands (to the exclusion of other parameters that may be included in the SEPA consent). UWWTD results are not considered within this calculation.

Percentage compliance is calculated as:

(1-(total number of failures/total number of samples)) x 100

A number of works do not include any of the defined sanitary determinants within the CoPA consents. Therefore a value of 0N has been applied. The sites are Nigg, Peterhead, Fraserburgh, Banff/Macduff and Inverclyde.

The SEPA Annual Compliance Report has been taken as the definitive data source, provided by our Regulator, and as such a Confidence Grade of A1 has been assigned.

Compliance calculated under this methodology may cause conflicts with Table C4 (C4.19) "Number of discharges confirmed as failing", which considers all SEPA consent parameters.

E3.23-24 Sewage Treatment Flow

E3.23 As per the Reporter's recommendation a consistent approach for assessing dry weather flow for all PPP projects has been adopted based on the flow at the end of a sustained period of dry weather. A dry period includes all days where rain fall doesn't exceed 0.2mm

Met Office rainfall data is used as the basis for identifying the period of dry weather relevant to each WWTW.

A Confidence Grade of B2 has been used for all schemes with a dry period of 14 days, for shorter periods of dry weather a Confidence Grade of B3 has been used to reflect the lack of true Dry Weather Flow data.

E3.24 The ratio is based on the flow at the end of a sustained period of dry weather as per E3.23. The minimum and maximum flows are averaged over 3 hours to prevent instantaneous fluctuations in flow having an impact on the reported data.

The PPP companies provided flow data to calculate min and max flows.

Confidence Grades of B3 reflect the lack of true Dry Weather Flow data and the impact of pumped flows.

E3.25-31 Treatment Works Category

Information contained in these lines is extracted from the project agreements and is given a confidence grade of A1.

E3.25 Levenmouth primary stage does not include primary sedimentation.
E3.26 Includes all plants except Blackburn
E3.27 Blackburn
E3.28 Nitrifying filters and sand filters - East Calder, Whitburn
E3.29 UV - Inverness, Persley, Fraserburgh, Banff/MacDuff, Seafield, Levenmouth
Rapid gravity Sand filters - Newbridge, East Calder
Biofors tertiary filter – Meadowhead
E3.30 No plants in this category
E3.31 Rapid gravity Sand filters – Blackburn

E3.32-37 Miscellaneous Data

Information contained in these lines is extracted from the project agreements and is given a confidence grade of A1.

E3.33 A number of works include inlet pumping stations. Seafield includes an intermediate lift pumping

E3.34 There are no works with "own sludge" facilities.

E3.35 Not in Use

E3.36 The Sludge Centres are as follows:

Inverness	receives imported sludge from Fort William and other Scottish Water plants
Tay	includes tanker import facilities
Nigg	receives imported sludge from Persley and Peterhead (Fraserburgh goes to Peterhead), and other Scottish Water plants
Lossiemouth	receives imported sludge from Buckie and Banff/MacDuff and other Scottish Water plants
Seafield	includes tanker import facilities
Newbridge	sludge treatment facilities receive imported sludge from East Calder, Blackburn and Whitburn WwTW
Levenmouth	currently does not accept any sludge imports as sludge treatment facilities are under commission
Daldowie	receives sludge from Dalmuir and other Scottish Water plants
Meadowhead	receives imported sludge from Stevenston and Inverclyde

Daldowie is exclusively a sludge treatment centre.

E3.37 Not in Use

E3.38-41 Total Cost Analysis

E3.38-46 Not in Use

E3.42-46 Associated Authority Costs

E3.38-46 Not in Use

E3.47-57 Sewerage Data

Unless otherwise noted AVSE and Levenmouth data was provided by the PPP Cos, and all other data is extracted from the project agreements.

E3.47-E3.57

Daldowie - Although the sludge pumping main and associated pumps are all classified as "sewerage" under the Sewerage Scotland Act 1968 it is considered that items E3.47 – E3.57 are for facilities upstream of the treatment process.

E3.47 For Fort William, Inverness, Nigg, Fraserburgh, Lossiemouth, Buckie and Banff/Macduff, the lengths of the pipelines are scaled from drawings and these measurements are added up to provide the total length of sewers.

The Hatton figures were extracted from a presentation by the PPP contractor.

Seafield: Esk valley trunk sewer estimated from drawing EVPS/ITN/04 as 23km.

E3.48 All PPP sewers are deemed to be critical.

E3.49 There are no separate system pumping stations, hence the number of pumping stations is the total of E3.52 plus E3.54.

E3.50 There are no separate system pumping stations, hence the capacity (m3) of pumping stations is the total of E3.53 plus E3.55.

E3.51 At Highland, Moray, Aberdeen and Tay data was provide by the PPP Operator.

Newbridge: data extrapolated from a pro-rata calculated power rating based on a similar sized works. This is reflected in a confidence grade of B4.

E3.52 The following combined pumping stations are included:

Fort William	Blar Mhor, Caol No1, Caol Transfer, Fort William, Caol Spit WWTW
Inverness	Longman, Allanfearn (2)
Hatton	Riverside, KGV, Stannergate, South Balmossie, Westhaven, Westferry, Broughty Ferry Castle, Inchcape, Fort Street, Gray Street
Nigg	Downies, Portlethen Village, Newtonhill Clifftop, Portlethen South, Portlethen North
Fraserburgh	Fraserburgh Inlet
Lossiemouth	Burghead, Cummingston, Hopeman, Duffus Junction, Moycroft (2), Oakenhead WWTW
Buckie	Portgordon West, Portgordon East, Seatown, Cluny, Nook, Cullen East, Portknockie, Findochty, Portessie, Shipyard, Buckie WWTW
Banff/MacDuff	Whitehills, Whitehills Harbour, Inverboyndie, Scotstown, Castlehill Park, Union Road, Bankhead, Craigfauld, Banff MacDuff WWTW
Seafield	Walliford, Marine Esplanade (Seafield Inlet)
Newbridge	Ratho (Newbridge WWTW Inlet)
Levenmouth	Buckhaven, Methil, Leven, Roundall (pumps combined flows during storm conditions. Flows in excess of 600l/s are discharged into Roundall PS and pumped to storm outfall), Levenmouth Inlet

E3.53 Seafield: Capacity of Marine Esplanade PS pumping station unknown to the PPP Co. Used Scottish Water Albert Road PS capacity as assets are identical.

Newbridge: data extrapolated from SEPA consent flow rate based on a similar sized works. A confidence grade of B4 has been allocated to reflect this.

E3.54 The following stormwater pumping stations are included:

Inverness	Longman
Hatton	Riverside, KGV, Stannergate, Westhaven, Broughty Ferry Castle, Inchcape
Nigg	Nigg WWTW
Lossiemouth	Moycroft
Buckie	Portessie
Banff MacDuff	Bankhead

E3.56 & E3.57 The following CSOs are included:

Fort William	Caol No1, Caol Transfer, Caol Spit WWTW (2)
Inverness	Longman, Allanfearn
Hatton	Riverside, KGV, Stannergate, South Balmossie, Westhaven, Broughty Ferry Castle, Inchcape, Panmuirefield (2)
Nigg	Downies, Portlethen Village, Newtonhill Clifftop, Portlethen North, Nigg
Fraserburgh	Fraserburgh Inlet
Lossiemouth	Burghead, Cummingston, Hopeman, Moycroft
Buckie	Portgordon West, Portgordon East, Seatown, Cluny, Nook, Cullen East, Portknockie, Findochty, Portessie, Shipyard
Banff MacDuff	Whitehills, Whitehills Harbour, Inverboyndie, Scotstown, Castlehill Park, Union Road, Bankhead, Craigfauld
Seafield	Walliford, Dalkeith, Hardengreen, Harelaw, Haveral Wood, Mayshade, Middlemills, Newbattle, Newton Grange, Suttislea

Newbridge	Broxburn
Levenmouth	Buckhaven, Methil, Leven, Roundall

E3.58-65 Sludge Treatment and Disposal Data

The quantities reported are the total sludge treated at the sludge treatment facilities including the sludge destroyed through the treatment process. This is in accordance with the methodology used in England & Wales.

The information is based on PPP Company records of sludge disposed to the appropriate route, except Allanfearn where the information comes from Scottish Water operations (North West).

Table E3a Future Data

This table requires providing operating costs for each scheme. As actual data is not available all costs have been extracted from the financial model. Where the financial model does not split costs the following has been assumed:

- Works with a Sludge Centre: 72 % Treatment Costs, 28% Sludge Costs
- All other works: 80% Treatment, 20% Sludge Costs. These sludge costs have been taken forward to the appropriate sludge centre, e.g. Fort William sludge costs appear against Inverness sludge centre.

E3a.1, 8, 16 Estimated Direct Operating Cost

Estimated annual direct operating costs are based on the Concessionaire's financial model adjusted for actual inflation.

Where the model identified Rates and SEPA charges these have been deducted otherwise actual charges were deducted.

No adjustments were made at Daldowie (Rates only), MSI and AVSE as charges are paid by Scottish Water and are not included in the financial model. At Dalmuir Scottish Water pays the charges but amounts are also included in the model, therefore an adjustment to the model costs was made (rates and SEPA charges included in the model are refunded to Scottish Water).

Actual costs are not known and could vary considerably from the financial model. A confidence grade of D6 has therefore been used.

E3a.2, 9, 17 Rates paid by the PPP Contractor

These are based on the rateable value and poundage published on the government website (www.saa.gov.uk). Rates paid by Scottish Water are also included and are based on actual charges for the year (Dalmuir, Daldowie, MSI, AVSE).

Confidence grade for total rates paid for each site is A2, but because rates have to be split to take account of the sewerage, treatment and sludge elements a lower confidence grade has been applied.

	E3a.2	E3a.9	E3a.17	
Site	**N**	**T**	**S**	**Comment**
Fort William	N	B3	N	no sludge centre, sludge cost moved to Inverness
Inverness	N	B3	B3	cost distribution is estimated
Tay	N	B3	B3	cost distribution is estimated, based on the financial model
Nigg	N	B3	B3	cost distribution is estimated, based on the financial model
Persley	N	B3	N	no sludge centre, sludge cost moved to Nigg
Peterhead	N	B3	N	no sludge centre, sludge cost moved to Nigg
Fraserburgh	N	B3	N	no sludge centre, sludge cost moved to Nigg
Lossiemouth	N	B3	B3	cost distribution is estimated, based on the financial model
Buckie	N	B3	N	no sludge centre at works, sludge cost moved to Lossiemouth
Banff MacDuff	N	B3	N	no sludge centre at works, sludge cost moved to Lossiemouth
Seafield	N	B3	B3	cost distribution is estimated, based on the financial model
Newbridge	N	B3	B3	cost distribution is estimated, based on the financial model
East Calder	N	B3	N	no sewerage and no sludge centre at works, sludge cost moved to Newbridge
Blackburn	N	B3	N	no sewerage and no sludge centre at works, sludge cost moved to Newbridge
Whitburn	N	B3	N	no sewerage and no sludge centre at works, sludge cost moved to Newbridge
Levenmouth	N	B3	B3	cost distribution is estimated
Dalmuir	N	B3	N	no sewerage and no sludge centre at works
Daldowie	N	N	A2	sludge treatment only
Meadowhead	N	B3	B3	cost distribution is estimated
Stevenston	N	B3	N	no sewerage and no sludge centre at works, sludge cost moved to Meadowhead
Inverclyde	N	B3	N	no sludge centre at works, sludge cost moved to Meadowhead

E3a.3, 10, 18 SEPA charges paid by the PPP Contractor

These are based on SEPA charges for 03/04 (which were provided by the PPP Cos) increased by 17% (SEPA charges paid by Scottish Water increased by about 17% from 03/04 to 05/06)

Confidence grade for total charges for each site is A2, but because SEPA fees have to be split to take account of the sewerage, treatment and sludge elements the following confidence grades have been assigned:

	E3a.3	E3a.10	E3a.18	
Site	**N**	**T**	**S**	**Comment**
Fort William	A2	A2	N	split provided by PPP Co, no cost against sludge as no sludge centre
Inverness	A2	B3	BX	PPP Co didn't provide split cost for treatment and sludge, no cost allocated to sludge
Tay	A2	B3	BX	PPP Co didn't provide split cost for treatment and sludge, no cost allocated to sludge
Nigg	BX	B3	BX	no split from PPP Co, allocated all cost to treatment
Persley	N	A2	N	no sewerage and no sludge centre at works
Peterhead	N	A2	N	no sewerage and no sludge centre at works
Fraserburgh	BX	B3	N	no sludge centre at works, network cost not known but very small
Lossiemouth	A2	B3	BX	PPP Co didn't provide split cost for treatment and sludge, no cost allocated to sludge
Buckie	A2	A2	N	split provided by PPP Co, no cost against sludge as no sludge centre
Banff MacDuff	A2	A2	N	split provided by PPP Co, no cost against sludge as no sludge centre
Seafield	N	A2	A2	no network cost, treatment + sludge cost provided by PPP Co
Newbridge	N	A2	A2	no network cost, treatment + sludge cost provided by PPP Co
East Calder	N	A2	N	no sewerage and no sludge centre at works
Blackburn	N	A2	N	no sewerage and no sludge centre at works
Whitburn	N	A2	N	no sewerage and no sludge centre at works
Levenmouth	A2	B3	BX	PPP Co didn't provide split cost for treatment and sludge, no cost allocated to sludge
Dalmuir	N	N	N	SEPA fees paid by Scottish Water
Daldowie	N	N	A2	sludge treatment only
Meadowhead	N	N	N	SEPA fees paid by Scottish Water
Stevenston	N	N	N	SEPA fees paid by Scottish Water
Inverclyde	N	N	N	SEPA fees paid by Scottish Water

E3a.4, 11, 19, 23 Total Direct Cost

Confidence grade for Total direct cost is D6 as per E3a.1, 8 and 16 (Estimated direct operating cost) as this is the most significant element of Total direct cost.

E3a.5, 12, 20 Scottish Water General and Support Expenditure

This includes advisors and legal costs, power, rents and insurance etc. and the cost of the Scottish Water PPP department that deals with PPP schemes which have been allocated to projects based on opex. Costs are as per F1.3 adjusted as follows:

F1.3	120.14
Costs of transporting sludge to PFI plants	1.72
Total PFI costs per E3a.24 + E3a.26	**121.86**

Confidence grade for total charges is A1, but because Scottish Water PPP department costs have to be split across all sites and all charges have to be split to take account of the sewerage, treatment and sludge elements the following confidence grades have been assigned:

	E3a.5	E3a.12	E3a.20	
Site	**N**	**T**	**S**	**Comment**
Fort William	BX	B4	N	network cost very small, no cost against sludge as no sludge centre
Inverness	B4	B4	B4	
Tay	B4	B4	B4	
Nigg	B4	B4	B4	
Persley	N	B4	N	no sewerage and no sludge centre at works
Peterhead	N	B4	N	no sewerage and no sludge centre at works
Fraserburgh	BX	B4	N	network cost very small, no cost against sludge as no sludge centre
Lossiemouth	B4	B4	B4	
Buckie	B4	B4	N	no sewerage and no sludge centre at works
Banff MacDuff	B4	B4	N	no sewerage and no sludge centre at works
Seafield	B4	B4	B4	
Newbridge	BX	B4	B4	network cost very small
East Calder	N	B4	N	no sewerage and no sludge centre at works
Blackburn	N	B4	N	no sewerage and no sludge centre at works
Whitburn	N	B4	N	no sewerage and no sludge centre at works
Levenmouth	B4	B4	B4	
Dalmuir	N	B4	N	no sewerage and no sludge centre at works
Daldowie	N	N	B4	sludge treatment only
Meadowhead	N	B4	B4	no sewerage
Stevenston	N	B4	N	no sewerage and no sludge centre at works
Inverclyde	BX	B4	N	network cost very small, no cost against sludge as no sludge centre

E3a.6, 13, 21 Scottish Water SEPA Charges

With the exception of Dalmuir and MSI, all standard SEPA charges are met by the Concessionaire and are included in the tariff rates. At Nigg Scottish Water meet the additional SEPA charges associated with 2 parameters as detailed in the contract. Costs are as per the P&L.

Confidence grade for total charges for each site is A1, but because SEPA fees have to be split to take account of the sewerage, treatment and sludge elements the following confidence grades have been assigned:

	E3a.6	E3a.13	E3a.21	
Site	**N**	**T**	**S**	**Comment**
Fort William	N	N	N	SEPA charges paid by PPP Co
Inverness	N	N	N	SEPA charges paid by PPP Co
Tay	N	N	N	SEPA charges paid by PPP Co
Nigg	N	A2	N	treatment cost only (exotics)
Persley	N	N	N	SEPA charges paid by PPP Co
Peterhead	N	N	N	SEPA charges paid by PPP Co
Fraserburgh	N	N	N	SEPA charges paid by PPP Co
Lossiemouth	A2	N	N	relates to Moycroft
Buckie	N	N	N	SEPA charges paid by PPP Co
Banff MacDuff	N	N	N	SEPA charges paid by PPP Co
Seafield	N	N	N	SEPA charges paid by PPP Co
Newbridge	N	N	N	SEPA charges paid by PPP Co
East Calder	N	N	N	SEPA charges paid by PPP Co
Blackburn	N	N	N	SEPA charges paid by PPP Co
Whitburn	N	N	N	SEPA charges paid by PPP Co
Levenmouth	N	N	N	SEPA charges paid by PPP Co
Dalmuir	N	A2	N	no sewerage and no sludge centre at works
Daldowie	N	N	N	SEPA charges paid by PPP Co
Meadowhead	BX	B3	BX	no split from PPP Co, allocated all cost to Treatment
Stevenston	N	A2	N	no sewerage and no sludge centre at works
Inverclyde	BX	A2	N	no sludge centre at works

E3a.7, 14, 22 Confidence grade for Total sewerage cost, Total sewage treatment cost and Total sludge treatment and disposal cost is D6 as per E3a.1, 8 and 16 (estimated direct operating Cost) as this is the most significant element of the cost.

E3a.15 At all schemes the terminal pumping station costs are met by the Concessionaire and are included in the tariff rates. Accordingly, there is no data.

E3a.24 Confidence grade for total charges is A1, but because Scottish Water PPP department costs have to be split across all sites a confidence grade of B3 has been allocated.

E3a.25 Confidence grade for Total operating cost is D6 as per E3a.23 Total direct cost, as this is the most significant element of Total operating cost.

E3a.26 The total Annual charge is based on the service fees for the year, contingencies and rates (including rebates). Expenditure is taken from the P&L.

Confidence grade for the AVSE schemes is B3 as the charges are based on the total AVSE flows. There is no separate charge for each scheme.

E3a.27 The Public sector capital equivalent values were derived from the base model incorporated in a report to the Transport and Environment Committee on 21 June 2001 adjusted for inflation. At Daldowie the PPP cost was used in the absence of a PSCE value, similarly for Levenmouth and AVSE the values have been taken from the 01/02 WIC return.

E3a.28 The period quoted is the Contract Period as defined in the Contract.

E3a.29 Contract end date is as defined in the Contract.

Table E4 Water Explanatory Factors - Resources and Treatment

General Comments

April 2006 saw the submission of Scottish Water's first Water Resource Plan (WRP06), which lays the foundations for a fully robust plan in 2008. WRP06 provides a comprehensive statement of the available water supplies. In addition with the implementation of the Water Environment (Controlled Activities) (Scotland) Regulations 2005 (CAR), transfer applications for all of Scottish Water's abstractions and impoundments have been submitted to SEPA for authorisation.

As part of the transfer to the CAR regime and in order to fulfil our monitoring obligations under these new regulations, there has been a period of review and further validation of current sources. Scottish Water will be required as part of the new regulations to ensure that abstractions comply with those conditions laid out in the Water Resource Authorisations granted by SEPA and as such, site specific surveys will be carried out at all sites over the next two years in order to further improve knowledge of our raw water assets. By the end of the year 2006/07 those sites with Water Framework Directive drivers will have been surveyed and appropriate monitoring put in place to ensure compliance (WR5: WFD Measurement and Monitoring).

E4.1-12 Source Types

Overall there has been a decrease of 13% in the number of sources from AR05 (from 650 to 568) as shown in the table below:

Changes to the number of sources

AR05 No. of sources	650
Tributaries removed	-26
Incorrect / no longer used	-28
Reductions due to WTW closures 2004-05	-35
Additional due to site audits / new information	+6
Additional due to new WTW 2004-05	+1
AR06 No. of sources	568

These changes are a result of on-going data improvement as described above by the Water Resource Team within the Asset's Strategy and Planning Section. As part of these projects, work has been carried out during the year to improve the interpretation of the definitions in accordance with SEPA. This allows consistent reporting. However in the absence of a complete water supply hierarchy on Ellipse, confidence grade remains at B2.

As a result of the audit work, there are 47 changes of source types. This is mainly in the North West area where we reviewed legacy definitions. However, the overall proportional breakdown of source output produced has not changed significantly.

Where a WTW is served by more than one source type, the output has been allocated to the major source and the minor source output reported as zero. This is due to the fact that currently the raw water sources are generally not metered; however with the implementation of the monitoring programme, confidence in the raw water outputs will be vastly improved over the next two years. Confidence grades for this section of the table have remained at C4 to reflect the overall confidence grade of total distribution input as reported in Table A2.38.

In the section 'Own Source Outputs' the distribution input has been used to calculate the average daily output derived from each source type. This does not take into consideration losses as a result of raw water transmission and during water treatment processes.

Where a WTW was operational for only part of the year, the annual output that was put into supply is included, and the WTW is included in the count of number of works. Since the frequency with which flow meters are read varies (by telemetry or manually - daily, weekly or monthly) the average daily supply has been calculated as the sum of the annual outputs in megalitres divided by 365.

Distribution input has fallen most significantly in the South West area (by 30 Ml/d); Scottish Water Solutions is conducting ongoing leakage detection and repair in this area, concentrated mainly around the Glasgow area.

E4.6 to E4.7: Scottish Water does not have any raw water exports and correspondingly an A1 confidence grade has been entered for this line.

E4.8 to E4.12*:* There are minor changes to the proportion of distribution input reported by source type.

E4.13-16 Peak Demand and Pumping Head

E4.13: The peak demand to average ratio is based on the peak week for the operational area as a whole rather than at each WTW. This methodology is consistent with that used in AR05. The peak week data has been compared for the last 3 years. For 2005/06, the peak week data in each operational area did not exceed that used last year and therefore the following commentary reported in AR05 is still valid:

For three of the operational areas and the overall Scottish Water value, the peak week occurred in 2003/2004 (known to be representative of a dry year). However, the NW area peak week occurred in September 2004. This coincides with the new Loch Calder being fully commissioned and a number of WTW also peaking during this month.

Area	Maximum Weekly Volume (Ml/d)	Distribution Input (Ml/d)	Week Ending	Year when peak occurred	Ratio
NE	453.15	427.82	15/08/2003	AR04	1.059
NW	191.60	180.93	27/09/2004	AR05	1.059
SE	413.89	385.61	30/05/2003	AR04	1.073
SW	1478.61	1395.79	05/03/2004	AR04	1.059
Scottish Water	2455.08	2386.51	15/08/2003	AR04	1.029

The confidence grade remains at C4 to reflect the current distribution input confidence grade as in line A2.38.

E4.14 and E6.14-E6.16 Pumping Head - General Comments

The formula below was used to calculate pumping head:

$$Average\ pumping\ head = \frac{\sum (l_i * wp_i)}{d}$$

Where:
i = each site at which pumping occurs
l_i = annual mean lift at site i (m)
wp_i = volume of water pumped at site i
d = distribution input

Methodology

A number of methods were used in determining the average pumping head, depending upon the data available. Lift and flows were assessed separately. Methodologies used are listed below, in order of accuracy:

1) Lift data extracted from the Works and Asset Management System (WAMS) corporate dataset
2) Continuously recorded or limited flow data for the report year (AR06 Data)
3) Use of data collected for 2004-05 Return (AR05 Data)
4) Estimates calculated for the re-fresh calculation in July 2004 to support SR06
5) Use of data collected for 2003-04 Return (AR04 Data)
6) Extrapolated by pump type (Distribution or Resources & Treatment) in the same Operational Area, using kw bands

Where borehole lift data was unavailable the following assumptions were used to estimate the mean lift across all borehole pumps:

Borehole lift = 25m estimated Borehole depth
10m estimated headloss
15m target level of service
10m estimated difference in elevation
= 60m

The methodology used to calculate the flow and lift data is shown in the Table below.

Methodology Table: Percentage of pumping head by method

	Method Used to Calculate Lift						
Method Used to Calculate Flow	AR06 Lift	Ellipse Lift	AR05 Average Lift	SR06 Average Mean Lift	AR04 Average Mean Lift	Average Lift	Total % of Flow Method Used
AR06 Flow	5.56%	2.90%	2.46%	4.09%	33.20%	20.73%	68.94%
AR05 Pumped Volume	0.02%	0.31%	1.24%	0.00%	2.01%	0.02%	3.60%
SR06 Annual Pumped Volume	0.00%	2.54%	0.33%	0.25%	0.87%	0.00%	3.99%
AR04 Annual Pumped Volume	0.00%	1.30%	0.61%	0.87%	6.22%	0.00%	9.00%
Average Flow Used	0.00%	0.26%	0.00%	0.03%	0.00%	14.18%	14.47%
Total % of Lift Method Used	5.58%	7.31%	4.65%	5.24%	42.29%	34.93%	100.00%

In summary, 68.9% of the total flow volumes were re-estimated for this report year, while 5.6% of the lift data was estimated for this report year.

A single asset list of pumping stations was sourced from the WAMS and is consistent with those reported in Table H.

E4.14: Resource and Treatment Average Water Pumping Head

The resource and treatment average pumping head figure has increased by 2.11m from 21.69m in AR05 to 23.76m for AR06. The following table details the Resources & Treatment pumping head for each area calculated for 2004, 2005 and 2006.

Resources & Treatment Pumping Head Table

	Units	NW	NE	SE	SW
Resources & Treatment					
E4.14: Av. Pumping Head: AR**06**	**m**	**16.18**	**24.43**	**19.76**	**25.63**
E4.14: Av. Pumping Head: **AR05**	m	16.03	26.52	11.46	23.79
E4.14: Av. Pumping Head: AR**04**	m	24.24	31.85	13.13	19.36

Summary of Major Changes

North West
The pumping head figure for the North West has not shown any significant increase on the 2005 value. Measured flow data was available for 22 sites, accounting for 74% of the pumping head value for the area.

North East
The pumped volume of the River Earn Abstraction Pump (which has an average mean lift of 200m) decreased from 7840 Ml/year to 4424 Ml/year.[8] Pumped volume during 2004-05 was higher than normal during the upgrade of Glendevon WTW where Glenfarg was used to compensate for reduced volume at Glendevon. Pumped volumes for 2005-06 are considered to be more typical of average conditions than those for 2003-04 and 2004-05.

South East
Measured figures were available for the Hungry Snout RWP whereas previously its flow had been estimated based on Castle Moffat DI data. The revised methodology has resulted in an increase of 5000 Ml/year pumped volume from the 2004-05 figure and a corresponding increase of 32.1m average mean lift. As it now accounts for 62% of the South East R&T pumping head calculation, these increases have resulted in the pumping head increasing by 72% for the South East.

South West
Flow changes in the South West operational area due to the construction of the new Milngavie WTW and the Katrine Water Project have resulted in an overall increase in pumping head. One of the Milngavie supply reservoirs was taken out of service in early 2006 and to accommodate this, flow had to be redistributed which included Blairlinnans water being pushed further into Glasgow in place of Milngavie WTW water. The Katrine Water Project involves pushing water from Carron Valley WTW further into areas previously supplied by Balmore WTW.

The top three R&T pumps in the South West account for 84% of the R&T pumping head. Measured flow data is available for all three pumps; their combined estimate has increased when compared to AR05.

E4.17-29 Water Treatment Works by Process Type

The works process type is defined in WAMS. Manual checking of the information accuracy was carried out by the DWQR 2006 Return; the data has been updated with minor changes.

[8] Pumped volume from the River Earn to Glenfarg increased during 2003-04 to 11,358 Ml/year due to both dry weather conditions and to Glendevon WTW being upgraded.

The total number of works has decreased from 368 to 333. 41 works have been removed, 6 new works have been added. This change has been most significant in the North West area where a number of smaller works have been closed and the Water Operational Areas are now fed from large regional schemes; 32 WTWs have closed in the NW and 5 have been opened, giving a total of 199 WTWs operation during 2005/06

The confidence grade is C4 to reflect the current distribution input confidence grade as in line A2.38.

E4.24-E4.29: The proportional breakdown of distribution input between the process types has not changed significantly.

E4.30-39 Water Treatment Works by Size Band

The peak hydraulic capacity used to place each works in the size bands was determined by the maximum output recorded which was taken from an extract of Ellipse. The maximum output is determined by the actual maximum hydraulic throughput for individual works.

The total number of WTWs <=1Ml/d has fallen from 235 to 197. 27 of the WTWs shut in the North West were of size band 0; these have been mained out to larger regional schemes to improve efficiency and/or water quality.

E4.41-46 Bulk Import and Exports

E4.41-E4.42 - Both zero as there are no bulk imports or exports to or from other agencies.

E4.43-E4.44 – Both imports and exports are entered as positive values to ensure that the net change in volume (E4.45) is equal to zero.

E4.47-58 Costs

Some extrapolation was required in order to allocate costs from ABM grouped activities to individual assets. Consequently, the costs captured in the general ledger have been charged to works and the remaining costs captured by ABM have been allocated to works based on design capacity for water assets. The confidence grades in table E5 have been reduced to reflect this. Confidence grades are lower than those in E1b to reflect the levels of allocation that were required.

This method should allow more detailed analysis in 2006/07.

The total water resources and treatment costs in Table E4 have been aligned with operational size band data provided by Scottish Water's Asset Operations team.

Analysis of water resources and treatment costs by size band:-

	NW	NE	SE	SW	TOTAL
Small treatment works (£m):-					
2005/06	8.436	1.687	3.438	4.760	18.320
2004/05	8.469	3.288	3.471	6.246	21.474
	0.033	1.601	**0.033**	1.486	3.153
Small treatment works (nr):-					
2005/06	197	29	38	41	305
2004/05	224	33	41	44	342
	27	**4**	**3**	**3**	**37**
Large treatment works (£m):-					
2005/06	1.581	5.973	3.168	9.572	20.294
2004/05	1.175	4.711	3.065	9.277	18.228
	-0.406	-1.262	**-0.103**	-0.295	2.066
Large treatment works (nr):-					
2005/06	2	9	6	11	28
2004/05	2	7	6	11	26
	0	**-2**	**0**	**0**	**-2**
Total (£m):-					
2005/06	10.018	7.660	6.606	14.332	38.614
2004/05	9.644	7.999	6.536	15.523	39.702
	-0.374	0.339	**-0.070**	1.191	1.087
Total (nr):-					
2005/06	199	38	44	52	333
2004/05	226	40	47	55	368
	27	**2**	**3**	**3**	**35**

Total spend on small works reduced by £3.2m or 14.7% from 2004/05. The proportion of costs allocated to small works reduced from 54% in 2004/05 to 47% in 2005/06 reflecting improved cost capture in the general ledger and the inclusion of Perth and Forehill as large works.

An explanation for variances in large treatment works is provided at E5 below.

Table E5 Large Water Treatment Works Information Database

General Comments

- All data is for the financial year 1 April 2005 to 31 March 2006.
- Asset information has been taken the Works and Asset Management System (WAMS). Water quality data were taken from the Laboratory Information Management System (LIMS), with the exception of line E5.14. The data for line E5.14 was taken from the 2005 risk assessments carried out in accordance with the Cryptosporidium (Scottish Water) Directions 2003.
- Two additional sites have been added to table E5 in 2005/06, Forehill and Perth Gowans Terrace. Forehill has been identified as large treatment works following data cleansing which confirmed the design capacity to be greater than 25Ml/d. Perth Gowans Terrace WTW has had major investment over the past 3-4 years. This was formally handed over in 2005/06. The investment has allowed the works to take in smaller works areas surrounding Perth, such as Dunkeld which has now been closed.
- The raw water data is based on the limited operational baseline sampling programme taken at the water treatment works.
- Iron, manganese, aluminium and THM sampling is not a statutory requirement at water treatment works' finals but is a statutory requirement at the consumers' taps. The data are based on limited operational baseline sampling taken at the water treatment works. Therefore 0% samples exceeding threshold value may indicate a lack of samples and as such is not necessarily representative of the final water quality.
- The final water coliform and turbidity data are based on statutory sampling taken at the water treatment works.

E5.0-4 Works size

Confidence grades vary this year from AR05 due to a change in methodology in the application of confidence grades following a meter audit carried out by a consultancy during AR06 period.

Table E5 confidence grades were applied according to the definitions[9] for Table A2 DI confidence grade which state, that when applying reliability band DI must have been "estimated from water-into-supply meters which record X% of the volume of distribution input".

X	Reliability Band
>95%	A
>90%	B
>85%	C
0-80%	D

These reliability bands have been assigned to the top 28 large works based on the percentage actual weekly readings versus estimated/duplicated readings.

The accuracy band has been estimated by stepping down the AR06 band by 1 from the AR05 band if the age of the meter has gone from 5-6, 10-11, 15-16 or 20-21 years old.

Variance in confidence grades in this section reflect the different levels of data currently held on each of the works, in particular, the varying accuracy of bulk flow measurement devices.

E5.1 - The average daily flow reported here is consistent with distribution input figures reported in Table E4.

[9] Document provided by WIC: SECTION A DEFINITIONS v9 page 30

E5.2 – This figure is based on daily average of the peak seven day period as per the definition in line E4.13.

E5.3 – Works Capacity has changed at certain sites due to a data cleansing exercise.

E5.4 – Headroom in this table is arrived at via a simple calculated field subtracting the Peak Day Demand figure from the works capacity.

E5.5-14 Raw Water Source

E5.6-5.9 - See general comments

E 5.10-11 - Parameter 'a' is iron. This is considered a problem at some works. The units for parameter 'a' are measured in µgFe/l. Due to Excel cell protection it is not possible to add the units directly to the table E5 as required in the Annual Return Information Requirements.

E 5.12-13 - Parameter 'b' is manganese. This is considered a problem at some works. The units for parameter 'b' are µgMn/l. Due to Excel cell protection it is not possible to add the units directly to the table E5 as required in the Annual Return Information Requirements.

E5.14 - This is the overall works risk score derived according to the procedures laid down in the Cryptosporidium (Scottish Water) Directions 2003. The score given includes factors such as the treatment processes in place as well as the condition of the catchment and raw water source. High risk is a risk assessment score of greater than 100, medium risk is a score between 100 and 50 and low risk is a score of less than 50. The risk score given for some water treatment works will differ from the last year's score because elements used in the risk score calculation have changed e.g. populations have changed or new treatment has come on line.

Three of the 26 sites included in the 2004 data have changed score:

- Balmore – increased from low to med due to the raw water aqueducts being reported as 'susceptible to contamination'.
- Blairlinnans – increased from low to med due to an increase in the catchment score element of the risk score calculation.
- Glenfarg – increase from low to med due to occasional DAF pretreatment stage bypass for operational reasons.

E5.15-20 Compliance and Performance

The compliance value in line E5.15 is the PCV of 0 coliforms/ 100ml. The threshold value in lines E5.16 to E5.20 is the regulatory PCV for that parameter.

E5.21-25 Processes

This information is extracted from the dataset used to populate Table E4.

E5.26-30 Miscellaneous Data

There has been no major investment at any of the water treatment works with a capacity of greater than 25ML/d. As a result, the information contained in the miscellaneous data section of the table has not changed from last year. Data was provided from the Asset Planners for the two additional large WTWs.

E5.31-42 Works Cost

As explained in section E4, costs have been allocated from ABM to individual works using the costs directly charged to each asset in the financial ledger and then in proportion to the design capacity of each works for any remaining costs that were not captured at asset level. Confidence grades are lower than those in E1b to reflect the levels of allocation that were required.

Analysis of costs for large water treatment works:-

	2005/06 £m	2004/05 £m	Variance £m
Badentinan	0.802	0.636	0.166
Inverness	0.780	0.539	0.241
NW Total	**1.581**	**1.175**	**0.406**
Clatto	0.719	0.451	0.268
Forehill	0.397	0.000	0.397
Glendevon	0.819	0.642	0.177
Glenfarg	0.945	0.955	-0.010
Invercannie	0.917	0.603	0.314
Lintrathen	0.375	0.522	-0.147
Mannofield	0.762	0.754	0.008
Perth Gowans Terrace	0.398	0.000	0.398
Turriff	0.641	0.786	-0.145
NE Total	**5.973**	**4.713**	**1.260**
Alnwickhill	0.451	0.199	0.252
Castle Moffat	0.614	0.850	-0.236
Fairmilehead	0.797	0.464	0.333
Marchbank	0.478	0.459	0.019
Pateshill	0.395	0.520	-0.125
Rosebery	0.433	0.574	-0.141
SE Total	**3.168**	**3.066**	**0.102**
Balmore	2.143	2.005	0.138
Blairlinnans	0.767	0.481	0.286
Bradan	0.976	1.341	-0.365
Camphill	0.686	0.563	0.123
Camps	0.264	0.311	-0.047
Carron Valley	0.941	1.048	-0.107
Daer	0.727	0.996	-0.269
Milngavie	1.508	0.814	0.694
Muirdykes	0.561	0.607	-0.046
Overton Greenock	0.508	0.644	-0.136
Turret	0.490	0.464	0.026
SW Total	**9.572**	**9.274**	**0.298**
Total Large WTW's	**20.294**	**18.228**	**2.066**

The number of large works has increased to 28 from 26 in 2004/05. Costs increased by £2.1m or 11.3% year-on-year. The underlying cost increase, excluding the two new works at Forehill & Perth, was £1.3m or 6.9%.

The increased direct cost capture at asset level within the general ledger has allowed improved visibility of costs. This has resulted in some movements in costs (both favorable and adverse) against individual assets in the year, but this has resulted in a more robust assessment of costs in 2005/06.

E5.41 – The cost of treated water pumping is included within water distribution.

E5.42 – The costs of treating and transporting water sludge have been derived from ABM activity costings.

Table E6 Water Explanatory Factors – Distribution

E6.0-7 Area data

E6.0 - Scottish Water is split into four operational areas (North West, North East, South East and South West).

The North West operational area has a very low population density due in part to the number of sparsely populated islands it serves and is rural in nature. The South West has the highest population density of the four operational areas and is more urban in nature but is still not as densely populated as the average company in England and Wales. The South East and North East are predominantly rural areas.

E6.1: Annual Average Resident Connected Population

The operational area split of population connected to the water distribution system is built up from population figures provided by the unitary authorities and projected GRO population estimates. Three unitary authority areas (Argyll & Bute, Falkirk and Moray) overlap Scottish Water operational area boundaries. For these areas, OS address points were overlaid across the unitary authority boundaries and operational area boundaries to assign address points to an operational area. Populations were then assigned to operational areas based on the split of address points**.**

E6.2: Total Connected Properties

The methodology for assigning domestic properties to operational areas follows the same procedure as for population outlined above. The number of non-domestic measured and unmeasured non domestic properties has been sourced from Scottish Water's billing system and can be directly allocated to an operational area. The confidence grade reported by operational area is the same as that reported at Scottish Water level.

There is slight difference (0.08%) between the total and what can be allocated, using postcodes, to the operational areas. This has been resolved through proportional adjustment of the operational area totals.

E6.3: Volume of Water Delivered to Households

Volume of water delivered to households is the sum of lines A2.1 and A2.5. This methodology is detailed in the commentary for Table A2. There is a slight rounding error when comparing the A2 Tables and Table E6. This is due to Table E6 being reported to 2 decimal places.

The confidence grade at the operational area level is lower than that reported at the Scottish Water level as a number of components of water delivered calculation are Scottish Water specific and not area specific. In particular the per capita consumption figure used is an all-Scotland figure, taken from the Domestic Water Consumption Study 1999. Therefore the confidence grade remains at C4. Further commentary is provided in Table A2.1 Water Volumes.

E6.4: Volume of Water Delivered to Non-Households

All measured and unmeasured non-domestic data have been sourced from Scottish Water's billing system. The data has been spatially referenced to postcode level by mapping the corporate address point file to the addresses held within Hi-Affinity. Postcode boundaries together with Water Operational Area boundaries taken from the corporate GIS enabled the derivation of the number and associated water volumes delivered to non-domestic properties. This is consistent with lines A2.9-A2.16 and A2.22 to A2.24.

The 2004/05 volumes for unmeasured non-domestic customers were based on 37.3 m3 per £1000 of water rateable value and sourced from Hi-Affinity. These figures were adjusted to include supply pipe leakage for unmeasured customers. A confidence grade of B2 was allocated to the information held in the customer billing systems.

E6.5 Area of the Operational Areas

This is the total geographical area within each of Scottish Water's four operational areas, as calculated on the corporate GIS. These boundaries are unchanged since the previous submission.

E6.7 Number of Supply Zones

The drinking water regulations (The Water Supply (Water Quality) (Scotland) Regulations 2001) which came into force at the end of 2003 allow an area designated for the purpose of the regulations to cover a maximum population of 100,000 (formerly 50,000) and in which all the premises are supplied for domestic purposes from the same water source or combination of water sources.

This data was extracted from Scottish Water's GIS.

E6.8-13 Water Mains Data

E6.8 & E6.10 Water Main data by Operational Area

The total length of main and the length of main > 300mm are as recorded on the Scottish Water's corporate GIS.

Water mains are allocated to operating areas by Water Supply Zones using GIS.

E6.9 Total Length of Unlined Iron Mains

This is the total length of unlined iron main (cast, spun and ductile) as recorded on Scottish Water's corporate GIS. The decrease in unlined iron mains length is due to asset improvement and also better information.

E6.11 Water Mains Bursts

The base data for bursts on water mains is taken from two sources; the Scottish Water Work and Asset Management System (WAMS) and the Scottish Water Solutions Proactive Leakage Register. Job codes reflecting repairs to water mains were abstracted from both

data sets and cleansed to ensure no rechargeable (e.g. utility strikes) or communication/customer service pipe repairs were included. The proportion of bursts by operating area is based on polygon analysis.

The reduction in bursts reported is principally due to the capital investment in water mains infrastructure which has been targeted to reduce the number of mains bursts.

E6.12 Total Leakage

At present Scottish Water does not have a sufficient number of DMAs set up in the distribution system to allow reliable estimates of total leakage to be made from night flow measurements, as specified in the WICS reporting requirements. As such, this line has been calculated as described in Table A2.

All other aspects of the water balance are allocated to each operational area. The residual distribution input in each area is leakage (in accordance with the Integrated Flow Method; see commentary for table A2).

E6.13 Properties Reported for Low Pressure

Data reported in this line originates in the calculations behind Table B2. Data from last year's WIC return has been updated based on the following information:

- Information from Level 1 DMA reports being produced as part of the Q&S2 Capital Investment Programme;
- Information provided by Asset planners;
- Data from the Corporate Low Pressure Register pilot test;
- Q&S2 Capital Investment Projects.

E6.14-16 Pumping Stations

The number of pumping stations and service reservoirs has been sourced from the WAMS. See E4.14 and E6.14-E6.16 - General Comments above.

E6.14 - The confidence grade of this line is B2 due to the pumps now being held within a corporate dataset. There has been some movement of pumps between Resources and Treatment and Distribution categories. This is a reflection of data improvements carried out over the last three years.

E6.15 - The total pumping capacity has been calculated for the operational pumping stations.

The methods used in determining the distribution pumping capacity in M3/d are listed below in order of accuracy:

1. Taken from WAMS corporate system
2. Use of historical 2005 data
3. Use of historical 2004 data
4. Estimations based on average of similar pumps using kw bands in each operational area

The confidence grade has remained at C4 due to the considerable use of extrapolation.

E6.15a - Data from the WAMS has been used to provide total KW capacity for pumping stations. Refer to Table H commentary for further methodology.

E6.16 - The methodology used to calculate the average distribution pumping head is detailed under E4.14 section as a global approach has been applied to all pumps.

The distribution average pumping head has increased from 34.58m to 38.39m. The following table details the average pumping head for each area calculated for 2004, 2005 and 2006.

Distribution Pumping Head Results

	Units	NW	NE	SE	SW
Distribution					
E6.16: Av. Pumping Head – 2006	**m**	**22.99**	**53.05**	**3.24**	**45.51**
E6.16: Av. Pumping Head – 2005	**m**	**23.28**	**57.49**	**3.29**	**37.76**
E6.16: Av. Pumping Head – 2004	**m**	**14.24**	**35.05**	**2.99**	**37.29**

Summary of Major Changes

North West
No major changes to the NW area.

North East
Measured flow data was available for 9 sites in the North East, accounting for 40% of the pumping head calculation which accounts for the decrease in average pumping head in 2005-06.

South East Area:
No major changes to the SE area.

South West:
Telemetry data for flow and pressure was available for Buchley Pumping Station whereas in AR05 an unconfirmed flow figure was used. As a result, Buchley Pumping Station flow figures for AR06 are a factor of 10 greater than those for AR05.

While there has been no net change in the number of pumping stations in the South West area, the three sites that have been added have higher kW bandings than the three sites that have been removed.

These 2 factors have resulted in the average pumping head increasing from the AR05 value.

Confidence Grades

Confidence grades remain at C4 with the exception of the South West Area. The higher accuracy of band 3 has been awarded to this area due to better information used from continuously logged flow and pressure data for priority pumps.

E6.17-20 Service Reservoirs & Water Towers

The number of service reservoirs has decreased from 1656 to 1593 (including Water Towers) accompanied by a decrease in total capacity from 4200 to 4112 Ml. All data has been sourced from the corporate Asset Inventory.

The confidence grades for the number of service reservoirs and water towers have been maintained at a B2.

The confidence grade of E6.18 (Total capacity of service reservoirs) in the North West operational area is C3. Although the data are sourced from a corporate system (Ellipse) approx 21% of design capacities in this area have been extrapolated based on information held on other service reservoirs. Extrapolation in other areas was used to a far lesser extent. The confidence grade of B3 differs from that provided in the H tables since less extrapolation was needed for operational sites.

The confidence grade of E6.20 (Total capacity of water towers) is B3. Data are largely sourced from the corporate system (Ellipse) however limited extrapolation was required at some sites where capacities are unknown.

Table E7 Wastewater Explanatory Factors – Sewerage

E7.0-7 Area Data

E7.1 The distribution of the resident connected population is consistent with the overall population figures reported in other tables of the Annual Return. The distribution involved allocating population occupancy rates to address point counts, which allowed accurate distribution of properties and population to the wastewater boundaries. The population has decreased due to a decrease in the overall population figure. The Scottish Water corporate database of non domestic properties was again used to obtain a more accurate count of domestic properties.

E7.2 The distribution of the tourist population, as last year, has been made using the Yellow Point Business directory, a geo-coded directory covering Scotland. The classification of business types was filtered to those which would attract the tourist population and this sample set used to distribute the population based upon average bedspaces and occupancy. The confidence (C4) in these figures reflects the absence of a Scottish Water corporate dataset for tourism, the figures being based on information from Visit Scotland.

E7.3 The Volume of Sewage collected has been calculated as the flow which arrives in a Scottish Water sewer (of any type) from any source e.g. rainfall, infiltration, domestic use, industrial use, tidal flows and connected watercourses. The approach used is the same as that in AR05. The approach has been applied consistently across Scotland and uses data sets for rainfall, connected properties and sewered areas consistent with the wastewater element of the Annual Return.

The flow has been calculated in two parts, the dry weather flow and the storm flow.

Dry Weather Flow : A factor has been established which relates the number of connected properties to the amount of sewer flow in periods without rainfall. To establish this figure a number of actual recordings of flows were analysed with a known connected property count to establish a range of flow per connected property factors. These factors were averaged and applied to all sewered areas to establish a total dry weather flow contribution per sewered area.

Storm Flow : The storm flow element was calculated by using existing sewer models to establish a relationship between rainfall depth, area of the sewered area and the amount of run-off generated. A selection of models was used and an average value of run-off per millimetre rainfall per hectare of sewered area was established. This was then applied to each sewered area to establish a total storm flow contribution per sewered area.

The total sewage collected was calculated (dry weather plus storm flows) for each sewered area and a total for each operational Area calculated.

This figure includes all flows which are collected by the wastewater network but does not necessarily relate to the flows which arrive at treatment sites as some flows will be lost to overflows and other flows collected by storm sewers will be discharged without treatment.

A low confidence grade is attached to this line to reflect the limited sample set which is used to derive the relationships.

E7.4 The total connected properties have been assessed using a consistent database used throughout the Annual Return. The assessment of connected properties has been made by assigning the properties from the Ordnance Survey Address Point database as connected, if they fall within a sewered area boundary. This summary of the numbers within each operational area is made by summing the connected properties in each sewered area according to which operational area they are within. This method relies on the sewered areas to determine connectivity. These boundaries require to be updated to reflect new development on the periphery of the networks and in some areas are missing. The degree to which this undercounts the connected properties is off-set to some extent by the fact that not all properties within a sewered area will be connected to the sewerage network (served by private septic tanks for example). The net result of this is an undercount of the connected properties but the extent of this is small and is therefore reflected in the assigned confidence grade.

E7.5 The figures remain unchanged from last year as no alteration of the Operational Area boundaries has taken place.

The confidence grade of A1 reflects the fact the boundaries were taken from the coporate GIS.

E7.6 A number of minor alterations to some of the sewered area boundaries were undertaken this year to gain a better count of connected properties. However, it remains the case that further improvement is required to improve the assessment of connected properties and to reflect the addition of developments on the periphery of the sewerage networks and to address sewered areas which are currently missing from a number of small networks.

E7.7 As with the AR05 Return, figures for Annual Precipitation have been sourced from the Centre for Ecology and Hydrology (CEH) in their publications Hydrological Summary for the United Kingdom. The data was transferred from the CEH reporting boundaries to Scottish Water's sewered areas and averaged across each operational area. The CEH data is based upon raingauge data collected by the Met Office. The Confidence Grade assigned this year reflects the lack of a Scottish Water corporate data source (an external source is used) and the method by which the external data was applied to the individual sewered areas in each operational area. Comparison with actual, detailed recordings of rainfall is a possible future improvement in this data.

E7.8-14 Sewerage Data

General Statement

The length of sewers reported in the following lines has the same base source of data, the asset database used for the production of Table H4. This data has been compiled from an extract of sewerage network from the corporate GIS system augmented by information from completed Drainage Area Studies which has not yet been updated in GIS. A number of queries on the data set were run to remove sewer lengths such as “abandoned”, “isolated”, “planned”, “proposed” and “unknown status”. Sewer lengths associated with Private Finance Initiative projects were also removed. An estimate has been included for the inclusion of new housing and industrial developments which as yet have not been included in GIS and therefore not counted in the total sewer length. This backlog extends prior to the current report year. An allowance has also been made according to data recorded by Developer Services where the length of new sewer adopted this year has been added.

E7.8 The total length of sewer has been queried from the same asset database as that used for the production of Table H Asset Inventory and described above. The total sewer length increased this year as a result of an update to the estimated number of, and average length of, lateral sewers, an additional estimate of the length of sewer in developments which have not yet been entered into the corporate GIS system and are therefore not part of the sewer

length extracted to form the main data for the sewer assets and from the length of new sewer recorded by Developer Services.

E7.9 The average length of lateral sewers has been calculated by house type from unit length adjusted by proximity analysis. This has been applied to the count of connected address points (consistent with the Return address point datasets) which produced a total length of lateral of 15,935km, an increase on last years figure of 15,821km. The C4 confidence grade applied to this line reflects the lack of a corporate system for sewer laterals and the assumptions made in calculating the length of lateral sewers.

E7.10 The length of combined sewers has been queried from the same asset database as that used for the production of Table H Asset Inventory and described above. The confidence grade B3 is consistent with that applied to the asset inventory data in Table H4.

E7.11 The length of separate storm sewers has been queried from the same asset database as that used for the production of Table H Asset Inventory and described above. The confidence grade B3 is consistent with that applied to the asset inventory data in Table H4.

E7.12 Length of sewer > 1000mm diameter has been queried from the same asset database as that used for the production of Table H Asset Inventory and described above. The confidence grade B3 is consistent with that applied to the asset inventory data in Table H4.

E7.13 The critical sewer length has again been assessed this year using an enhanced version of the AR05 methodology. The Sewer Rehabilitation Manual (GIS based method) has been adopted where the sewer depth, material, usage & size in combination with the sewers proximity to geographic features is used to allocate criticality in terms of relative cost consequences covering traffic disruption and engineering difficulties. The process therefore makes an assessment of every sewer in the network based upon these factors and allocates a criticality category A, B (Critical Sewers) or C (non critical).

To allow this type of assessment to be undertaken the data for the key data fields of each sewer were put through a data in-fill process to improve data coverage overall. A default value has been used where insufficient data existed to make a reasonable in-fill attempt.

Criticality was assessed using the pipe characteristics as a first pass. This was followed by an assessment based upon the pipes proximity to above ground features which would increase engineering costs or cause traffic disruption. These features included motorways, main roads, watercourses, sewers under buildings, sensitive waters and railways. Using a selection of proximity distances for each type of above ground feature the sewer length within these distances was allocated a criticality category and summed to produce a total critical sewer length.

It is recognised that this approach, although following the SRM industry standard, has some limitations in that the data infill of the sewerage data could be improved, the available data for above ground features was limited in its applicability and for some above ground features no data was available and therefore not accounted for in the assessment.

The total length of critical sewer has increased slightly from last year to a figure of 10,821km, or 28% of the sewer length (not including the length of lateral sewer). This is primarily due to the increased datasets used to calculate the critical sewer length.

The confidence grade has been reassessed (A4 to B3) to take account of the fact that the data is worked on outside of a corporate system.

E7.14 The total number of sewer collapses across Scotland has decreased (by 10%) this report year. A Confidence Grade of B4 has been assigned to these figures which reflects the use of the Scottish Water corporate databases (Promise and WAMS) but also indicates that

there are improvements required to the accuracy of the data recorded and reported from the system.

E7.15-23 Pumping Stations

General Statement

The information gathered for wastewater pumping stations for the 2005/06 Annual Return has been based upon Scottish Water's Works and Asset Management System (WAMS) Asset Inventory, which contains the corporately managed list of all pumping station installations. The asset inventory of pumping stations has been augmented this year with additional data on capacity, head, power, designation and function from a number of differing sources. These sources include databases, spreadsheets, paper information, Drainage Area Studies and other reports from all areas of Scottish Water.

The figures used for these lines are consistent with the corporate asset inventory. The asset inventory has been improved and duplicates referred to in last year's commentary have been identified and removed. This is not to say that we are complacent about the accuracy of the asset inventory and further improvements will be carried out. There also remains a large amount of historical data, which requires auditing and updating to allow generation of values for current reporting periods.

It is the intention to retain this information, improve it and to augment further the data with new information through further data collection exercises and actual site testing.

This year an exercise was undertaken to improve the data associated with the larger pumping installations. The top 50 sites were identified by power rating, whereby a request for current wastewater pumping station data was made to all persons in Scottish Water who have responsibility for operating or maintaining wastewater pumping stations. This process allowed the generation of more accurate data for the larger pumping stations, thus improving the overall quality and volume of information. In the commentary below this exercise is referred to as the "Top 50."

In addition, a list of sites where no record of the "type" is held was circulated to Operations Team Leaders. This generated more accurate data across the range of sizes and types.

As with last year's return all PPP pumping stations have been removed from the asset inventory and subsequently from the data contained in the Table E submission.

During the process of generating the values to populate the relevant lines in Table E it was noted that there was no specific line whereby foul only pumping stations are detailed. Scottish Water wide there is approximately 35% foul only pumping stations compared to 2% stormwater, which are reported separately in Lines E7.20 and E7.21.

There are two matters of extrapolation arising from last year's audit. Firstly, where static head only is available, an assumption is made that the total head ie including headloss due to friction, is equal to the static head plus 50%. A capital scheme to verify this assumption is in preparation however, results are not ready for this year's return.

Secondly, where no other data is available, it has been assumed that combined and stormwater pumping stations operate for half the year. An examination was made of such telemetry records as are held by Scottish Water and an average close to 50% was noted. However, the number of pumping stations where this information is available is so small and the variation in 'hours run' so large that the figure is not considered to be statistically reliable.

E7.15 - The figure for the overall total number of wastewater pumping stations has increased slightly from last year's Return. This is primarily due to new pumping stations coming on-line

but is partially balanced by the removal of duplicate pumping stations in the North East. The data obtained from the asset inventory has been assigned to one of the four operational areas and includes all operational pumping stations. The overall figure may be slightly low as a number of minor pumping stations constructed and adopted, as part of new developments may not yet be present in the inventory. This uncounted number is considered to be low and will be included when improvements to GIS and inventory data are undertaken. Last year's return was submitted with a confidence grade of A3. The reporter's comments on the submission included a recommendation that this be amended to B3 and this has been carried forward to this year's submission.

E7.16 - The 2005/06 return value for "Total capacity of pumping stations (m^3/d)" was produced using pump information collated from several sources. Scottish Water's WAMS data was utilised as the base pumping station information and the capacity fields were populated with additional data obtained from the "Top 50" investigation. SW personnel have also added limited additional information to WAMS throughout the year from databases, spreadsheets, paper information, Drainage Area Studies and other Scottish Water reports from within their areas.

On collating this information 21% of pumping stations were found to have a known capacity value and the remaining 79% have been extrapolated using average values generated from sample data. These average values were representative of the pumping station type, but also of the associated power banding, based on the pumping installation size. This extrapolation percentage is the same as last year's value but the quality of data is regarded as being higher.

Whilst the exercise of targeting the "Top 50" pumping stations has improved the data associated with a small percentage of the sites, there remains a large amount of uncertainty in the other historical values within the asset inventory, gathered in previous collection exercises. It is expected that many of the figures provided are the individual pump capacity rather than the required total capacity of the installation and that the capacities could be the design capacity and not an accurate reflection of the actual pumping station performance.

E7.16a - The 2005/06 return value for "Total capacity of pumping stations (kW)" was produced using pump information obtained from Scottish Water's WAMS Database. 82% of pumping stations have a known capacity value and the remaining 18% have been extrapolated using an average value generated from the sample. This increase of 2% from 80% (when compared to AR05 inventory) last year is primarily due to data improvement during the past year. The total values entered in Table E7 this year are similar to last year's submission but two individual Area figures require comment. In the North East, a combination of data cleansing and removal of duplicates has resulted in a substantial drop in recorded capacity. In the South East the new pumping stations which have come on stream are at the larger end of the scale leading to an increase in capacity larger than would be expected from the increase in the number of pumping stations.

E7.17 - The 2005/06 return value for "average pumping head" was produced using historical & current pump information collated from several sources including Drainage Area Studies, sewerage models, paper records of pumping installations and operational knowledge. The WAMS Database (asset inventory) was utilised as the base pumping station directory and the components of pumping head (annual pumped volume (m^3/d) and annual mean lift (m)) were populated. 16% of pumping stations have a known head value, which is slightly higher than the 12% from last year. This overall value varies considerably across the four operational areas (NE – 26%, NW – 9%, SE – 19% and SW – 10%). The confidence level in the pumping head figure is low to reflect the absence of available data and the small sample of quality data across the wastewater network. The sample figures that have been obtained are improved, but the sample size remains small, which does not allow an effective extrapolation. The values entered in Table E7 are those which have been generated from using the available data in the individual operational areas.

In comparison with last year's figure the average pumping head values have varied only slightly across the operational areas with the overall value of 15m remaining unchanged from last year. Confidence in this year's value is higher than last, although the size of the sample set and uncertainties over the historical data results in a low confidence grade.

E7.18 - The 2005/06 return values for "Total number of combined pumping stations" was produced using pump information type collated from the Scottish Water's WAMS Database. 96% of pumping station types are known, with the remaining 4% extrapolated from the sample data, proportionally over the four operational areas. As last year, 63% of the sample pumping stations Scottish Water wide are combined.

E7.19 - The 2005/06 return values for "Total capacity of combined pumping stations" was produced using pump information type and capacities held within the Scottish Water's WAMS Database. 21% of pumping stations were found to have a known capacity value and the remaining 79% have been extrapolated as discussed in Line E7.16. With the additional data obtained from the "Top 50" investigation the capacity value entered in the table has risen. For this line, only combined pumping stations have been considered.

E7.20 - The 2005/06 return values for "Total number of stormwater pumping stations" was produced using pump information type collated from the Scottish Water's WAMS Database. 96% of pumping station types are known, with the remaining 4% extrapolated from the sample data, proportionally over the four operational areas. As last year 2% of the sample pumping stations, Scottish Water wide, are stormwater and this is mirrored in the final numbers, although not through the four operational areas. The increase in the number of stormwater pumping stations in the South West from 2 to 8 is attributable to data cleansing. In last year's return six pumping stations were described as 'surface water' and hence excluded from the stormwater total. This has been corrected for this year's return.

E7.21 – The 2005/06 return values for "Total capacity of stormwater pumping stations" was produced using pump information type and capacities held within the Scottish Water's WAMS Database. 21% of pumping stations were found to have a known capacity value and the remaining 79% have been extrapolated as discussed in Line E7.16. With the additional data obtained the "Top 50" investigation the capacity value entered in the table has risen. As a result of the identification of additional stormwater pumping stations in the South West referred to above, capacity in the South west has also increased. For this line, only stormwater pumping stations have been considered.

E7.22 The number of overflows has decreased slightly this year to 3900. A net total of 125 CSOs have been removed from the Register from AR05 due to the updating of the ID Register with information from Drainage Area Studies and ongoing data cleansing to remove any duplicate records. Information improvements are ongoing with Drainage Area Studies completed throughout the report year.

Emergency overflows and overflows at WwTW were excluded in accordance with the line definition. Although data has improved following migration to the new CSO Corporate Satellite Application and ongoing Drainage Area Studies and information improvements, there remain records from legacy asset databases that do not have the backup documentation required for a Reliability Band "A" or an Accuracy Band "1".

E7.23 The number of overflows which are equipped with a screen has increased over last year's figure through the information gathered from Drainage Area Studies and new screens being installed during the Q&SII investment programme. Although data has improved from last year following migration to the new CSO Corporate Satellite Application, an estimation of the number of screens in areas where Drainage Area Studies have not been completed still has to be made as the data pertaining to screens is often unknown. As a result, the confidence remains B4.

Table E8 Wastewater Explanatory Factors - Sewage Treatment Works

General Comments

The methodology used this year for determining loads is broadly similar to that used last year. A theoretical figure has been derived, being the sum of the following components:

Domestic resident
Domestic non-resident
Non-domestic
Trade effluent
Public septic tank load
Private septic tank load
Other tankered load (including other WWTW and WTW sludges)
WWTW sludges discharged to sewers
Sludge return liquors (derived from imported sludges)

In line with the Reporter's recommendation, imported sludge loads are not included where they are fed directly to a sludge treatment centre rather than to the sewage treatment inlet. To take account of the impact of these sludges, the element of sludge return liquors that can be attributed to them has been included.

The asset list on which the information in this table is based is held in the corporate Ellipse system. A year-end download was taken from this system, and aligned with the asset list used to compile Table H

In 7 cases, one effluent stream is treated by two independent operational works (e.g. an inlet works and a secondary treatment works) operating in parallel. In these cases, only the works providing the higher treatment level is included in the number of works to avoid double counting of the effluent stream. However all the works are reported in Table H.

The list is based on those sites that were operational at the end of the reporting year, and includes only non-PPP sites. Where treatment works have been decommissioned and replaced during the year, only the new works have been reported, again to avoid double counting of the load.

The components of load have been determined as follows:

Resident and non-resident domestic
The population figures have been taken from those used to complete lines E7.1 and E7.2, which were allocated to individual sewered areas (SAs). The population served by each works was taken to be the sum of all the SAs served by the works. The load was assessed on the basis of 60gBOD/head/day.

Where there was more than one treatment works or outfall in a single SA, the population was divided equally between the works. Where it was not possible to identify a SA for a works, last year's population data were used, adding approximately 0.39% to the total. A correction factor was applied across all works to bring the figures in line with the original total.

Non-domestic
Volumes as billed from non-domestic establishments were assigned to SAs on the basis of address point information held in the billing database. All but 0.014% of measured volumes and 0.117% of unmeasured volumes were allocated in this way. The remaining volumes were added to SAs pro rata, by operational area. The corresponding loads were determined by assuming a mean concentration of 300mgBOD/litre, which is based on typical sample results.

Trade effluent
Trade effluent loads were taken directly from the records of settled COD held by the Trade Effluent Section, on a works by works basis. BOD was calculated to be COD/2. Unsettled BOD was estimated from the settled values by applying a factor of 1.482, which was derived from an assessment of sample results. Unsettled BOD has been used as it is more representative of the load received at the works.

Public and private septic tanks
The volume of public and private septic tank emptyings is recorded centrally, and the load has been assessed on the assumption of a concentration of 6g/litre, based on typical sample results.

Other tankered load
In the case of commercial tankered loads, the assessment has been made on the basis of corporate records of sampled tanker loads. Imported wastewater and water treatment sludge loads have been assessed from recorded volumes, assuming concentrations of 6g/litre and 0.1g/litre respectively.

Water treatment works sludges discharged to sewer
This load has been assessed from recorded volumes assuming a concentration of 0.1g/litre.

Sludge return liquors
Imported sludges that are fed directly to sludge treatment centres (rather than to sewage treatment works) are not included in the above assessments. To take account of their impact, the element of sludge return liquors arising from imported sludges has been included in the works load. This was assessed using the Sludge Treatment Centre Performance Review.

Confidence Grades
There have been no significant changes to the methodology or to data collection, and so the confidence grades are unchanged from last year.

E8.1-10 Numbers

E8.1-E8.8 - The number of works in each size band has been determined from the loads determined by the method defined above, excluding the load from non-resident population.

The total number of treatment works (excluding outfalls) has increased by 19 to 1826, and the number of outfalls has decreased by 65 to 129. The reason for this is a substantial programme of upgrades installing treatment works on discharges that until now were untreated.

E8.9, E8.10 - The ammonia consent conditions are held in a corporate Consents Database and have been attached to the appropriate treatment works as held in the Asset Inventory, thus enabling them to be categorised as shown here.

There has been a net increase of 1 in the number of works with the 5-10 mg/l ammonia consent condition and a net increase of 9 in the number with the <5 mg/l condition, reflecting a general tightening of discharge standards.

E8.11-20 Loading (average daily load)

E8.11-E8.18 - The method of determining loads has been fully described in the introduction to this section.

The total load (excluding septic tanks), at 232,000 kgBOD/day, has increased by 1%, but this is within the level of accuracy for the data and is not considered to be significant. The main changes have been increases of 2,400 kgBOD/day and 600 kgBOD/day in trade effluent and

tankered WWTW sludges respectively and a decrease of 1,200 kgBOD/day in non-domestic load.

There has been a net movement of 5 works from size band 4 to size band 5, and this accounts for the decrease in load on band 4 works and increase of 9% on band 5 works. This figure would have been larger but for the fact that two works, Bo'ness and Galashiels, have moved from band 5 to band 6, and these account for the net increase of 3% in the load on Band 6.

The load at primary treatment works has increased by 40%. This is mainly due to the fact that two works, Lerwick and Stornoway, were incorrectly classified as secondary last year. However they are due to be upgraded this year, and this figure will fall again. There is an increase of 150% in the load on tertiary B2 plants. This is mainly due the recategorisation of membrane plants, including Campbeltown, into this category. There is a decrease of 14% in the load on sea outfalls as a result of the upgrading referred to above.

The 'comments' worksheet states that E8.18 should equal A4.34*(1000/365) and requests that either E8.18 or A4.34 should be amended so that the numbers reconcile. This appears to be an error in the tables, because E8.18 excludes septic tanks, which <u>are</u> included in the total load entering the sewerage system.

If septic tanks are included, the total load received shown on line E8.18 is 238,138 kgBOD/day, which reconciles with the A4.34 total load entering sewerage system of 86,937 tBOD/yr.

E8.19, E8.20 The figures reported here have been determined from the loadings on the works subject to ammonia consent standards specified. The decrease in load on works with a 5-10 mg/l standard is mainly due to the fact that two such works, Kirriemuir and Armadale, now have a tighter standard. The net increase for these two lines is 8% which is significantly higher than the general increase in load of 1%.

E8.21-30 Compliance

E8.21-28 - Percentage compliance has been calculated on the basis of SEPA results. The methodology is the same as last year and, in the case of two-tier consents, all failures have been counted, not just upper-tier failures. Works that are not sampled are not included in the averaging process for individual treatment categories and size bands. The sampling period is the calendar year 2005.

The percentage compliance figures in general are slightly lower than last year. The reason for this is discussed fully in the commentary on Table C4. Where the cells in this section are listed as 0 and N confidence grade, this means that no works in that category and size band have been sampled.

E8.29-30 - The compliance figures for works with ammonia consent conditions generally reflect the decrease discussed above, but this is a small sample of works and deviations from the general pattern tend to be exaggerated.

E8.31-42 Costs

Some extrapolation was required in order to allocate costs from ABM grouped activities to individual assets and in the case of waste water; some further analysis was required to allocate costs to treatment stages. Consequently, the costs captured in the general ledger have been charged allocated to works and the remaining costs captured by ABM have been allocated to works based on actual loads for waste water assets. The confidence grades in tables E8-10 have been reduced to reflect this.

This method should allow more detailed analysis in 2006/07.

Confidence grades are lower than those in E1b to reflect the levels of allocation that were required.

The total sewage treatment costs in Table E8 have been aligned with operational size band data provided by Scottish Water's Asset Operations team.

The costs of treating and disposing of sludge are contained within Table E10 Sludge Treatment and Disposal.

Analysis of sewage treatment costs by size band:-

	Septic tanks	**Primary**	**Secondary**	**Tertiary**	**Sea Outfalls**	**Total**
	£m	**£m**	**£m**	**£m**	**£m**	**£m**
Small treatment works – direct costs (£m):-						
2005/06	1.927	0.751	11.143	2.616	0.613	17.050
2004/05	1.772	0.607	12.771	2.952	0.387	18.489
	0.155	**0.144**	**-1.628**	**-0.336**	**0.226**	**-1.439**
Small treatment works (nr):-						
2005/06			442	88		
	1,212	62			129	1,933
2004/05	1,199	67	437	84	194	1,981
	13	**-5**	**5**	**4**	**-65**	**-48**
Large treatment works – direct costs (£m):-						
2005/06	0	0	6.785	0.800	0	7.585
2004/05	0	0	6.256	0.508	0	6.764
	0	**0**	**0.529**	**0.292**	**0.000**	**0.821**
Large treatment works (nr):-						
2005/06	0	0	20	2	0	22
2004/05	0	0	19	1	0	20
	0	**0**	**1**	**1**	**0**	**2**
General and support costs (£m)						
2005/06	0.371	0.142	4.070	0.732	0.066	5.380
2004/05	0.431	0.194	5.212	0.953	0.097	6.887
	-0.060	**-0.052**	**-1.142**	**-0.221**	**-0.031**	**-1.507**

Total (£m):-						
2005/06	2.297	0.893	21.997	4.149	0.678	30.014
2004/05	2.203	0.801	24.239	4.413	0.484	32.140
	0.094	**0.092**	**-2.242**	**-0.264**	**0.194**	**-2.126**
Total (nr):-						
2005/06	1,212	62	462	90	129	1,955
2004/05	1,199	67	456	85	194	2,001
	13	**-5**	**6**	**5**	**-65**	**-46**

In total sewage treatment costs reduced by £2.1m from 2004/05.

An explanation for variances in large treatment works is provided at E9 below.

Table E9 Large Sewage Treatment Works Information Database

There has been no significant change in methodology or data capture, and so the confidence grades for this table remain unchanged, apart from a few exceptions noted below.

E9.0-5 Works Size

E9.0 - There are 22 large non-PPP works, which is two more than last year. The additions to the list are Bo'ness and Galashiels, both of which have had a significant increase in the reported trade effluent load. In addition, there has been a significant increase in the tankered sludge fed to the wastewater treatment stream at Galashiels.

E9.1, 9.2 - The determination of resident and non-resident populations has been described in the introduction to Table E8.

Overall the resident population has increased by 0.4%, in line with the general increase. There are individual variations, but these are all within a range of +/-5% and are not considered to be significant. There is an overall decrease of 1.5% in the non-resident population, about half the figure for all works. Considerable percentage variations are evident at individual works, but all the figures are small and lie within the range +/-200 PE, so are not considered to be significant

E9.3 - COD is the unsettled value, i.e. the COD load entering the WWTW. It has been estimated from the measured, settled value by applying a factor of 1.482. The information is taken from the Trade Effluent billing system.

Overall the load at the 22 works has not changed, compared with a 6% decrease at all works. However, there are significant variations at individual works, with the largest increases at Ardoch, Bo'ness, Galashiels and Stirling.

E9.4 - This is the amount of sludge received from other sources comprising commercial, septic tank, water works and wastewater works sludges. Calculation of daily load was from yearly totals/365 and using 95.26 kgCOD/m3 for waste water works sludge and 48.70 kgCOD/m3 for water works sludge. For commercial sludges, the COD load was as measured. The annual quantities were derived from the Gemini Sludge Management System.

As last year, tanker loads that are fed directly to sludge treatment centres are no longer included in these figures.

Overall there has been no significant change to this figure. However, there are variations at individual works: substantial decreases at Perth and Shieldhall have been balanced by the increase at Galashiels.

E9.5 - The population equivalent has been assessed from the load received on the basis of 60 gBOD/head/day. The method of determining load is fully described in the introduction to Table E8.

There is a general increase in the population equivalent of 20%, if the increases at Bo'ness and Galashiels are included. Excluding these two works gives a decrease of 2.5%, which contrasts with the increase of 1% at all works, but this is within the reporting accuracy and is not considered to be significant. There has been an increase of 75% at Galashiels and of 25% at Bo'ness, due mainly to the trade effluent and sludge loads.

E9.6-10 Treatability

These figures are the averages for each parameter for the report year. The results are from Scottish Water's own sampling programme and the information is retrieved from the Laboratory Information Management System (LIMS). In general a confidence grade of A2 has been assigned to these data. However, in cases where the data are not available from this year's sampling programme, data from previous years have been used. This is indicated by a confidence grade of B3 (2004/05 data) or B4 (2003/04 data).

In general, the concentrations are higher by about 10%, but Perth is a notable exception where the concentration has fallen by 30% - 50%. The reason for this is not known.

Influent samples are not analysed for Total Organic Carbon (TOC), and this has been indicated by applying a confidence grade N.

E9.11-16 Compliance

Figures are the lower consent values taken directly from the discharge consent document as issued by SEPA. Where a parameter is not included in the discharge consent, this is indicated by a confidence grade of N.

In general the lower tier consent figure has been given. At Allers, Carbarns and Hamilton there are no two-tier values for suspended solids, and in these cases the instantaneous figure is given.

There is a new ammonia standard at Allers, and the standard at Hamilton has been tightened. The BOD standards at Hamilton and Perth have been tightened, although the one at Erskine has been eased by 5 mg/l.

The percentage compliance has been calculated on the same basis as the figures in lines E8.21 –E8.30: that is, SEPA compliance data using the number of sanitary determinants (BOD, SS, ammonia and phosphate) analysed for and counting all failures at works with two-tier consents. Compliance is reported as calendar year. SEPA report compliance on a monthly basis.

In general, the results are lower than last year for the reasons discussed in the commentary on Table C4.

E9.17-18 Flow

Flows are taken from telemetry records, by local Operational Support Teams. In general, these have been given a confidence grade of B4, in the light of the Reporter's comment on last year's submission.

In cases where the data are not available from this year's sampling programme, data from previous years have been used. This is indicated by a confidence grade of C4 (2004/05 data) or C5 (2003/04 data).

No significant changes have been noted, with the exception of Allers, which was misreported last year.

E9.19-25 Treatment Works Category

This information is held in the Ellipse corporate database. There have been no changes since last year.

E9.26-32 miscellaneous Data

E9.26 The distance quoted here is to the nearest wastewater treatment works regardless of size, although septic tanks are excluded from consideration. The data have been reviewed and some minor corrections made.

E9.27 Discharges to tidal rivers are not considered to be sea outfalls, but estuarial discharges are included. This has led to some minor adjustments.

E9.28 The presence or otherwise of a terminal pumping station is recorded in the Asset Inventory.

E9.33-43 Works cost

As explained in section E8, costs have been allocated from ABM to individual works based on the costs directly charged in the financial ledger and in proportion to load of each works during 2005-06. Confidence grades are lower than those in E1b to reflect the levels of allocation that were required.

Analysis of costs for large sewage treatment works:-

	2005/06	2004/05	Variance
	£m	£m	£m
Daldowie	0.648	0.508	-0.140
Galashiels	0.152	0.000	-0.152
Tertiary treatment	**0.800**	**0.508**	**-0.292**
Iron Mill Bay	0.133	0.091	-0.042
Dunfermline	0.217	0.318	0.101
Kirkcaldy	0.413	0.409	-0.004
Perth City	0.216	0.150	-0.066
Troqueer	0.277	0.190	-0.087
Kinnel Kerse	0.352	0.319	-0.033
Erskine	0.207	0.263	0.056
Alloa	0.207	0.223	0.016
Stirling	0.186	0.405	0.219
Dalderse	0.420	0.375	-0.045
Dalmarnock	0.794	0.693	-0.101
Shieldhall	1.210	0.932	-0.278
Carbarns	0.215	0.224	0.009
Dunnswood	0.211	0.175	-0.036
Laighpark	0.700	0.648	-0.052
Phillipshill	0.251	0.218	-0.033
Allers	0.163	0.155	-0.008
Hamilton	0.256	0.253	-0.003
Ardoch	0.240	0.215	-0.025
Bo'ness	0.118	0.000	-0.118
Secondary treatment	**6.785**	**6.256**	**-0.529**
Total large treatment works	**7.585**	**6.764**	**-0.821**

The number of treatment plants classified as large works increased by two from 2004/05 being Galashiels and Boness. Costs increased by £0.8m or 12% year-on-year, reflecting a £0.5m increase in power costs which increased from £2.6m in 2004/05 to £3.1m in 2005/06.

The increased direct cost capture at asset level within the general ledger has allowed improved visibility of costs. This has resulted in some movements in costs (both favorable and adverse) against individual assets in the year, but this has resulted in a more robust assessment of costs in 2005/06.

E9.42 – The cost of terminal pumping stations is based on 2004/05 estimates.

E9.43 – All sludge costs have been included in E10.

Table E10 Wastewater Explanatory Factors - Sludge Treatment and Disposal

Scottish Water incurs costs associated with the transportation of sludge from its own sewage treatment works to PPP sludge treatment centres. These costs have been reported within E3a.20 with the corresponding sludge loads in reported in E3. The costs are shown in the table below:

	2005/06
	£m
Farmland conventional	0.084
Farmland advanced	0.299
Incineration	0.206
Land fill	0.775
Reclamation	0.354
Total sludge transportation costs associated with PPP	**1.718**

E10.1-2 Sludge Volumes

E10.1 – The resident population served is determined using the same methodology as in E7.1, and the allocation to wastewater treatment works is described in the introduction to Table E8. The figures quoted here are for the disposal of all sludge from Scottish Water wastewater treatment works, whether or not the sludge disposal route is Scottish Water owned. This explains the difference in the pattern of results between this line and Line E10.2, where the disposal refers to that from Scottish Water sludge treatment centres only.

E10.2 – This information was based on information from several sources:

- Scottish Water Gemini Sludge Management database of sludge movements
- Scottish Water Sludge Model
- Databases maintained by a recycling company of the sludge taken to agricultural land.

The methodology used to determine the sludge quantities has to be consistent with the one used by companies in England and Wales. Further details regarding this methodology are shown in the commentary for lines A4.46-53. All figures were based on tonne dry solids (tds), from either calculated sludge quantities or actual tds which are derived from the wet weight information held on the above data bases and sludge solids analysis carried out both on site and in the laboratory.

The accuracy of the data shall improve as Scottish Water is currently upgrading data input to the Scottish Water's sludge management system "Gemini" through direct input from additional site monitors, monitoring volume and solid content.

E10.3-11 Sludge Treatment and Disposal Costs

The allocation of sludge treatment and disposal costs by disposal route relies on robust sludge movement data linked to financial data.

Figures are reproduced from Scottish Water Sludge model and Scottish Water Sludge Management System "Gemini II". The amount of sludge disposed to each disposal route was totalled and presented as a percentage of the total Scottish Water sludge production detailed in A4.52.

Analysis of sludge treatment costs by disposal route:-

	2005/06 £m	**2004/05 £m**	**Variance £m**
Farmland:			
Untreated	0.000	0.000	0.000
Conventional	2.341	2.977	-0.636
Advanced	0.797	0.587	0.148
Landfill	1.782	0.235	1.547
Incineration	0.000	0.682	-0.682
Composted	0.392	0.000	0.392
Land reclamation	3.447	4.199	-0.752
Other	0.000	0.155	-0.155
Total	**8.698**	**8.834**	**-0.136**

Sludge treatment costs reduced by £0.14m from 2004/05. However costs reported in 2004/05 include £1.8m of costs associated with transportation to/from PPP works. In 2005/06, the £1.7m costs associated with transportation to/from PPP works are excluded from the table above and are included within E3a.20. Accordingly, the underlying costs are flat year-on-year but this is after absorbing £1.4m of additional costs associated with the new SEPA regulations on the disposal of sludge to landfill sites (£0.9m) and improved direct allocation of power costs to sludge activities. (£0.5m).

Confidence grades are lower than those in E1b to reflect the levels of allocation that were required.

E10.12-18 Sludge Treatment Type

The numbers and treatment categories are consistent with those reported in E8.

The table below shows the works assigned to each size banding.

	No sludge treatment	Own sludge	Sludge Centre
Size band 3	183	0	1 Halkirk
Size band 4	130	2 Selkirk Kelso	3 Brechin Kilmory (Lochgilphead) Springfield
Size band 5	28	0	9 Cumnock Cupar Girvan Hawick Kirkwall Lerwick Oban St. Andrews Stornoway
Size Band 6	13 Allers Alloa Ardoch Carbarns Daldowie WWTW Dalmarnock Dunnswood Erskine Hamilton Ironmill Bay Laighpark (Paisley) Philipshill Shieldhall	2 Kirkcaldy Stirling	7 Bo'ness Dalderse Dunfermline Galashiels Kinneil Kerse Perth Troqueer

The main changes from last year's submission are:

- Bo'ness has moved from Own Sludge (Band 5) to Sludge Treatment Centre (Band 6).
- Galashiels has moved from Band 5 to Band 6.
- Kirkwall has moved from Band 4 to Band 5.
- St Andrews has moved from Own Sludge to Sludge Treatment Centre (both Band 5)

Table E11 Management and General

E11.1-4 Employee Numbers

The employee numbers reported in E11 exclude FTE's associated with capital work, third party services and PPP. This ensures consistency with the costs reported in tables E1b and E2b.

The following reconciles E11 staff numbers to the annual accounts for 200405 and 200506:

	2005/06 FTE's	2004/05 FTE's	Variance FTE's
Direct operations	1,554	1,727	-174
Indirect operations (General and support)	288	353	-65
Other (incl hired and contracted)	466	524	-58
Total employee numbers per E11	**2,308**	**2,605**	**-296**
Staff involved in capital & transformation projects	865	909	-44
Staff associated with PPP	7	7	0
Statutory waste and wastewater services	**3,181**	**3,521**	**-340**
Staff associated with third party activities	279	276	3
Staff seconded to Scottish Water Solutions	233	265	-32
Total FTE's per Statutory Accounts	**3,693**	**4,062**	**-369**

The 2004/05 figures have been restated on the same basis as 2005/06 to facilitate comparison.

The average number of employees during the year reduced by 369 or 9% to 3,693. Compared with the average level employed by the former water authorities in 2001/02 this equates to a reduction of 1,955 or 35% in the first four years of Scottish Water.

E11.5-20 Management and General Assets

E11.5 - E11.6 There has been no change in the reported number of Offices for this year's Annual return.

E11.7 - E11.8 There has been no change in the reported number of Laboratories for this year's Annual return.

E11.9 - E11.10 There has been one depot sold and 5 depots decommissioned this year.

The total area of depots has also changed due to the decommissioning and sale of a depot. All depots are used for both services so the total area has been allocated to each service.

E11.11 - E11.12 Scottish Water does not have any workshops.

E11.13 - E11.14 The Number of Control centers has reduced down to 1 for both water and Waste water services. This is due to the centralisation of the control centers to the main control center in Balmore road. This centralisation means that 2 control centers have been closed.

E11.15 The method for the allocation of Vehicles and plant valuation to water and Waste water services has changed from last year. This year the method SW is using to assign vehicles and plant to water and waste waster services is to use the sites main function where the vehicles and plant are stored or mostly used to allocate the valuation. There are sites

that provide service to both the Water and Waste water services which means that the value has been added to both services in these lines.

The reported value for vehicles for Table H6.4 has increased from £7 Million to £10 million. This is due to new vehicles being purchased by Scottish water.

The reported value for Plant for Table H6.4 has fallen from £20 Million to £15 Million. This is due to Plant being sold.

E11.16 The Number of Telemetry outstations has been obtained from the new Single Telemetry system that records all telemetry outstations in SW.

E11.17 The method for the allocation of percentage coverage of telemetry systems has changed from last year. This year's method takes a count of all the sites that have telemetry from the main telemetry system against a count of all operation sites within the Asset inventory.

This produces figures of 39% for Water and 23% for Waste Water, which is a more realistic view of Scottish waters coverage of telemetry.

E11.18 – E11.20 The data for Information systems is the same data used in the production of the Table H6.6 figures.

The method for allocation of the information systems to Water and Waste water services has changed from last year. The method SW is using this year to assign Information systems to water and waste waster services is to use the sites main function where the Information systems are stored or mostly used to allocate the numbers. There are sites that provide service to both the Water and Waste water services which means that the number has been added to both services in these lines.

F Tables Statutory Accounts

General comments

The F tables for 2005/06 have been prepared from the Statutory Accounts in accordance with WIC definitions. The impact of Financial Reporting Standard 17 (FRS 17), Accounting for Retirement Benefits, which was used in preparing the Statutory Accounts have been excluded from the F tables. A reconciliation of the F tables to the Statutory Accounts is given in Appendix 1.

Table F1 Income and Expenditure Account

F1.1 The following table summarises the year-on-year movement of the main components of income:-

	2005/06 £m	2004/05 £m	Variance £m
Household	628.3	606.2	22.1
Commercial & core secondary	311.2	295.4	15.8
Trade effluent	27.7	23.2	4.5
Non statutory services	5.8	7.3	-1.5
New non core trading activities	46.0	28.4	17.6
	1,019.0	**960.5**	**58.5**

In preparing the Statutory and Regulatory Accounts we have applied the definitions of core/non core activities consistently using the definitions proposed in WIC55.

Statutory Services
Turnover from core water and wastewater services supplied to household customers increased by 3.6% to £628.3 million driven mainly by the tariff increase effective from 1 April 2005. Turnover from services supplied to business customers, including trade effluent and core secondary, increased by £20.3 million, 6.4%, to £338.9 million due to tariff increases and that in 2004/05 a prudent view of income recognition was taken due to the significant data cleansing activity that was taking place on the new billing system.

Non Statutory Services
Turnover from the provision of non statutory services, provided traditionally by the former water authorities, declined by 20.5% to £5.8 million. This reduction in turnover results from Scottish Water's primary focus on core business activities. An analysis by annual return category is detailed below:

Analysis of income from non-statutory services by WIC annual return category

		2005/06 £m	2004/05 £m	Variance £m
F10.37	Water for electricity	0.004	0.015	-0.011
F10.39	Pipe connections and mains diversions - Water	2.765	1.493	1.272
F10.40	Farming, forestry, fishing and recreation	-0.007	0.837	-0.844
F10.41	Other rents	0.041	0.397	-0.356
F10.42	Laboratory services	0.178	0.542	-0.364
F10.43	Corporate consultancies	0.000	0.090	-0.090
F10.46	Other income[1]	1.499	1.963	-0.464
F10.49	Private septic tank emptying - non domestic	0.458	0.429	0.029
F10.50	Other sewerage	0.228	0.297	-0.068
F10.51	Pipe connections and mains diversions - Waste	0.597	1.202	-0.604
F10.52	Other wastewater related income	0.000	0.000	0.000
		5.763	**7.264**	**-1.500**

[1] **Other income primarily relates to shipping water.**

New Non-Core Trading Activities

Scottish Water's new trading activities relate primarily to the sale of contracting services to Scottish Water Solutions and the provision of water-related services to major business customers. Turnover from those activities increased from £28.4 million in 2004/05 to £46.0 million in 2005/06. £32.8 million (2004/05 - £21.7 million) of this income relates to mains rehabilitation and other capital investment activities carried out on a commercial basis by Scottish Water's contracting division for Scottish Water Solutions Limited.

An analysis of income by activity is detailed below:-

	2005/06 £m	2004/05 £m	Variance £m
Business Development activities	9.5	5.9	3.6
SW Contracting	36.5	22.5	14.0
	46.0	**28.4**	**17.6**

The table below presents this information by WIC annual return category but there is a £0.1million rounding difference from presentation in the 2006 statutory accounts.

		2005/06 £m	2004/05 £m	Variance £m
F10.39	Pipe connections and mains diversions - water	0.000	0.265	-0.265
F10.46	Other income [1]	40.416	25.330	15.086
F10.43	Corporate consultancies	2.502	0.615	1.887
F10.50	Other sewerage	0.001	0.000	0.001
F10.51	Pipe connections and mains diversions - waste	0.000	0.000	0.000
F10.52	Other wastewater related income	2.968	2.222	0.746
		45.887	**28.432**	**17.455**

[1] This income is primarily generated by SW Contracting in providing services to SWS and third party contractors, £36.5 million, and income generated from Business Development in the provision of third party services.

Reconciliation of total non statutory and core secondary income to F10

The table below reconciles the secondary income from non statutory services, new non-core and core trading activities to that set out in table F10 :-

		Old/ inherited non core £m	New trading activities £m	Core secondary £m	Total £m	2004/05 £m
F10.35	Building water	0.000	0.000	3.574	3.574	2.533
F10.36	Troughs, taps etc	0.000	0.000	1.984	1.984	1.996
F10.37	Water for electricity	0.004	0.000	0.000	0.004	0.015
F10.39	Pipe connections and mains diversions – Water [1]	2.765	0.000	0.895	3.660	2.558
F10.40	Farming, forestry, fishing and recreation	-0.007	0.000	0.000	-0.007	0.837
F10.41	Other rents	0.041	0.000	0.000	0.041	0.397
F10.42	Laboratory services	0.178	0.000	0.000	0.178	0.542
F10.43	Corporate consultancies	0.000	2.502	0.000	2.502	0.705
F10.45	Revenue grant income	0.000	0.000	0.000	0.000	0.005
F10.46	Other income	1.499	40.416	-0.392[3]	41.523	27.329
F10.48	Private septic tank emptying – domestic	0.000	0.000	1.528	1.528	1.676
F10.49	Private septic tank emptying - non domestic	0.458	0.000	0.000	0.458	0.429
F10.50	Other sewerage	0.228	0.001	0.000	0.229	0.297
F10.51	Pipe connections and mains diversions – Waste [1]	0.597	0.000	0.256	0.853	0.402
F10.52	Other wastewater related income [2]	0.000	2.968	0.000	2.968	2.222
		5.763	**45.887**	**7.845**	**59.495**	**41.943**

[1] The core income relates to the final connection component of the new mains to the existing infrastructure.
[2] This includes income from wastewater reception permits.
[3] The -£0.392m of other income in the core secondary column is due to credit adjustments associated with 2004/05.

F1.2/1.4/1.5/1.6 Total operating costs, excluding PPP, reduced by £4.1 million to £303.5 million but this is after absorbing increased costs associated with new trading activities of £16.6 million, and operating costs associated with new assets of £2.4 million. Excluding these items costs reduced by £23.1 million or 8.3%.

A year-on-year analysis of the change in other operating costs is detailed in the following table:-

	2005/06 £m	2004/05 £m	Variance £m
F1.2 Staff costs	111.031	117.607	6.576
F1.4 Other operating costs	192.241	186.535	-5.706
F1.5 Bad debt	28.548	33.794	5.246
F1.7 Recharge to capital	-28.288	-30.255	-1.967
	303.532	**307.681**	**4.149**
Less new trading costs	(44.687)	(28.133)	16.554
Less new opex	(2.425)	-	2.425
	256.420	**279.548**	**23.128**

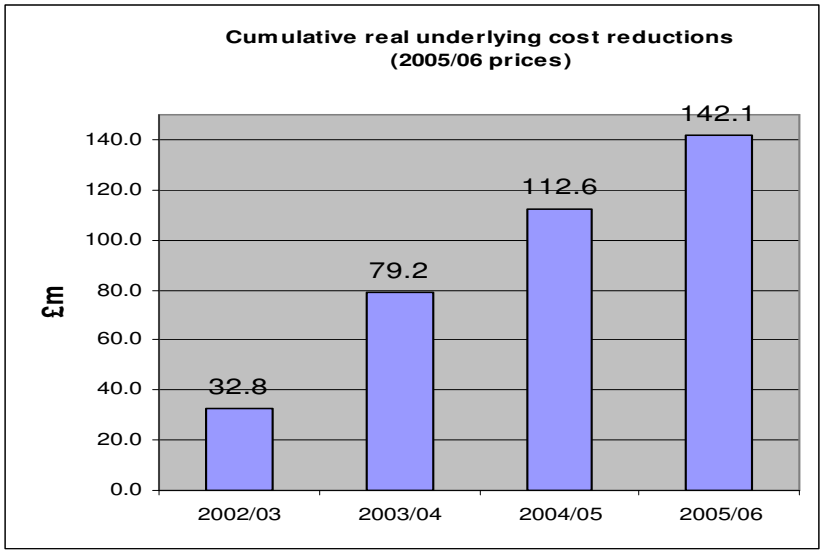
The table below details total operating costs by activity in the Statutory Accounts:-

	2005/06 £m	2004/05 £m	Variance £m
Statutory water and wastewater opex	253.8	272.9	19.1
Non statutory water and wastewater opex	5.2	6.6	1.4
	259.0	279.5	20.5
Other trading activities	44.7	28.1	-16.6
	303.7[1]	**307.6**	**3.9**

[1] The total of £303.7 million in the 2006 statutory accounts differs from the regulatory analysis (F1.2/ F1.4/ F1.5/ F1.7) of £303.5 million due to rounding differences.

From a regulatory cost perspective, nominal operating costs (i.e. excluding depreciation, PPP charges and costs associated with new trading activities) reduced by £20.5 million, 7.3%, to £259.0 million (£253.8 million for core services and £5.2 million for traditional non-core services) compared to £279.5 million in 2004/05. Continued focus on improving operating efficiency has driven this reduction in operating costs, out-performing by £6.0 million the target of £265 million, set by the former Water Industry Commissioner.

Real underlying operating costs, when compared to the similar costs of the three former water authorities in 2001/02 (i.e. excluding new operating costs associated with newly commissioned plant), have reduced by £142.1 million or 36% since the creation of Scottish Water as depicted in the graph below. However, when the cost base is adjusted to reflect cost increases beyond management control i.e. regulatory and local authority rates charges, the underlying operating cost reduction in the first four years of Scottish Water increases to 41%.



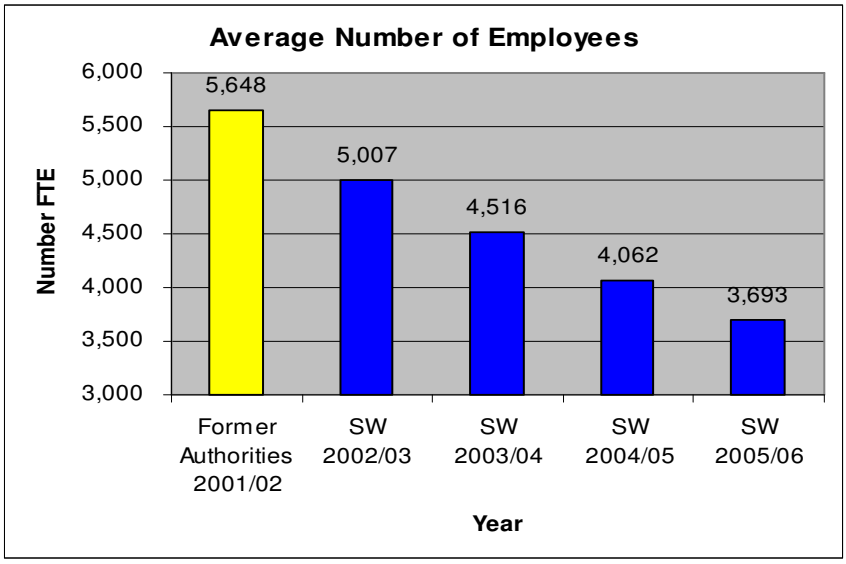
F1.2 Employment costs

Employment costs reduced by £6.6 million in the year but this is after absorbing increased staff costs associated with new trading activities, £0.9 million, and new assets, £0.5 million. Excluding these items staff costs have reduced by £8.0 million, 7.4%. This saving has been achieved through significant headcount reduction and the benefits from the harmonisation of terms and conditions which has helped reduce the cost of overtime.

	2005/06 £m	2004/05 £m	Variance £m
Staff costs	99.739	107.710	7.971
New trading activities	10.792	9.897	-0.895
Staff costs associated with new opex	0.500	-	-0.500
F1.2 Staff costs	**111.031**	**117.607**	**6.576**

By effective use of the employee voluntary severance scheme, the average number of employees during the year reduced by 369, or 9%, to 3,693. Compared with the average level employed by the former water authorities in 2001/2 this equates to a reduction of 1,955 or 35% in the first four years of Scottish Water.

The number of people employed at the end of the year, after taking account of 73 leavers on 31 March, reduced to 3,557. The table below shows the average number of employees compared with the final year of the three former water authorities.



F1.3 PPP operating costs

The cost of PPP schemes in the year was £120.1 million; £7.4 million higher than the reported costs in 2004/05 or £4.1 million higher than the underlying costs in 2004/05. Underlying costs in 2004/05 were £116.0 million, excluding a £3.3 million credit relating primarily to the release of an accrual made in 2003/04 for a contractual claim on the Aberdeen project. Contractual inflation accounts for £2.5 million of the increase with the remainder relating to the normal variability in annual PFI charges reflecting the payment and performance regimes under each contract. Expenditure by contract is analysed below: -

	2005/06 £m	2004/05 £m	Variance £m
Dalmuir	7.3	7.2	-0.1
Daldowie	14.7	15.1	0.4
Meadowhead, Stevenston, Inverclyde	12.3	12.1	-0.2
Inverness and Fort Wiliam	7.7	8.1	0.4
Tay	19.0	19.7	0.7
Aberdeen	15.6	10.5	-5.1
Moray	11.1	10.2	-0.9
Almond Valley/Seafield	20.0	19.7	-0.3
Levenmouth	8.8	8.4	-0.4
	116.5	111.0	-5.5
Other costs	3.6	1.7	-1.9
Total costs	**120.1**	**112.7**	**-7.4**

Spend on the Aberdeen project was £5.1 million higher than in 2004/05. However, when the release of the £3.3 million claim accrual in 2004/05 is taken into account, the underlying increase is £1.8 million. This reflects the impact of inflation and the increased flows through the plant.

Spend on the Moray project was £0.9 million higher than in 2004/05 due to the PFI company's entitlement to tariff rebasing.

F1.4 Other operating costs

Other operating costs increased by £5.7 million from 2004/05 but this is after absorbing increased costs of new trading activities, £15.6 million, and new opex costs of £1.9 million. Excluding these two items, costs reduced by £11.9 million, 7.1%. Other operating costs which are within the control of management were £107.1 million in 2005/06, a year-on-year saving of £18.3 million or 14.6%.

	2005/06 £m	2004/05 £m	Variance £m
Local authority rates	27.815	24.273	-3.542
Power costs	21.545	18.636	-2.909
Other operating costs associated with new opex	1.925	-	-1.925
New trading activities excluding staff costs	33.895	18.236	-15.659
Other operating costs	107.061	125.390	18.329
F1.4 Total other operating costs	**192.241**	**186.535**	**-5.706**

F1.5 Bad debt charge

The bad debt charge (F1.5) reduced by £5.2 million to £28.5 million, as detailed below. The domestic charge decreased by £3.4 million or 11.9% reflecting improved local authority collection rates (in year collection increased to 92.7% form 91.8% in 2004/05).

The non-domestic charge was £1.8 million lower than in 2004/05 reflecting improved cash collection and the reduction in aged debt during 2005/06. Cash collection in the year improved by £43.3 million from £343.1 million in 2004/05 to £386.4 million in 2005/06, an improvement of 12.6%.

	2005/06 Charge £m	2004/05 Charge £m	Variance £m
Domestic	25.178	28.614	3.436
Non-domestic	3.370	5.180	1.810
	28.548	**33.794**	**5.246**

F1.7 Recharge to Capital

£28.3 million of costs were recharged to capital in 2005/06 (2004/05 £30.3 million). As can be seen from the table below, 58.7% of this recharge is for costs which are directly charged to capital projects. A further 38.8% of expenditure was incurred on planning and programme management costs associated with the delivery of the capital programme, and the remaining £0.7 million (2.5%) related to the incremental capital overhead costs, which were allocated across all capital projects.

	2006 £m	% of total	2005 £m	% of total
Direct capitalisation - project delivery	16.6	58.7	16.7	55.1
Indirect capitalisation – project design	11.0	38.8	10.6	35.0
Capitalised overheads	0.7	2.5	3.0	9.9
	28.3	**100.0**	**30.3**	**100.0**

Recharge to capital was £2.0 million lower than in 2004/05 and reflects the volume of work carried out by Scottish Water Solutions.

F1.12-F1.13 Asset depreciation and infrastructure depreciation
Depreciation,including infrastructure depreciation, reduced by £8.7 million to £251.6 million. Depreciation of non infrastructure assets increased by £26.3 million reflecting the impact of new assets coming into beneficial use. Infrastructure depreciation reduced by £35.0 million to £110.0 million reflecting the reassessment of the long term running cost of infrastructure maintenance.

F1.14 Gain on disposal of fixed assets
The net gain on sale of assets was £3.9 million; £3.2 million of this was generated from the disposal of property and £0.7 million from the disposal of vehicles. An analysis of property disposals is provided below:

	Gain on Sale £m
29 Cottages & Houses	1.3
4 Pumping Stations & tanks	0.2
Reservoirs	0.1
11 Depots & Offices	1.6
Total Gain on property disposals	3.2

F1.16-F1.17 Interest received and paid
At 31 March 2006 the weighted average interest cost of the £2,436.9 million outstanding debt was 6.00% (2005 - 6.24%). Net interest payable during the year was £142.8 million; £6.7 million higher than in 2004/05. Interest cover, based on cash generated before capital expenditure, increased from 3.1 in 2004/05 to 3.4 in 2005/06.

F1.20 Taxation

The tax charge on the income and expenditure account was £61.3 million, (2005 - £27.1 million). The effective rate was 30.6%, (2005 - 29.6%) in respect of deferred taxation; no corporation tax is payable. This is higher than the UK Corporation tax rate of 30% due to adjustments associated with timing differences and disallowed costs.

F1.22 Exceptional items

Exceptional costs charged in the year totaled £4.9 million (2005 - £61.8 million) and related to restructuring and transformation costs undertaken as the final part of the £200 million 'Spend to Save' programme allowed for by the former Water Industry Commissioner in his Strategic Review of Charges 2002-2006.

An analysis of the total "spend to save" expenditure of £199.9 million over the four years from 2002/03 is set out in the table below.

	2002/03 £m	2003/04 £m	2004/05 £m	2005/06 £m	Cumulative Total £m
Business transformation	15.3	18.8	20.4	6.6	61.1
Staff severance	9.3	34.1	41.4	-1.7	83.1
Total charged to income and expenditure	**24.6**	**52.9**	**61.8**	**4.9**	**144.2**
New capital investment to improve efficiency *	15.3	21.7	9.3	9.4	55.7
Total	**39.9**	**74.6**	**71.1**	**14.3**	**199.9**

* *Costs for 2003/04 and 2004/05 have been revised to reflect corrections in classification between spend-to-save capital investment and the Quality and Standards 2 capital investment programme. Consequently, expenditure increased by £0.2 million in 2003/04 and increased by £1.8 million in 2004/05 (F2.1).*

WIC Control Checks

F1.9-F1.3 = E1.26+E2.26

Operating costs per F tables		**Operating costs per E tables**	
Total costs F1.9	423.672	Total water costs E1.26	185.892
Less PPP costs per Statutory Accounts F1.3	-120.140	Total waste water costs E2.26	119.787
	303.532		305.679
Add exceptional costs F1.22	4.884	Add SW costs to PFI works E3a.20	2.890
		Roundings	-0.153
	308.416		**308.416**

Total operating costs per F tables		**Total operating costs per E tables**	
Total costs per F1.9	423.672	Total costs per E1.39	331.041
Asset depreciation F1.12	141.551	Total costs per E2.39	226.049
Infrastructure depreciation F1.13	110.000	PPP costs excl from E tables	123.033
Exceptional items F1.22	4.884	Roundings	-0.016
	680.107		**680.107**

Infrastructure depn. per F tables		Infrastructure depn. per E tables	
Infrastructure maintenance charge	110.000		
		Total costs per E1.29	79.356
		Total costs per E2.29	30.644
	110.000		**110.000**

F3.15 = F2.19

F2.19	Government & other loans	2,405.962	**F3.15**	Total borrowings	2,436.867
F3.6	Non government loans < 1 year	6.202			
F3.13	Non government loans > 1 year	24.703			
		2,436.867			**2,436.867**

F1.3 should equal E1.37 + E2.37

E1.37 – No PPP costs incurred in provision of the water service.

E2.37 – Cell defined by WIC as 'not in use'.

Table F2 Balance Sheet

F2.1-3 Fixed Assets

F2.1 Tangible fixed assets
Capital investment in the year was £660.3 million, an increase of £132.9 million compared to 2004/05. £650.2 million (2005 - £518.1million (restated)) was invested in the delivery of the Quality and Standards regulatory capital programme (including £17.0 million of costs associated with preparation and early start work for the Q&S3 programme). Other capital investment of £10.1 million was predominantly incurred as part of the "spend-to-save" programme.

Of the £650.2 million regulatory capital investment programme, £468.3 million was delivered through the programme allocated to Scottish Water Solutions Limited. This included the £32.8 million of turnover generated by Scottish Water Contracting referred to at F1.1 above. The nature of the contractual agreement between Scottish Water and the other shareholders in Scottish Water Solutions Limited is such that the parties are engaged in joint activities that do not constitute an entity carrying on a trade or business in its own right. Consequently, Scottish Water Solutions Limited, has been accounted for under FRS 9 Associates and Joint Ventures as a JANE (Joint Arrangement Non Entity). On this basis Scottish Water accounts directly for its own gross assets, liabilities and cash flows in the joint arrangement thus dispensing with the need for Group Accounts.

F2.4-8 Current Assets

F2.5 Debtors
See detailed comments for F4.

F2.9-12 Creditors: Amounts Falling Due Within one Year

F2.10 Other creditors
See detailed comments for F4.

F2.13-18 Creditors: Amounts Falling Due After More than One Year

F2.14 Other creditors
See detailed comments for F4.

F2.16 Provision for liabilities and charges
The table below summarises the movement in provisions from March 2005. The utilisation includes payments made for employees who left under voluntary severance, payments to the pension funds for VS leavers and rental payments for redundant assets.

Analysis of movement in provisions:-

	At 31/03/05 £m	Charge in the year £m	Utilisation in the year £m	At 31/03/06 £m
Reorganisation – severance	81.0	-	-21.3	59.7
Deferred tax	75.8	61.3	-	137.1
Others (incl. stranded asset costs)	2.9	-	-1.2	1.7
	159.7	**61.3**	**-22.5**	**198.5**

F2.19-21 Capital and Reserves

F2.20 – Income and Expenditure
The income and expenditure reserve is reconciled to the statutory accounts at Appendix 1.

Table F3 Analysis of Borrowing

Government loans, both short and long term are disclosed in the balance sheet under Capital and Reserves in accordance with the Accounts Direction. Other debt is recorded under short and long term creditors in accordance with the Companies Act.

	2005/06 £m	2004/05 £m
Government debt (F2.19)	2,405.962	2,233.245
Creditors < 1 year (F3.6)	6.202	10.689
Creditors > 1 year (F3.13)	24.703	30.905
Total debt	**2,436.867**	**2,274.839**
Cash in hand (F2.6)	-0.742	-7.517
Net Debt	**2,436.125**	**2,267.322**

During the year, net debt increased by £168.9 million to £2,436.2 million being debt of £2,436.9 million and cash of £0.7 million. The increase was driven by £232.9 million of new long-term loans at a weighted average interest cost of 4.2%, partially offset by a £70.9 million repayment of long-term loans, a £0.1 million net increase in short-term loans and a £6.8 million reduction in cash balances.

Table F3a Analysis of Borrowing by interest rate and date of maturity

F3a Analysis of Borrowings
All new short-term borrowings and repayments are netted off, i.e. short-term loans taken out and then repaid during the year are shown as zero.

Table F4 Analysis of Debtors and Creditors

F4.1-6 Debtors net after Provisions

F4.2 Trade debtors

	31 March 2006			31 March 2005		
	Household £m	Commercial £m	Total £m	Household £m	Commercial £m	Total £m
Billed debt	238.6	49.7	288.3	224.3	78.3	302.6
Provisions	230.2	26.2	256.4	199.4	35.4	234.8
Trade debtors	**8.4**	**23.5**	**31.9**	**24.9**	**42.9**	**67.8**

The commercial customer aged debt analysis is:

	Actual 31 Mar £m	Opening 01 Apr £m
Overdue – over 1 year	4.2	11.7
Overdue – 4-12 months	10.4	21.4
Overdue – less than 3 months	9.2	12.7
Aged debt	23.8	45.8
Current	25.9	32.5
Gross billed debt	49.7	78.3
Credit note provision	-6.9	-12.0
Bad debt provision	-19.3	-23.4
Total net commercial debt	**23.5**	**42.9**

Gross commercial billed debt during the year reduced by £28.6 million from £78.3 million to £49.7 million. This reduction was achieved as a result of improved cash collection from customers and the impact of the data cleansing exercise. Cash collection in the year improved by £43.3 million from £343.1 million in 2005 to £384.4 million in 2006, an improvement of 12.6%. The data cleansing exercise resulted in a £7.4 million write off against the bad debt provision and a £9.4 million write off against the credit note provision..

Household income collection in the year was 92.7% compared to 91.85% for 2004/05.

F4.3 Other debtors
Other debtors at £14.5m was £13.2 million lower than at March 05. This is primarily due to an earlier receipt of VAT from HMRC with the VAT debtor at March 06 being £12.7 million lower than at March 05.

F4.4 Prepayments & Accrued Income
Prepayments and accrued income were £5.0 million lower than at March 05. This was predominantly due to a lower unbilled sales accrual of £3.6 million, a lower insurance prepayment, £2.4 million, offset by higher prepayments on IT service contracts, £0.6 million.

F4.7-14 Creditors due within one year

F4.8 Trade creditors
Trade creditors at £18.4 million were £1.5 million higher than at March 05. The increase reflects timing differences in the payment cycle to creditors. Creditors days did however reduce from 36 days to 35 days in 2006.

F4.9 Capital creditors
Capital creditors were £5.3 million higher than at March 05 reflecting the increased levels of capital investment in the year.

F4.13 Accruals
Closing accruals were £3.8 million lower at £123.2 million than at March 05 principally reflecting a lower level of goods receipted awaiting suppliers invoice. This reduction was partially offset by the increased trade creditors as detailed in F4.8 above.

F4.15-21 Bad Debt Provisions remaining, netted against Debtors

F4.15 Domestic Bad Debt Provision
The table below outlines the aged profile of household debt at 31 March 2006.

	96/97 to 01/02	**02/03**	**03/04**	**04/05**	**05/06**	**Total**
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
Gross debt	93,688	***27,676***	***31,063***	***34,628***	***51,500***	***238,555***
Bad debt provision	(93,688)	(27,500)	(31,000)	(32,500)	(35,200)	(219,888)
Net debt	**-**	**176**	**63**	**2,128**	**16,300**	**18,667**

In addition to the bad debt provision, the credit note provision (CNP) increased from £4.7 million to £10.3 million. The methodology for calculating the CNP changed in 2005/06 and is based on the historic reduction in the original value of bills issued between 1996/97 and 1999/2000 i.e. 0.93%. Consequently it now reflects more accurately the actual transaction history and provision level required.

F4.17 – F4.20 Non-domestic bad debt provision
The table below shows the movement in the bad debt provision during the year.

	£m
Opening BDP at 01/04/05	23.413
Less debt written off	-7.421
Plus top up to provision required in year	3.370
Total provision required at 31/03/06	**19.362**

The provision is calculated for total debt rather than for debt by service, as a result we have used extrapolation to populate rows F4.17 to F4.20, hence the reduced confidence grades.

Table F5 Cash Flow Parameters

F5.1-4 Debt and Credit Periods

F5.1 Debtor days figure calculated as in 2004/05, by adding trade debtors (F4.2) plus bad debt provision (F10.61) divided by turnover (F1.1) times 365 days. The reduction reflects improved cash collection rates and the impact of the data cleansing activity.

F5.2 and F5.4 WICs definition of creditor days has been applied in the calculation of F5.2 and F5.4. In terms of capital creditor days, amounts due to SWS and capital retentions have been excluded in order to determine the underlying value of amounts due to third parties in 2005/06. If this approach had been adopted in the 2004/05 Annual Return, the comparative capital creditors days would be 26 compared to 23 in 2005/06.

Table F6 Working Capital

See commentary for F4.

Table F7 Cash Flow Statement

F7 Cash Flow Statement
This has been prepared on a cash basis and is consistent with the Statutory Accounts after adjusting for the impact of FRS17. Comment on all material cashflow items is included above.

Table F8 Reconciliation of Operating Surplus (Deficit) to Net Cash Flow from Operating Activities

F8 Cash Flow Statement
This has been prepared on a cash basis and is consistent with the Statutory Accounts after adjusting for the impact of FRS17. Comment on all material cashflow items is included above.

Table F9 Analysis of fixed assets by asset type (for report year)

See F2.1 for commentary

Table F10 Analysis of income

Total turnover for the year increased by 6.1% to £1,019.0 million. Turnover from core water and wastewater services supplied to household customers increased by 3.6% to £628.3 million driven mainly by the tariff increase effective from 1 April 2005. Turnover from services supplied to business customers increased by 6.4% to £338.9 million partly due to tariff increases, 2.5%, and partly as a result of the impact of credit adjustments on the 2004/05 reported revenue resulting from the significant data cleansing activity that was taking place on the new billing system.

F10.1-16 Water

F10.1 Domestic unmeasured income
Domestic unmeasured income increased by 3.7%, £10.9 million, in line with expectations from tariff increases and information on customer base movement, derived from the councils.

F10.2 - F10.3 Domestic measured income
Income from domestic measured volumetric and fixed charges have reduced by £0.026 million, 25.2%, reflecting the impact of the data cleansing activity which identified some non domestic customers set up within the billing system as domestic. The data cleansing exercise corrected these errors during the year.

F10.5 - F10.8 Non-domestic measured income
Non-domestic measured volume income increased by £6.9 million or 8.6%. This primarily reflects the impact of the 2.5% tariff increase, approximately £2.0 million, and the value of credit adjustments raised during 2004/05 as part of the data cleansing exercise which reduced income in the previous year.

Revenue from standard and LUVA tariffs increased as non standard agreements ended during the year for a number of customers (F10.8).

An analysis of the income is detailed below:

	Variance from 2004/05 £m	Variance from 2004/05 %
Standard volume < 100Ml (F10.7)	6.1	12.4 %
LUVA's (F10.7a)	2.9	34.3 %
Standard volume 100-250 Ml (F10.7b)	2.3	34.3 %
Non standard volume tariffs (F10.8)	-4.4	-28.4%
Measured volume – Water	**6.9**	**8.6 %**

F10.12 – F10.13c Non domestic unmeasured income
Income from unmeasured water customers reduced by £1.4 million or 8.8%. This reflects the impact of customers who opted to install meters as reflected in F10.7 and credit adjustments raised in the current year as part of the data cleansing exercise.

	Variance from 2004/05 £m	Variance from 2004/05 %
Unmeasured RV standard tariff (F10.12)	-0.1	-1.5%
Unmeasured fixed charge (F10.13a)	-1.3	-19.8%
Unmeasured – Water	**-1.4**	**-8.8%**

F10.15 Bulk water sales
There has been no bulk water sales to other water agencies in the period. This is consistent with previous years.

F10.17-34 Wastewater

F10.17 Domestic unmeasured income
Domestic unmeasured income has increased by £11.3 million or 3.6%, in line with expectations from tariff increases and information on customer base movement, derived from the councils.

F10.18 – F10.21 Domestic measured income
Income from domestic measured wastewater charges has increased by £0.017 million, 27.0%. This increase is primarily driven by the identification and charging for surface water drainage associated with measured domestic customers which, for some customers, occurred for the first time in 2005/06. In addition, some customers previously incorrectly classified as domestic on the billing system have now been flagged as non domestic customers as part of the data cleansing exercise.

	Variance from 2004/05 £m	Variance from 2004/05 %
Domestic measured volumetric charge (F10.18)	-0.004	-19.0 %
Domestic measured fixed charge (F10.19)	-0.008	-47.1 %
Domestic measured surface water charge (F10.20)	0.029	116.0 %
Domestic measured volume – Wastewater	**0.017**	**27.0 %**

F10.23 - F10.26 Non-domestic measured income
Non-domestic measured wastewater income has increased by £18.5m, 15.6% primarily reflecting that the reported rateable value of properties which drives the property drainage income, F10.25, in 2005/06 was 6% greater than that reported in 2004/05. This increase in the reported rateable value generates an additional revenue of approximately £7.9 million. In addition, the 2.5% tariff increase has driven approximately £3.0 million of the year-on-year increase. Customer movements from unmeasured drainage to measured drainage in the period has also contributed to the increase in measured customer income. These movements are reflected in the commentary F10.28 to F10.29 and accounts for approximately £5.6 million of the year-on-year increase. Finally, 2004/05 income was reduced by £2.0 million reflecting the impact of credit adjustments associated with meter rightsizing and the data cleansing project.

	Variance from 2004/05 £m	Variance from 2004/05 %
Measured fixed (F10.23)	3.0	33.6%
Measured volume (F10.24)	4.9	10.4%
Measured property drainage charge (F10.25)	10.6	16.9%
Measured property drainage charge (F10.26)	0.0	0%
Measured – Waste	**18.5**	**15.6%**

F10.28 Non-domestic unmeasured RV foul charge
Non-domestic unmeasured RV based foul charges reduced by £0.6 million with the transfer of customers to F10.24. After the impact of the tariff increase, the reduction is approximately £1.0 million.

F10.28a Non-domestic unmeasured fixed charge
Non-domestic unmeasured fixed charge reduced by £1.6 million reflecting the move of some customers to measured fixed charge, F10.23. After the impact of the tariff increase, the reduction is approximately £1.8 million.

F10.29 Non-domestic unmeasured property drainage charge
Non-domestic unmeasured property drainage income has reduced by £2.1m, or £2.8m after reflecting the tariff increase. This reduction is offset by the increase in F10.25, measured property charge.

F10.29a – F10.30 Non-domestic surface or roads drainage charge
Scottish Water has no non-domestic customers on unmeasured roads drainage tariff or a surface water only tariff. The charging for such services is primarily within the non-domestic, unmeasured property drainage charge, F10.29.

Table F11 Taxation Analysis

Table F11 has been populated on a basis consistent with that applied in the Final Determination.

All figures reported are on the same basis as table B7.15 in the Final determination, with the exception of :-

- The actual values for 2005/06 have been included.
- The percentages transferred from Work-in Progress (WIP) in 2005/06 and 2006/07 have been revised to reflect the closing WIP as at March 2006.
- Depreciation on capitalised revenue (non infra) in 2005/06 has been revised to reflect the actual spend on 'investigations' in 2004/05, which is claimed as a revenue deduction in the 2005/06 computation.
- The allocation of capital expenditure and WIP to the asset pools has been updated to reflect the revised capital investment forecast information.

The opening capital allowances pools, losses brought forward and general provisions brought forward in 2004/05 have been updated to reflect the actual closing position.

The tables submitted in 2004/05 were computed prior to closure of the outstanding predecessor Water Authority computations. The closure of such computations during 2005/06 resulted in amendments to the opening balances on the capital allowances pools and a reduction to the losses brought forward figure. Consequently figures have been entered in the 2004/05 column of the 2005/06 submission.

Line F11.31 is the amount of revenue expenditure disallowable for tax purposes which is added to the appropriate capital allowance pools. This is not computed until after the F11 tables have been submitted therefore an estimate is used. The estimate used for 2004/05 in the original submission was £2.3m however the actual amount was £2.6m and therefore the year -1 in the 2005/06 is updated.

Line F11.32 is revenue expenditure permanently disallowed for tax purposes. This includes disallowables such as excess rentals of expensive lease cars and fines. No estimate was included in the original 2004/05 as the amount is fairly small but the actual was included in the year – 1 in the 2005/06 update.

Line F11.33 is the difference between the accounting gain and capital gain on disposal of assets. As above, an estimate had been used and the actual was input for the year -1 in the 2005/06 update.

F11.5 Scottish Water does not claim any 100% first year allowances.

F11.9 Scottish Water has no assets purchased under a finance lease.

F11.10 Scottish Water has no capitalised revenue expenditure which is deducted in the year of spend.

F11.12 Scottish Water has no capitalised revenue expenditure depreciated (non infrastructure).

F11.13 Scottish Water has no capitalised revenue expenditure which is not depreciated.

F11.17 Finance lease depreciation does not apply as per F11.9 above.

F11.20 Scottish Water has no capitalised revenue expenditure deducted in the year of spend.

F11.24 Scottish Water infrastructure assets require to be maintained in perpetuity and do not have an average asset life.

F11.31 Scottish Water annually review certain revenue accounts to identify costs require to be treated as capital for tax purposes. Based on 2004/05, an estimate has been input to future years.

F11.32 There is revenue expenditure which is permanently disallowed for tax purposes. This includes any fines and disallowable excess rental costs associated with leased company cars. An estimate has been used for 2005-06 based on the actual for 2004-05 which has been input. As the amounts involved are relatively small no estimate is included for 2006-07 onwards.

F11.33 Profit/income not taxed as trading income is the difference between the accounting gain and the capital gain for tax purposes on the disposal of assets. The actual difference has been input for 2004-05 (subject to HMRC enquiry) with an estimate used for 2005-06 based on the profile of 2005-06 asset disposals.

Appendix 1

Reconciliation of F Tables to the Statutory Accounts for the year ending 31 March 2006

Under Financial Reporting Standard No 17 "*Retirement Benefits"* (FRS 17) the statutory accounts reflect, for the first time, the full implementation of FRS 17, with the results for 2004/05 restated accordingly. The FRS17 pension liability as at 31 March 2006 was £165.0 million (2005 - £142.0 million). However, because a proportion of this liability had already been provided for by Scottish Water within the restructure provision (£74.7 million), the reduction to net assets was £67.3 million as at 31 March 2005.

The reconciliation of the F table numbers to the Statutory Accounts is shown below:

Reconciliation of income and expenditure	**2004/05 £m**	**2005/06 £m**
Surplus as reported in table F1 (F1.23)	64.3	138.6
Impact of FRS17		
Decreased operating surplus	(5.3)	(2.8)
Increased finance costs	(3.4)	(1.0)
Net decrease in surplus on ordinary activities (Note 1a to the financial statements)	(8.7)	(3.8)
Surplus per the 2006 Statutory Accounts	**55.6**	**134.8**

Reconciliation of net assets	**2004/05 £m**	**2005/06 £m**
Net assets reported in table F2 (F2.18)	2,526.5	2,837.8
Impact of FRS17		
Creation of pension liability	(142.0)	(165.0)
Reduction in restructure provision associated with pension liabilities (Note 17 to the financial statements)	74.7	59.1
Net decrease in net assets	(67.3)	(105.9)
Rounding difference	(0.1)	-
As stated in the 2006 Statutory Accounts	**2,459.1**	**2,731.9**

Reconciliation of reserves	**2004/05 £m**	**2005/06 £m**
Reserves as reported in table F2 (F2.20)	293.2	431.8
Impact of FRS17		
Adjustment via STRGL (note 1a to the financial statements)	(67.3)	(67.3)
Actuarial loss recognised in respect of pension funds	-	(34.8)
Net decrease in surplus on ordinary activities	-	(3.8)
As stated in the Statutory Accounts	**225.9**	**325.9**

G Tables Investment Plan (Actuals and Forecasts)

Table G presents Scottish Water's Q&SII capital expenditure programme showing the actual expenditure in the Report Year and forecasts for future years.

The outturn expenditure reported for 2005-06 was £633M against the £630M budget set in Scottish Water's Business Plan. The cumulative total investment to March 2006 is £1,891M which represents 87% of the total programme. However, as requested by WIC, the Q&SIII funded element of the completions projects have been removed from Table G and are reported in Table K. This has reduced the expenditure reported in Table G for 2005-06 by £1.5M to £631.7M and the cumulative total to £1,889.5M.

The current forecast outturn for the Q&SII programme is £2,188M and reflects the current view of the investment requirements to deliver the Q&II service and legislative objectives. It includes COPI forecast of £176M, Q&SIII development work of £9.5M and £10.5M of completion projects. Table G reports forecast outturn of £2,168M as the total actual and forecast expenditure on Q&SIII Development is excluded and the Q&SIII funded element of the completion projects has been removed from the Report Year and future years.

Table G is based on Ver 3.5 of the WIC 18 Baseline Programme agreed with the Water Industry Commission in November 2005 and reflects further agreed substitutions and includes aggregation and disaggregation from projects in the baseline. As Table G requires the reporting of all projects with expenditure in the Q&SII price control period, investment incurred on Additional Items, Non Q&SII Commitments and Q&SI Carryover. As requested, the Q&SIII Development Costs and the Q&SIII funded element of the completion projects have been removed from Table G and are reported in Table K. This has reduced the expenditure reported in 2005-06 by £1.5M and the forecast for future years by £9M from the actual and forecast expenditure reported in CIR Q4 2005-06.

The capital programme is divided into three areas for delivery purposes:

1. SWS – Allocated Programme
2. SWS – Managed Programme
3. SW Programme – Katrine Water Supply, Small Value Capital Works and Support Services

The main focus for investment in the Report Year has continued to be legislatively driven quality improvements. As can be seen in the summary tables, compliance with Water Quality Undertakings in the Water Service sector and with Urban Wastewater Treatment Regulations in the Wastewater Service sector accounted for the most significant proportion of investment. However, considerable investment was also made on Infrastructure Renewals, accounting for approximately 16% of the 2005/06 programme.

Quality improvements and the Dangerous Substances and Explosive Atmosphere Regulations requirements account for majority of the capital programme in future years.

Spend to Save projects totalling £9.4M are not included in Table G but are included as Appendix 2.

Financial Profile and Methodology

The financial information provided in G5 and G6 of the submission has been reconciled with Scottish Water's corporate finance system. The Life to Date expenditure has been fully reconciled between the Financial System and the Capital Investment Monitoring System (CIMS). The current year project information in G5 and G6, from which information in other tables is derived, represents the end-of-year position as reported in the fourth quarter capital investment return to the Commission except in relation to the completion projects where £1.5M of expenditure is included within Table K. The expenditure is as stated in the Statutory Accounts.

Scottish Water Solutions (SWS) undertake their monitoring in Primavera (P3e) and an interface has been built to enable transfer of the financial, outputs and milestone data to CIMS on a monthly basis. There is a daily interface between Peoplesoft 8.4 and CIMS with actual costs being recorded in CIMS. Scottish Water Project Managers update their project data directly into CIMS.

The 2005/06 return reflects the efficiency targets set out in WIC 23 and the expenditure in 2005/06 reflects the actual expenditure incurred in each project except in relation to 17 completion projects where the balance is reported in Table K. The future forecasts are the latest best estimate and therefore are deemed to be inclusive of an element for inflation.

As a project advances through the development stages of feasibility and options appraisal to reach an agreed target cost, the cost information and certainty improves. On obtaining an agreed target cost, any variance above the thresholds contained in the Capital Investment Approval Process requires a Capex 4 to be produced to explain the change in forecast and to seek approval to an amended scope and/or budget.

Overhang Financial Profiles

Tables G5 and G6 reflect a forecast expenditure of £279M in future years which is taken from CIMS and is based on an accumulation of current best forecasts at project level. This includes a Programme Risk Adjustment of £11.9M for identified risks which are not included in individual project forecasts. The net overhang forecast is £274M as the reported figures are gross with £5M of contributions to relieve development constraints on 2 flooding projects deemed to apply to the overhang period. The gross value is shown in Table 1 below. This is lower than the £288M reported in CIR 04 2005-06 due to the removal of the future forecasts on the completion projects which are reported in Table K. A number of projects included in the overhang are substitutions agreed with the Drinking Water Quality Regulator and SEPA. Service Reservoir Security and Dangerous Substances and Explosive Atmosphere Regulations which form part of the Additional Items, for which log-up funding has been agreed, appear in the overhang and the balance is made up of Water Quality or Wastewater Quality projects where land, planning, and consent issues require to be resolved or have delayed progress on projects such as Loch Katrine Water Supply.

The future expenditure by year and by project is included in Appendix 1.

Table 1 shows the annual expenditure totals and the forecasts for the overhang into Q&SIII. The majority of the change in prior years is due to the removal of Q&SIII Development projects. Other changes were detailed in the quarterly CIR reports in 2005-06.

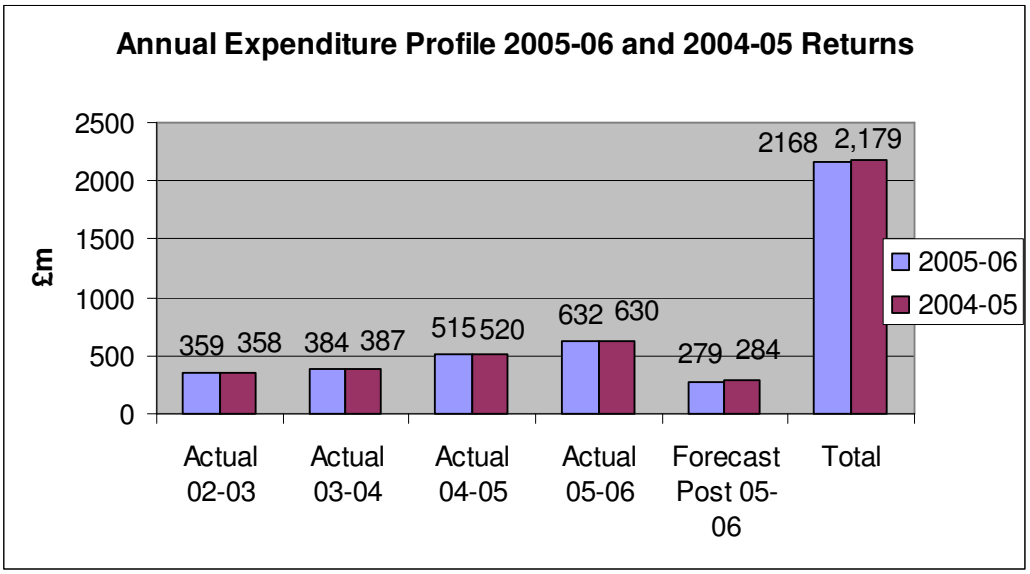
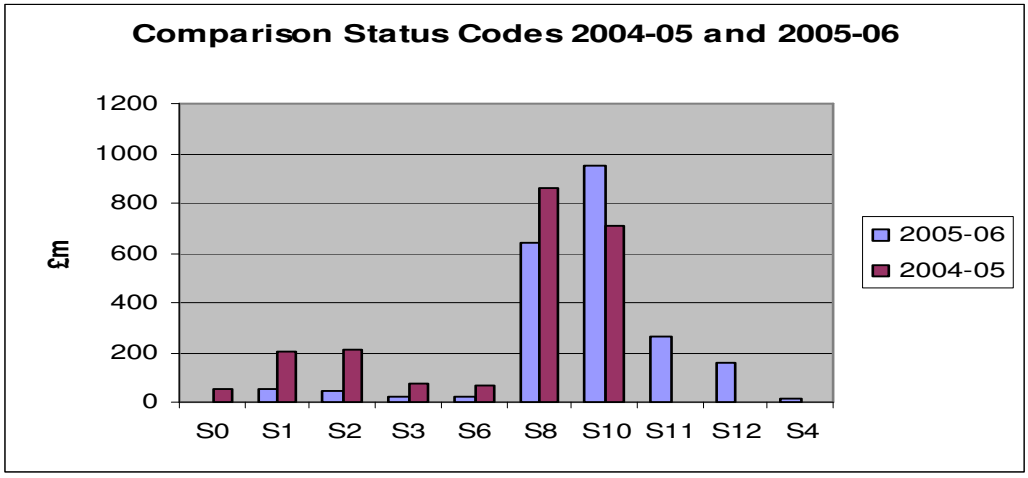


Table 2 shows the progress of the investment programme through the various project stages from project strategy to beneficial use between 2004-05 and 2005-06. Additional stages of S11 Capex 5 Approval, S12 Quality Regulator Sign-off and S4 Project abandoned.



Programme Outputs – Cumulative Position to March 2006

The WIC 18 Baseline Programme Ver 3.5 has 9 output measures and 86% of the total programme outputs target was delivered by March 2006. Third party issues on obtaining land and planning consents contributed to the slippage against the 2005-06 targets with 91% being achieved. Table 3 shows position as at March 2006.

Table 3

Output Code	Output Description	Unit	Cumulative Delivered to end 2005/06	Q&SII Target	Percentage of total target
DW_FT	Properties receiving FT provision of water	Nr	407	408	100%
DW_P	Removal of properties from poor pressure register	Nr	1391*	1391	100%
DW_WQ	Drinking Water drivers addressed	Nr	471	604	78%
WM_R	Mains rehabilitated	Km	2990	3051	98%
WW_C	Continuous discharges removed	Nr	416	591	70%
WW_FR	Removal of properties from 'at risk' flooding register	Nr	728	829	88%
WW_FT	Properties receiving FT provision of sewerage	Nr	377	667	57%
WW_R	Sewers rehabilitated	Km	390	409	95%
WW_UCSO	UCSO's removed	Nr	383	429	89%
Total outputs percentage delivered					86%

*Additional 231 outputs have been delivered with 6 currently being verified. These are not included above to ensure that the overall cumulative position is not distorted.

Proportional Allocation of Financial Expenditure and Opex Impact to Purpose and Output Codes

The WIC 18 Baseline Programme Ver 3.5 reported agreed outputs to be delivered in the Q&SII period but these do not match the Regulatory Purpose and Output Measures. No percentage split was allocated to the output drivers in the WIC 18 Baseline Programme. Following agreement of Ver 3.5, the allocation of percentages to projects, where there were multiple outputs, was reviewed and updated. The methodology applied was in line with the methodology in 2003-04 Return.

The output measures were considered first and a percentage split allocated on the basis of the number of outputs with the associated purpose measures reflecting the total of outputs. For example:

- Project with 4 quality outputs had 25% allocated to each output and purpose measure of 100% quality.
- Project with 4 maintenance outputs and 1 quality output had 20% allocated to each output with 80% allocated to maintenance purpose measure and 20% to quality purpose measure.
- Project with 1 quality, 1 maintenance and 1 growth output had 34/33/33 allocation to both purpose and output measures.

Where better information was available on the percentage split between outputs, this has been reflected in Table G. Capex forms for the Q&SIII Programme have been updated to require the driver allocation at all Capex stages. However, the Capex forms were not amended to collect the purpose and output allocation at Capex 3 and Capex 5 for the Q&SII programme.

The methodology for updating the opex impact from the original WIC 18 Baseline opex is to take the impact from approved Capex 3 targets where a project has reached this milestone with updates from Capex 4s as approved. For projects at an earlier stage, the forecast impact of the preferred option at Capex 2 or the impact assessed as part of the Business Planning process is included Where actual opex values are available from Finance, these are incorporated into the total Q&SII programme forecast. The opex Baseline value has been removed for agreed quality removals and, where substitution projects have not yet reached Capex 2, an estimate of forecast opex has been included. The Capex 5 forms have been updated to capture opex impact and these will be recorded in CIMS. The opex impact is not split against purpose and output codes as part of the Capex Approval process. However, the allocation for Table G is progressed on the basis of a weighting of quality drivers. Opex impact on Support Services projects is shown at project level but

does not feed through in the summary tables. Details of the opex impact from IT Fleet and Telemetry projects for 2005-06 and beyond is shown in Table 4.

Table 4

Support Service	2005-06 £m	2006-07 £m
IT Projects	-0.030	-0.446
Fleet	0.126	0
Telemetry	0.009	0.297
Total	0.105	-0.149

The comparison between the actual and forecast expenditure splits between quality, growth, infrastructure renewals, capital maintenance and support services in the 2004-05 and 2005-06 returns are shown in Tables 5 and 6 below.

Table 5

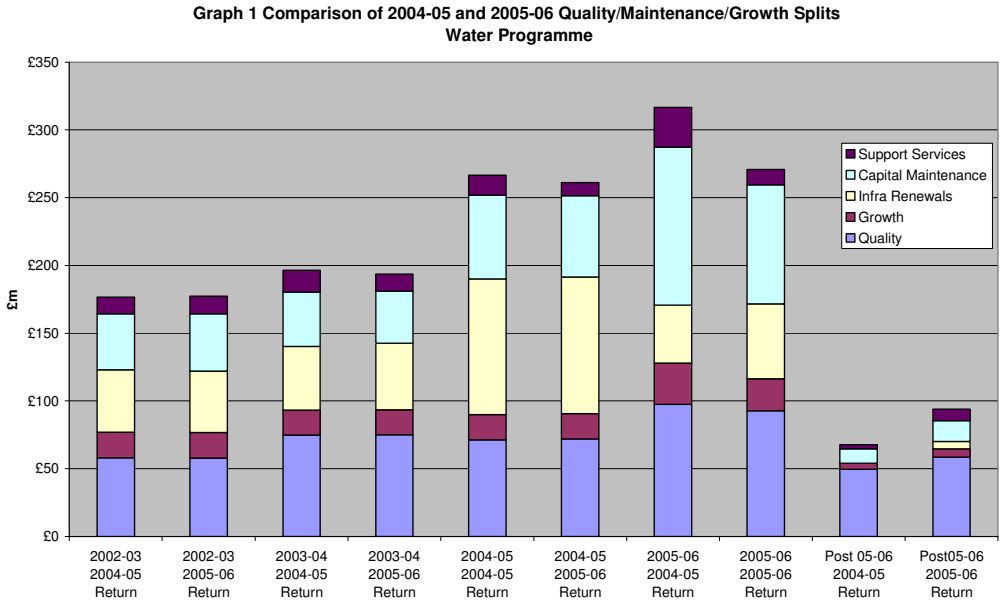
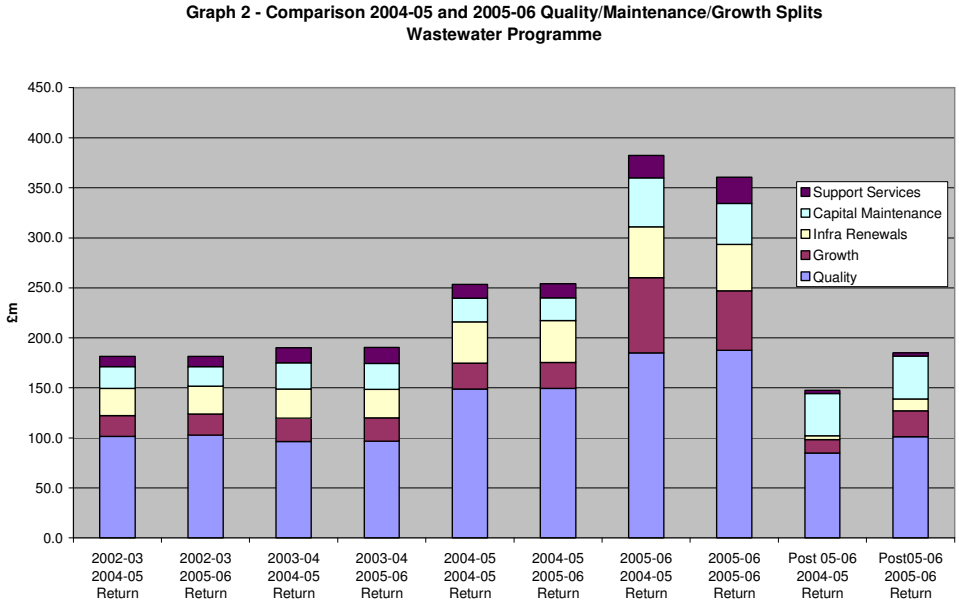


Table 6



Projects with No Asset Outputs

These projects fall into four categories:

- Projects that provide improved information and understanding of the existing assets, collection and distribution systems. This is achieved through development of Drainage Area Plans, Water Zonal Plans, establishment of DMAs, Pre and Post Renewal Assessments, CCTV surveys. Area or Functional Strategies have also been progressed to consider the overall requirements of Scottish Water to meet quality standards and maintain appropriate levels of service. These enable prioritisation of investment and development of appropriate solutions to deliver the Quality and Standards outputs and identification of the lengths of mains and sewers which require rehabilitation in Q&SII and into the Q&SIII period.
- Projects which have installed operational meters, PRVs, loggers and upgraded or replaced valves to improve the operation of the networks and serviceability to customers
- Quality and Capital Maintenance projects removed from the programme. These projects report their actual expenditure incurred on feasibility and are reported as S4.
- IT projects to deliver new or enhanced corporate systems.

Data

The confidence grading associated with actual financial information in G5 and G6 would be A1 / A2 as it is based on sound records and procedures. However, the overall confidence grade has been reduced to C3 due to inherent limitations in apportioning costs to purpose and output codes and incremental opex costs.

Confidence Grades G1 – G4

As previously stated, the financial information on each project is reconciled with Scottish Water's corporate finance system and has a high confidence grade. However, the analysis applied to establish driver apportionment leads to a reduction in accuracy to +/- 10%

Table G1 Summary - Water Service

Where no line comment is given, the information is a summary derived from Table G5.

G1.1-6 Base Service Provision

G1.1 – Base operating expenditure is calculated from total operating expenditure (E1b.26).

G1.5 – This figure represents total Infrastructure Maintenance investment in the Report Year. One contribution to a NRSWA mains diversion project and one contribution to a customer meter project were received in 2005-06 but were not credited to the projects. A further contribution is expected in 2006-07 to the same mains diversion project.

G1.7-10 Backlog

As projects have been disaggregated into the WIC 18 Baseline Programme, all WIC 18 projects have been reported as base service provision. There is only one mains rehabilitation project with backlog driver in Q&SII period.

Different approaches had been taken by predecessor Authorities in the allocation of base and backlog and it is considered inappropriate to continue to reflect this inconsistency.

G1.13-17 Growth

G1.15 – This figure includes investment in WIC 16 First Time Water Supply.

G1.17 – Additional operating expenditure is calculated through analysis of the proportion of capital spend allocated to the Output codes on each individual project and applying the same split to the operating costs with a weighting applied to individual codes.

G1.18-22 Grants and Capital Contributions

G1.18 – No grants for infrastructure assets were received in the report year.

G1.19 –Grants totalling £678.6k for non-infrastructure assets were received in the report year. Three related to EKP security upgrade and one was CEEF grant for energy efficiency.

G1.20 – Two contributions were received in the report year. One relates to a mains diversion project and the second to customer meter project. A further contribution to the same mains diversion project is expected in 2006-07.

G1.21 – One contribution was received in the Report Year relating to a WQ project.

G1.22 – No assets adopted or acquired at nil cost were included in the MEA value in Table D3.

Details of grants and contributions received in Q&SII period are shown in Appendix 3. Two contributions have been received in the Report Year relating to projects which will continue in the overhang. 1 future contribution has been included.

G1.23-27 Expenditure Totals

G1.27 – The report year figure matches that in E1b.26.

Table G2 Summary - Wastewater Service

Where no line comment is given, the information is a summary derived from Table G6.

G2.1-6 Base Service Provision

G2.1 – Base operating expenditure is calculated from total operating expenditure (E2b.26).

G2.5 – This figure represents total Infrastructure Maintenance investment in the Report Year and there were no grants/contributions were received towards wastewater infrastructure maintenance projects

G2.7-10 Backlog

As projects have been disaggregated into the WIC 18 Baseline Programme, all WIC 18 projects have been reported as base service provision. There are no projects reported with backlog drivers.

Different approaches had been taken by predecessor Authorities in the allocation of base and backlog and it is considered inappropriate to continue to reflect this inconsistency.

G2.13-17 Growth

G2.13 – The figures include investment in WIC 16 Development Constraints and the contributions from third parties to flooding projects.

G215 – The figures include investment in WIC 16 First Time Sewerage.

G2.17 – Additional operating expenditure is calculated through analysis of the proportion of capital spend allocated to the Purpose Category codes on each individual project and applying the same split to the operating costs

G2.18-22 Grants and capital contributions

G2.18 – No Grants for infrastructure assets were received in the Report Year in respect to wastewater assets.

G2.19 – Two ERDF grants for non-infrastructure assets were received in the Report Year.

G2.20 – Two contributions towards infrastructure projects were received. As these relate to the relieving of development constraints being delivered through 2 flooding projects, these do not impact on the sewer rehabilitation line.

G2.21 – One contribution was received towards a wastewater quality project. Developer contributions which have not been allocated to specific projects are also being reported against this line.

G2.22 – No assets adopted or acquired at nil cost were included in the MEA value in Table D3.

Details of grants and contributions received in control period are shown in Appendix 3. There are no grants or contributions expected in future years relating to wastewater projects.

G2.23-27 Expenditure Totals

G2.27 – The report year figure matches that in E2b.26.

Table G3 Quality - Wastewater Service

Where no line comment is given, the information is a summary derived from Table G5.

G3.1-8 Drinking water directive

G3.2, G3.4, and G3.6 – the increase in opex costs shown in the Report Year reflects the incremental increase following completion of projects within 2004-05 and 2005-06. Changes have been identified for future years. Due to the application of the equal percentage allocation to all output measures, the opex calculation by driver may be distorted. No data is collected on the opex costs by driver as part of the Capex approval process. Unless a specific process can be attributable to a single output driver, an appropriate split by driver cannot be established. Any opex changes resulting from capital maintenance on non-infrastructure assets has been shown against DW3. Any opex changes resulting from capital maintenance on infrastructure assets has been shown against DW5. Support Services opex impact is shown in Table 4 above.

G3.9-10 The Cryptosporidium Direction 2000

G3.10 – the increase in opex costs shown in the Report Year reflects the incremental increase incurred following completion of projects within 2004-05 and 2005-06. Changes have been identified for future years. As with the Drinking Water Directive, it is not possible to split the opex impact against individual outputs unless a specific process can be wholly attributed to this driver.

G3.11-12 Water Mains Rehabilitation

Investment in Mains Rehabilitation is driven by the criteria of condition and serviceability. The only projects reporting a DW5 output measure are agreed with DWQR. Further projects may be confirmed as being DW5 where quality improvements can be established but are currently be reported against infrastructure renewals.

G3.13-14 The Abstraction Directive

No investment has been identified against this Directive.

G3.15-16 The Birds Directive, The Habitats Directive

No investment has been identified against this Directive.

Table G4 Quality - Wastewater Service

Where no line comment is given, the information is a summary derived from Table G6.

G4.1-4 Driver WQ1: Control of Pollution Act 1974 Section 34

G4.2 – Opex impact identified against base non-infrastructure capital maintenance projects have incorporated into WQ1/1.

G4.5-10 Driver WQ2: Improvements to poor or seriously polluted waters

G4.15-26 – UWWTD continues to be the principal driver for quality investment in the Report Year with coastal waters accounting for the majority of spend. The opex increase resulting from upgraded levels of wastewater treatment in the Report Year and future years is primarily driven by UWWTD requirements. As the opex impact is calculated at project level, the split between drivers has been apportioned on the basis of the output measures percentage split.

G4.11-14b Driver WQ3: Protection of Risk

G4.27-30 – Although the Scottish Executive wished all projects with a Bathing Water driver to be completed in advance of the 2003 Bathing Water season, it has not been possible to advance all projects to meet the change in deadline and investment will continue in future years. A number of projects delivered temporary solutions with the permanent solution to be completed at a later date. The opex implications are reported in appropriate years.

G4.15-26 Driver EC1: UWWTD Directive

G4.31-34 – The majority of expenditure to meet Shellfish Waters requirements is within 2004-07.

G4.35-38 Driver EC4: Freshwater Fish Directive

G4.35-38 – The majority of expenditure to meet Freshwater Fish Directive requirements is within 2004-07.

G4.39-40 Driver EC6: Sludge Directive

G4.39-40 – Expenditure in the Report Year relates principally to work on Caithness sludge treatment facility and Galashiels WWTW.

G4.41-42 Driver EC9: Dangerous Substances Directive

G4.41-42 – Expenditure continued with 7 projects reaching beneficial use.

Table G5-6 Project analysis – water and wastewater services

Commentary on these tables is on a column by column basis.

Authorities Investment Code (Column 1)

This is the unique number which identifies the project within the capital investment programme and CIMS. The Share Account has been split into water and wastewater the prefix ties back to the original code. The Programme Risk line has been split into water (20020) and wastewater.

A number of programme groups have been aggregated and reported against a single code. These include WZPs, DAPs, PPRA, DAS projects and are reporting the total actual and forecast expenditure for the programme against a single project.

Project Title (Column 2)

This is the title defined by Scottish Water and is taken directly from the capital investment programme and CIMS. The only exceptions are the projects which have been rolled to programme groups.

Status Code (Column 5)

The project status code is taken from the pre-determined set of codes, which reflect the current stage of the project. Progress on projects is updated monthly through CIMS and status codes are adjusted to indicate the milestones which have been achieved. The S8 construction code has been used for rolling programmes/projects where there are asset outputs to be reported in 2005-06 and the project is continuing into 2006-07. All other rolling

programmes or projects have been reported as S10 or S11 but the asset outputs are only those delivered in 2005-06. As agreed, S4 has been used to identify projects which were stopped prior to construction or not able to progress to beneficial use. Projects which had a regulatory quality output in Ver 3.5 of the WIC 18 Baseline Programme which is being delivered through a different project are not shown as S4.

Design Code (Column 6)

The appropriate codes have been allocated to projects to reflect the design route being progressed. Projects that have not progressed to feasibility stage are largely being reported as D0. All projects identified for delivery by Scottish Water Solutions are shown as D6.

Procurement Code (Column 7)

The procurement code reflects the principal procurement route for each project, although a number may employ more than one procurement route. All projects identified for delivery by Scottish Water Solutions are shown as P6.

Expenditure Profile (Columns 7.1-16)

The sums entered are total capital expenditure including design and supervision costs. The total expenditure column, which sums up the individual years, is formatted in £millions. The Report Year financial information held in CIMS has been reconciled with the corporate finance system with the exception of 17 completion projects where the balance of expenditure in 2005-06 is reported in Table K. A consistent approach to accruals has been adopted across Scottish Water which will ensure that the corporate finance system and CIMS reflect the value of work done and are reconciled.

Total Change in Operating Costs (Column 17)

The information on changes in operating costs has been derived from a number of sources. These include opex costs of existing assets, operational experience and use of manufacturers' data where Scottish Water has limited or no experience of operating certain treatment processes. The effects of new investment take account of changes in staffing levels, rent and rates, power costs, chemicals and other consumables, monitoring and sampling costs. The WIC 18 baseline opex value has only been used for projects which are pre-Capex 2 where there was no revision during the Business Planning process. For substitution projects which are pre-Capex 2 an estimate has been included. The WIC 18 baseline value is updated from the forecast impact on preferred option from Capex 2. Where projects are at Capex 3 or beyond, the approved opex impact value from Capex 3 has been used with any update from Capex 4 or 5 approvals.

Year of Commissioning (Column 18)

This is the planned year of commissioning and is entered in financial year format. The information entered is taken from CIMS for the majority of projects. However, to enable the commissioned asset information to feed into Tables D1 – D3, rolling programmes are being reported with a year of commissioning of 2005-06 but only the elements completed in 2005-06 are shown in the asset columns. This is in accordance with reporting practice for previous years. However, where the rolling programmes have been completed, these are reported as S10 or S11 and only projects with assets in 2005-06 which have not yet achieved beneficial use are shown as S8.

Total Contributions (Columns 19-20)

Total contributions refer to the values of grants or contributions from third parties received or forecast in the Q&S II period. The totals shown in the summary tables represent payments

received against these projects in the Report Year and forecast for 2006-07. These include security grants, ERDF grants, and contributions from individuals or organisations to quality upgrades, enabling development, or capital maintenance. The contribution shown against the SW Programme Risk line relates to CEEF grants which have not been disaggregated to individual projects.

One contribution has been shown in future years.

Total grants and contributions received in the Q&II period on individual projects are shown in Appendix 3.

Capital Expenditure Analysis (Columns 21-23)

This is split into the three areas of contract costs, design and supervision costs, and other direct costs. These are expressed as a percentage of the total project costs. At present, due to the methodology for recording future expenditure forecasts on Scottish Water Solutions projects, it is not possible to extract the capex expenditure split against these three areas from CIMS and generic programme grouping breakdowns have been utilised. A change to the SWS cost breakdown structure is currently being considered which would allow for forecasts to be entered against additional cost centres which would enable the capex analysis to be derived from the actuals and forecasts held in CIMS.

For design and build contracts, there may be misallocation between design and construct costs.

Purpose Analysis by Investment Category (Columns 24-33)

Purpose analysis by investment category has been undertaken on a project by project basis. As the WIC 18 Baseline Programme did not allocate percentage splits to projects with a combination of quality, capital maintenance and growth drivers, the methodology outlined in the General section has been applied. As the current Capex 3 does not update the Purpose and Output analysis, these have not been updated when the project has received approval for a defined scope and target cost. However, this is being addressed as part of the Capex Approvals process for Q&SIII. Small Value Capital Programme projects reflect the purposes identified through the Capex approval process. Purpose codes have been matched to output measures.

Output Measures (Columns 34-43.5)

For quality purpose codes, there has been a straight mapping to quality output measures. Multiple output measures have been allocated the appropriate percentage split based on methodology outlined above. Quantities are reported as follows:

DW1 – DW5 – total number included in WIC 18 Baseline Programme Ver 3.5 with disaggregations from 9038 and 9440 shown against the appropriate projects. This does not reflect the number of Water Quality Undertakings that will be delivered by the project which may cover more than one water quality zone.

EC1/1, EC1/3, EC1/5, EC2/1, EC3/1, EC4/1 – the quantity relates to the number of uCSOs on the 429 list agreed with SEPA. This includes disaggregation from 689, 3627 and 8295. Where there are multiple outputs against the same CSO, the quantity is reported against the first EC output.

EC1/2, EC1/4, EC1/6, EC2/2, EC3/2, EC4/2, EC8, WQ1/1, WQ2/1, WQ3 – the number relates to the number of continuous discharges in the WIC 18 baseline addressed by the project. Where there are multiple outputs, the quantity is reported against EC or the WQ1.

For non-quality purpose codes the quantities indicated for output measures are as follows:

- Wa1 – it is currently not possible to evaluate the impact on the weighted water quality index resulting from an individual project. These have all been shown as 0.
- Wa2 and Wa4 – as there are no WIC 18 Baseline programme outputs, the value has been left as 0.
- Wa3 – the number of properties to be removed from the Poor Pressure Register is shown. A number of other projects report a pressure driver but show 0 as the output value.
- Wa5 – where a project is contributing to the target of 3051km of main to be rehabilitated in the WIC 18 baseline, the length has been shown. For projects with no length, or non mains renewal capital maintenance, the value has been left as 0.
- Wa6 – as there are no WIC 18 Baseline Programme outputs, the value has been left as 0.
- Ww1 – the number of properties which have or are expected to be removed from the Internal Flooding Register is indicated. As some projects are still under development, the actual number delivered may be amended in the future.
- Ww2 – where a project is contributing to the target of 410km of sewer to be rehabilitated in the WIC 18 baseline, the length has been shown. For projects with no length or non sewer renewal capital maintenance, the value has been left as 0.
- Ww3 –. as there are no WIC 18 Baseline Programme outputs, the value has been left as 0.
- Cs1 – this output measure has not been used.
- Cs2 – as this output measure is included against Capital Maintenance where the purpose measure is picked up in the Summary Tables, there is a duplication of expenditure calculated in Tables G5 and G6. However, the values feeding through to the Summary Tables is correct as Cs2 does not contribute to the G1 or G2 values. A list of the projects with Cs2 outputs and the benefits to customers are shown in Appendix 4.

A small number of outputs are not appearing against the projects they relate to. This is largely due to projects already having 5 output codes.

For growth first time provision outputs, the number of properties has been shown. Where a project had been expected to deliver first time outputs but was not progressed, as these could not be achieved at reasonable cost, the quantity is reported as 0.

Where purpose codes of WM3 or SM3 have been used for Support Services, these codes have also been entered as output measures. WM3 and SM3 has also been used for the SWS Share Account.

A list of projects delivering requirements of the Security and Emergency Measures Directive and the Code of Practice for Security of Service Reservoirs are shown in Appendix 4.

Asset Replacement or Refurbishment (Columns 44-93)

Report year assets have been coded on the basis of actual assets replaced or refurbished using asset codes and size banding from Table H definitions. Where there were more than five asset types included within a single project, these have been rolled up to enable the reporting to be as representative as possible of the investment incurred. Costs have been allocated on the basis of the total project expenditure given in column 16. The expected assets to be replaced or refurbished through future projects have been similarly entered. For projects commissioned in the Report Year, prior and post condition, performance and risk grades were provided from the 2004-05 Asset Inventory and from the 2005-06 Table H

Existing Asset Inventory. The performance, condition and risk grades prior to investment for future years are derived from the 2005-06 Table H Existing Asset Inventory. The performance, condition and risk grades post investment are derived from the anticipated changes to assets based on the level of expenditure against the estimated modern equivalent asset value (MEAV). For rolling programmes, the codes, quantities and costs reflect the assets commissioned in 2005-06 and therefore prior and/or future asset outputs are not reported. Rolling programmes have been reported as S10 except where there are further outputs to be delivered in future years where they are reported as S8.

Due to rolling programmes on mains renewals and sewer rehabilitation, Table G does not reflect the lengths and investment on infrastructure renewals fully in the asset tables. It is anticipated that the lengths replaced or rehabilitated will achieve the values established in the WIC 18 Baseline Programme Ver 3.5 by 2006-07.

A number of mains renewal projects which are reporting an actual beneficial use date prior to 2005-06 have been classed as rolling programmes to report additional lengths of main or a negative length, as the length in 2004-05 was over-estimated. In a number of cases, the actual expenditure relating to the lengths reported for 2005-06 is negative due to the re-allocation of overheads to individual projects which took place in 2005-06. There is a different length reported in Table G from the value in C7 as C7 does not include lengths from epoxy lining, pressure management or abandonment. One water quality project (755) was commissioned in 2005-06 but the mains rehab element had been delivered in an earlier year and included in the rehab outputs reported previously. A second water quality project (826 Eriskay) was commissioned in 2005-06 but additional mains rehab requires to be undertaken to provide security of supply. This has still to be completed and these lengths are not included in C7.

On sewer rehab, there is a variance against the length reported in C8 as the two tables are reporting against different criteria. C8 does not include lengths delivered through flooding or UCSO projects or the Reactive Maintenance undertaken by Operations. The lengths reported by SWS for 2005-06 include projects which achieved beneficial use in 2005-06 but have still to receive Capex 5 approval and two projects where the beneficial use date is forecast for 2006-07 with the lengths delivered in 2005-06 being reported in Table G.

New and Enhanced Assets (Columns 94-108)

Report year assets have been coded on the basis of actual assets created or enhanced using asset codes and size banding from Table H definitions. Where there were more than five asset types included within a single project, these have been rolled up to enable the reporting to be as representative as possible of the investment incurred. Costs have been allocated on the basis of the total project expenditure given in column 16. Future assets types and size bands have been estimated on the basis of the likely solutions to be delivered. For projects beyond Capex 3 the assets reported reflect the expected assets to be commissioned. For rolling programmes, the codes, quantities and costs reflect the assets commissioned in 2005-06 and therefore the future asset outputs are not reported. Rolling programmes have been reported as S10 except where there are further outputs to be delivered in future years where they are reported as S8. New septic tanks which should have been reported as 5033 or 5034 have been entered as 5032 to enable the commissioned assets to feed through to D2.

It should be noted that the investment recorded against asset outputs may give a misleading impression of the costs of removing CSOs from the unsatisfactory CSO list. Where the solution requires the laying or upsizing of significant lengths of sewer to enable the elimination or improvement of individual CSOs, the civil costs reported against CSOs may form a relatively minor part of the project. Similarly, the removal of a CSO from the Unsatisfactory list may be achieved through upgrades of Wastewater Treatment Plants or pump stations.

Depreciation (Columns 109-115)

For completed projects and projects under construction, depreciation types have been allocated on the basis of the WIC definitions and the asset life classification being utilised in the Q&SIII submission. The proportion of expenditure against different asset types is calculated to provide the project level split across asset life categories. Depreciation for future projects has been projected on the basis of the anticipated asset types resulting from the likely solutions to be delivered.

Appendix 1

The attached table reports all projects which have a financial forecast beyond March 2006.

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
12	DUNFERMLINE WWTW	£0.003	£0.000	£0.000	£0.000
14	CUPAR SLUDGE TREATMENT CENTRE	£0.039	£0.000	£0.000	£0.000
15	DUNFERMLINE TRUNK SEWER DUPLICATION	£2.907	£0.982	£0.001	£0.000
17	Saline WWTW - New Sludge Storage Tank	£0.022	£0.022	£0.000	£0.000
19	KEMBACK PS & RISING MAIN	£0.166	£0.001	£0.000	£0.000
27	GARVALD WWTW	£0.403	£0.022	£0.004	£0.000
28	STENTON WWTW	£0.001	£0.000	£0.000	£0.000
30	RAWBURN FS ELECTRICAL CONTROL IMPR.	£0.477	£0.000	£0.000	£0.000
32	NEWCASTLETON WATER SUPPLY	£0.003	£0.000	£0.000	£0.000
53	PENICUIK/ N.BORDERS WATER SUPPLY	£0.010	£0.000	£0.000	£0.000
55	SOUTH QUEENSFERRY WWTW	£1.405	£0.020	£0.011	£0.000
61	PATESHILL WTW UPGRADING	£0.493	£0.000	£0.000	£0.000
62	THORNHILL WWTW	£0.000	£0.000	£0.000	£0.000
63	LETHAM COTTAGES,TERRACES / LETHAM WWTW	£0.035	£0.009	£0.000	£0.000
64	BONNYBRIDGE WWTW	£0.001	£0.000	£0.000	£0.000
65	Haddington WWTW - Nitrification	£0.004	£0.000	£0.000	£0.000
68	MUCKART WWTW	£0.151	£0.000	£0.000	£0.000
69	Plean WWTW	£0.795	£0.121	£0.005	£0.000
72	Killearn WWTW - Install Auto Samplers	£0.392	£0.001	£0.000	£0.000
75	ALVA WWTW	£0.044	£0.042	£0.000	£0.000
78	GARTMORE WWTW	£0.000	£0.075	£0.000	£0.000
82	FINTRY WWTW	£0.195	£0.001	£0.000	£0.000
87	CRIANLARICH WWTW	£0.005	£0.004	£0.000	£0.000
90	GLENDEVON WTW IMPROVEMENTS	£0.018	£0.000	£0.000	£0.000
92	Ceres & Largoward WWTW's	£0.002	£0.002	£0.000	£0.000
100	KINGSBARNS WWTW	£0.006	£0.000	£0.000	£0.000
103	EDINBURGH WATER TREATMENT WORKS	£0.131	£0.005	£0.001	£0.000
108	CASTLE MOFFAT WTW UPGRADE	£0.759	£0.000	£0.000	£0.000
109	ROSEBERY WTW UPGRADE	£0.156	£0.014	£0.003	£0.000
111	KINCARDINE WWTW	£0.258	£0.002	£0.000	£0.000
113	ESK VALLEY BURGHS - CSO REGULATIONS	£1.902	£0.000	£0.000	£0.000
123	LONGNIDDRY, ABERLADY & GULLANE PUMPING STATIONS & OUTFALLS	£0.004	£0.000	£0.000	£0.000
126	TAYPORT WWTW	£1.095	£0.006	£0.003	£0.000
127	DUNBAR WWTW (WEST BARNS)	£2.112	£4.214	£0.039	£0.021
145	NEWCASTLETON WWTW	£0.138	£0.001	£0.000	£0.000
146	NEWTOWN ST BOSWELLS WWTW	£0.024	£0.005	£0.000	£0.000
147	NORTH QUEENSFERRY WWTW	£0.045	£0.001	£0.000	£0.000
158	COWDENBEATH PS / COWDENBEATH PUMPING STATION & STORM WORKS REFURB.	£0.001	£0.000	£0.000	£0.000
161	Dalderse WWTW - Sludge Treatment Handling Fac	£0.004	£0.000	£0.000	£0.000
162	STIRLING WWTW	£3.010	£0.006	£0.005	£0.000
166	GALASHIELS WWTW	£0.024	£0.005	£0.000	£0.000
168	ANCRUM WWTW	£0.290	£0.003	£0.001	£0.000
178	BLACKSHIELS WWTW	£0.423	£0.001	£0.001	£0.000
186	DUNS WWTW	£0.011	£0.008	£0.000	£0.000
187	EARLSTON WWTW	£0.000	£0.000	£0.000	£0.000
190	FREUCHIE WWTW	£0.012	£0.009	£0.000	£0.000
202	WEST WEMYSS WWTW	£0.028	£0.027	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
204	ST MONANS WWTW	£0.001	£0.000	£0.000	£0.000
206	PITSCOTTIE WWTW	£0.001	£0.000	£0.000	£0.000
212	SELKIRK WWTW	£0.004	£0.000	£0.000	£0.000
218	WALKERBURN WWTW	£0.002	£0.000	£0.000	£0.000
227	CARNOUSTIE - EAST HAVEN CONNECTION	£0.001	£0.000	£0.000	£0.000
230	KENMORE ST	£1.151	£0.001	£0.001	£0.000
231	SCONE WWTP - PUMP TO PERTH	£0.034	£0.034	£0.000	£0.000
236	MORAY COAST WASTEWATER PROJECT PREPARATORY WORK & ADVISERS' FEES	£0.010	£0.000	£0.000	£0.000
238	ABERFELDY WWTP	£0.000	£0.000	£0.000	£0.000
240	GARDENSTOWN - SR & APPROPRIATE TREATMENT	£0.075	£0.000	£0.000	£0.000
242	BRECHIN SEWERAGE IMPROVEMENTS & CSOS	£0.001	£0.000	£0.000	£0.000
243	INVERALLOCHY - PUMP TO FRASERBURGH	£0.005	£0.000	£0.000	£0.000
244	CRIMOND	£0.005	£0.000	£0.000	£0.000
245	CRIMOND	£0.001	£0.000	£0.000	£0.000
247	ELLON WWTP	£0.003	£0.000	£0.000	£0.000
248	THURSO WWTP	£0.056	£0.008	£0.000	£0.000
250	THURSO HEADWORKS MACERATOR	£0.003	£0.000	£0.000	£0.000
251	AVIEMORE WWTP	£0.003	£0.007	£0.000	£0.000
254	DAVIOT WWTP	£0.002	£0.000	£0.000	£0.000
255	TARVES WWTP	£0.003	£0.000	£0.000	£0.000
256	BALMEDIE WWTP	£0.003	£0.000	£0.000	£0.000
258	COLLIESTON MACERATORS	£0.017	£1.119	£0.001	£0.001
259	COLLIESTON MACERATORS	£0.000	£0.000	£0.000	£0.000
260	NEWBURGH WWTP	£0.003	£0.001	£0.000	£0.000
261	KINCARDINE O'NEIL WWTP	£0.024	£0.001	£0.000	£0.000
262	BRAEMAR WWTP	£0.010	£0.002	£0.000	£0.000
263	DINNET WWTP	£0.065	£0.008	£0.000	£0.000
264	BALLATER WWTP	£0.004	£0.003	£0.000	£0.000
265	TARLAND WWTP	£0.000	£0.000	£0.000	£0.000
266	LUMPHANAN WWTP	£0.026	£0.000	£0.000	£0.000
267	STRACHAN WWTP	£0.004	£0.001	£0.000	£0.000
271	METHLICK WWTP	£0.022	£0.000	£0.000	£0.000
273	PENNAN	£0.003	£0.000	£0.000	£0.000
278	WHINNYFOLD WWTP	£0.001	£0.000	£0.000	£0.000
279	KEITH WWTP UPGRADE & NEWMILL PUMPING	£0.003	£0.000	£0.000	£0.000
280	CASTLETOWN COMMINUTORS	£0.538	£0.002	£0.000	£0.000
283	Edderton WWTP - UWWTR Compliance	£0.004	£0.001	£0.000	£0.000
285	MORAR WWTP	£0.003	£0.000	£0.000	£0.000
288	ARDROSS ST	£0.003	£0.001	£0.000	£0.000
292	BALNAIN ST	£0.220	£0.001	£0.000	£0.000
296	BRORA SCREENS	£0.012	£0.010	£0.000	£0.000
297	DORNIE	£0.002	£0.000	£0.000	£0.000
298	DRUMBUIE & DUIRINISH PUBLIC ST	£0.003	£0.001	£0.000	£0.000
300	MILTON(GLENURQUHART) ST	£0.003	£0.000	£0.000	£0.000
301	Dunnet ST - Acid Dosing Equip & Tank	£0.041	£0.000	£0.000	£0.000
303	DURNESS (SANGO) SETTLEMENT TANK	£0.127	£0.001	£0.000	£0.000
306	FORTROSE HARBOUR ST	£1.211	£0.002	£0.001	£0.000
307	FOYERS WWTP	£0.156	£0.005	£0.001	£0.000
315	GILLOCK SMITHY AND OLD SCHOOL SEPTIC TANK	£0.003	£0.000	£0.000	£0.000
316	GLENFINNAN (SLATACH) ST	£0.003	£0.000	£0.000	£0.000
319	HELMSDALE	£0.164	£0.001	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
320	INVERMORISTON ST	£0.003	£0.000	£0.000	£0.000
322	KILCHOAN WWTP	£0.003	£0.001	£0.000	£0.000
324	KYLE WWTP	£0.337	£0.001	£0.001	£0.000
325	KYLEAKIN (OLD KYLE FARM RD) ST	£0.009	£0.009	£0.000	£0.000
326	LOCHINVER WWTP	£0.005	£0.001	£0.000	£0.000
327	LYBSTER	£0.003	£0.002	£0.000	£0.000
328	NEWHALL	£0.094	£0.001	£0.000	£0.000
330	PORTREE MACERATOR	£0.118	£0.009	£0.001	£0.000
331	REAY COMMUNITORS	£0.056	£0.001	£0.000	£0.000
332	SPINNINGDALE ST	£0.005	£0.000	£0.000	£0.000
333	THURSO, SIR ARCHIBALD ROAD - INTERCEPTOR SEWER	£0.002	£0.000	£0.000	£0.000
334	UIG WWTP	£0.004	£0.001	£0.000	£0.000
341	WICK - NEWTONHILL	£0.003	£0.002	£0.000	£0.000
342	PAPIGOE (PILOT ROW) SEPTIC TK	£0.007	£0.007	£0.000	£0.000
343	ARABELLA ST'S	£0.028	£0.001	£0.000	£0.000
344	ARCHIESTOWN WWTP	£0.002	£0.000	£0.000	£0.000
345	BOWER (THURA PL) SEPTIC TANK	£0.003	£0.001	£0.000	£0.000
346	DYKE WWTP	£0.030	£0.000	£0.000	£0.000
347	EVANTON INDUSTRIAL ESTATES SEWER IMPROVEMENTS	£0.026	£0.168	£0.001	£0.000
348	FOCHABERS WWTP	£0.011	£0.008	£0.000	£0.000
360	MEY (ROYAL CRES) SEPTIC TANK	£0.013	£0.001	£0.000	£0.000
362	Nethybridge WWTP - New Inlet Works	£0.048	£0.004	£0.000	£0.000
367	THRUMSTER SETTLEMENT TANK	£0.156	£0.001	£0.000	£0.000
370	FINSTOWN WWTW	£2.086	£0.003	£0.000	£0.000
371	SHAPINSAY MAIN	£0.002	£0.000	£0.000	£0.000
372	BURRAY SUNFIELD SEPTIC TANK	£0.010	£0.006	£0.000	£0.000
373	EVIE VILLAGE SEPTIC TANK	£0.001	£0.001	£0.000	£0.000
374	LADY SEPTIC TANK	£0.006	£0.002	£0.000	£0.000
376	ST COLMS QUADRANT SEPTIC TANK	£0.002	£0.000	£0.000	£0.000
377	PIEROWALL LASTIGAR SEPTIC TANK	£0.261	£0.001	£0.000	£0.000
379	ST MARY'S STATION SQUARE WWTW	£0.057	£0.002	£0.000	£0.000
381	STROMNESS WWTP	£0.002	£0.000	£0.000	£0.000
394	FIRTH, MOSSBANK and SALTNESS, SYMBISTER	£0.005	£0.000	£0.000	£0.000
420	WESTERN ISLES UWWTR ACCESS TO SEPTIC TANKS	£0.004	£0.000	£0.000	£0.000
425	BRECHIN CSOS	£0.004	£0.002	£0.000	£0.000
427	FORFAR CSOS	£0.003	£0.000	£0.000	£0.000
428	INVERBERVIE	£0.443	£0.002	£0.001	£0.000
429	INVERBERVIE	£0.377	£0.002	£0.001	£0.000
430	ST CYRUS WWTP	£0.374	£0.002	£0.001	£0.000
433	GLENFARG WWTP	£0.073	£0.000	£0.000	£0.000
435	KIRRIEMUIR WWTP	£0.008	£0.008	£0.000	£0.000
436	LAURENCEKIRK WWTP	£0.259	£0.002	£0.001	£0.000
437	METHVEN TRUNK SEWER & WWTP	£0.145	£0.002	£0.000	£0.000
441	WELLBANK WWTP	£0.001	£0.000	£0.000	£0.000
444	KENNETHMONT WWTP	£0.002	£0.001	£0.000	£0.000
445	UDNY STATION WWTP	£0.074	£0.001	£0.000	£0.000
448	PERTH CITY WWTP	£0.025	£0.001	£0.000	£0.000
456	Grantown on Spey WWTP - Install Inlet Unit	£0.006	£0.003	£0.000	£0.000
476	KEMNAY WWTP	£0.068	£0.000	£0.000	£0.000
477	UDNY GREEN WWTP	£0.040	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
496	BLAIRGOWRIE WWTP	£0.003	£0.002	£0.000	£0.000
517	FORGANDENNY WWTP	£0.009	£0.001	£0.000	£0.000
518	STANLEY WWTP	£0.012	£0.009	£0.000	£0.000
520	Burrelton WWTP - Auto Desludge & Flow Measure	£0.009	£0.001	£0.000	£0.000
531	DINGWALL WWTP	£0.020	£0.018	£0.000	£0.000
532	FORRES STC	£0.001	£0.000	£0.000	£0.000
533	FORRES WWTP	£0.007	£0.000	£0.000	£0.000
534	FORRES WWTP	£0.005	£0.000	£0.000	£0.000
570	W BALBLAIR(SE) ST	£0.061	£0.000	£0.000	£0.000
588	Aboyne WWTP - UWWTD Compliance	£0.143	£0.001	£0.000	£0.000
589	Banchory WWTP - UWWTD Compliance	£0.550	£0.001	£0.000	£0.000
592	ECHT WWTP	£0.002	£0.000	£0.000	£0.000
595	OLDMELDRUM CSO	£0.004	£0.002	£0.000	£0.000
596	STONEHAVEN - CSOS	£0.011	£0.000	£0.000	£0.000
598	CAIRNBULG/INVERALLOCHY	£0.002	£0.000	£0.000	£0.000
599	FINDOCHTY SANDY STREET CSO	£0.003	£0.000	£0.000	£0.000
601	SANDEND BENTS PS	£0.003	£0.002	£0.000	£0.000
602	WHITEHILLS CSOS	£0.005	£0.000	£0.000	£0.000
606	PITMEDDEN WWTP	£0.003	£0.000	£0.000	£0.000
611	Alyth WWTP - Install Screens, etc	£0.005	£0.000	£0.000	£0.000
614	BALBEGGIE WWTP	£0.003	£0.001	£0.000	£0.000
615	BALHALL (MENMUIR) ST	£0.000	£0.000	£0.000	£0.000
617	BANKFOOT WWTP	£0.003	£0.001	£0.000	£0.000
624	KINLOCH RANNOCH BRN ST	£0.000	£0.348	£0.000	£0.000
625	KINLOCH RANNOCH DUN. ST	£0.005	£0.000	£0.000	£0.000
629	MARYKIRK WWTP	£0.002	£0.000	£0.000	£0.000
631	NEWBIGGING WWTP	£0.001	£0.000	£0.000	£0.000
637	CANISBAY MANSEFIELD COTTS. S.T	£0.003	£0.000	£0.000	£0.000
638	CARBOST	£0.023	£0.000	£0.000	£0.000
640	CLYTH SEPTIC TANK	£0.001	£0.001	£0.000	£0.000
641	ARISAIG ST	£0.123	£0.000	£0.000	£0.000
642	AUCKENGILL SEPTIC TANK	£0.003	£0.000	£0.000	£0.000
643	DURRAN SEPTIC TANK	£0.002	£0.000	£0.000	£0.000
644	GEISE SEPTIC TANK	£0.002	£0.000	£0.000	£0.000
652	FORRES WWTP & MARKET PLACE CSOS	£0.004	£0.000	£0.000	£0.000
653	ADERSIER PS, SWOS	£0.002	£0.000	£0.000	£0.000
654	ALNESS SWOS	£0.007	£0.000	£0.000	£0.000
656	FINDHORN BAY CSO	£0.003	£0.000	£0.000	£0.000
657	FORTROSE ACADEMY SWO	£0.003	£0.000	£0.000	£0.000
660	TAIN WWTP & PS SWOS	£0.003	£0.000	£0.000	£0.000
661	WICK, SCALESBURN & VICTORIA PLACE	£0.020	£0.001	£0.000	£0.000
671	MURKLE (CROWN SQ) SEPTIC TANK	£0.002	£0.000	£0.000	£0.000
672	OCCUMSTER (GLENBURN) S.T.	£0.002	£0.001	£0.000	£0.000
675	WEYDALE SEPTIC TANK	£0.002	£0.000	£0.000	£0.000
676	WHALIGOE SEPTIC TANK	£0.022	£0.001	£0.000	£0.000
677	EVIE BOGIE HOUSES SEPTIC TANK	£0.057	£0.000	£0.000	£0.000
678	NORSEMAN SEPTIC TANK	£0.003	£0.000	£0.000	£0.000
680	NORTH DELL & CROSS	£0.004	£0.000	£0.000	£0.000
683	SHADER BARVAS & BALLANTRUSHAL	£0.004	£0.000	£0.000	£0.000
685	SOUTH BRAGAR ST	£0.004	£0.000	£0.000	£0.000
690	ALFORD WWTP	£0.003	£0.000	£0.000	£0.000
692	MONIKIE WWTP	£0.009	£0.001	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
693	JOHNSHAVEN	£0.202	£0.002	£0.001	£0.000
694	ULLAPOOL MACERATOR COLLECTION SYSTEM	£0.195	£0.000	£0.000	£0.000
695	WICK WWTP	£0.003	£0.000	£0.000	£0.000
701	BLAIR ATHOLL WWTP	£0.002	£0.000	£0.000	£0.000
708	FORT WILLIAM - DISTRIBUTION	£0.079	£0.000	£0.000	£0.000
715	ABOYNE (TANARSIDE) WTW	£0.002	£0.000	£0.000	£0.000
716	TERPERSIE (ALFORD) WTW	£0.005	£0.000	£0.000	£0.000
717	GALLOWHILL (BANFF) WTW	£0.001	£0.000	£0.000	£0.000
721	KIRKWALL WTW (WIDEFORD) DECOMMISSIONING (DOUNBY-FINSTOWN MAIN)	£0.003	£0.000	£0.000	£0.000
723	ACHARACLE WTW	£0.050	£0.018	£0.000	£0.000
727	ARDGOUR WTW	£0.013	£0.001	£0.000	£0.000
729	AULTBEA WTW	£0.030	£0.000	£0.000	£0.000
731	BADENTINAN WTW	£0.068	£0.001	£0.000	£0.000
733	BALLACHULISH WTW	£0.010	£0.010	£0.000	£0.000
734	BEASDALE WTW	£0.005	£0.000	£0.000	£0.000
738	CLIASMOL WTW	£0.005	£0.000	£0.000	£0.000
740	DALCHREICHART WTW	£0.004	£0.000	£0.000	£0.000
742	DIABEG WTW	£0.007	£0.000	£0.000	£0.000
746	ISLEORNSAY WTW	£0.004	£0.000	£0.000	£0.000
751	DRUMBEG WTW	£0.039	£0.019	£0.000	£0.000
753	LAGGAN BRIDGE WTW	£0.252	£0.002	£0.000	£0.000
754	NEDD WTW (CHLORINATOR)	£0.006	£0.000	£0.000	£0.000
755	WATER QUALITY IMPROVEMENTS - DISTRIBUTION SYSTEMS	£0.077	£0.000	£0.000	£0.000
756	FOREHILL WTW	£0.003	£0.000	£0.000	£0.000
757	INVERCANNIE WTW	£0.001	£0.000	£0.000	£0.000
759	TURRIFF WTW	£0.001	£0.000	£0.000	£0.000
761	BLAIRNAMARROW U.V. (TOMINTOUL)	£0.001	£0.001	£0.000	£0.000
762	Glendye WTW - Feasibility Study	£0.001	£0.000	£0.000	£0.000
763	DRIMNIN WTW	£0.010	£0.000	£0.000	£0.000
766	GLENDALE WTW	£0.028	£0.000	£0.000	£0.000
767	GLENFINNAN WTW	£0.008	£0.000	£0.000	£0.000
769	GLENUIG WTW	£0.007	£0.001	£0.000	£0.000
770	BACKIES (GOLSPIE/BRORA) WTW	£0.010	£0.000	£0.000	£0.000
771	INCHLAGGAN WTW	£0.033	£0.000	£0.000	£0.000
772	INVERGARRY WTW	£0.078	£0.002	£0.000	£0.000
778	CLUNAS (NAIRN) WTW	£0.161	£0.001	£0.000	£0.000
779	NORTH ERRADALE WTW	£0.007	£0.000	£0.000	£0.000
780	OYKEL BRIDGE WTW	£0.049	£0.000	£0.000	£0.000
781	SALEN WTW	£0.015	£0.000	£0.000	£0.000
782	SANNA WTW	£0.013	£0.000	£0.000	£0.000
783	STOER WTW	£0.040	£0.009	£0.002	£0.000
786	TORRIDON WTW	£0.280	£0.005	£0.002	£0.000
789	WATERSTEIN WTW	£0.007	£0.003	£0.000	£0.000
790	GLENACHULISH (DUROR) WTW	£0.007	£0.003	£0.000	£0.000
792	GLENCOE WTW	£0.003	£0.000	£0.000	£0.000
793	KILCHOAN WTW	£0.017	£0.000	£0.000	£0.000
794	KINLOCHLEVEN WTW	£0.688	£0.005	£0.002	£0.000
795	LOCHALINE WTW	£0.008	£0.000	£0.000	£0.000
796	STORR FOREST (PORTREE) WTW	£0.018	£0.000	£0.000	£0.000
798	ULLAPOOL WTW	£1.969	£0.008	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
804	STRONSAY WTW	£0.002	£0.001	£0.000	£0.000
806	South Hoy WTW - New Tubular Membrane Plant	£0.045	£0.001	£0.000	£0.000
807	EELA WATER WTW N	£0.006	£0.003	£0.000	£0.000
808	FETLAR WTW	£0.014	£0.000	£0.000	£0.000
810	MID YELL IMPROVEMENTS	£0.015	£0.000	£0.000	£0.000
812	WEST BURRAFIRTH CONNECTION	£0.003	£0.000	£0.000	£0.000
815	PAPA STOUR WTW	£0.002	£0.000	£0.000	£0.000
816	GOVIG WTW	£0.006	£0.006	£0.000	£0.000
817	GRAVIR WTW	£0.004	£0.000	£0.000	£0.000
818	HABOST WTW	£0.009	£0.000	£0.000	£0.000
819	HUSHINISH WTW	£0.014	£0.000	£0.000	£0.000
820	LEMREWAY WTW	£0.015	£0.000	£0.000	£0.000
821	MAARUIG WTW	£0.018	£0.000	£0.000	£0.000
823	NORTH UIST REGIONAL - WTW	£0.142	£0.004	£0.000	£0.000
824	RHENIGADALE WTW	£0.007	£0.005	£0.000	£0.000
825	STORNOWAY WTW	£0.090	£0.000	£0.000	£0.000
852	MAINLAND AUGMENTATION - KIRBISTER WTW - MODS STAGE 1	£0.040	£0.000	£0.000	£0.000
868	FINDOCHTY (HILL OF MAUD) RES	£0.004	£0.001	£0.000	£0.000
886	FERNHILL (1) RES	£0.001	£0.000	£0.000	£0.000
890	BLUEHILL (INNER) RES	£0.000	£0.000	£0.000	£0.000
902	BANFF - WRACK PS	£0.001	£0.000	£0.000	£0.000
911	Mannofield WTW - Replace desludging valves, etc.	£0.000	£0.000	£0.000	£0.000
929	TURRIFF PROSPECTHILL RES	£0.001	£0.000	£0.000	£0.000
951	CROMBIE	£0.001	£0.000	£0.000	£0.000
1178	GOLSPIE/BRORA(BACKIES) CLEAR WATER STORAGE	£0.002	£0.000	£0.000	£0.000
190	STRONTIAN WATER SUPPLY	£1.309	£0.002	£0.000	£0.000
1193	BRAEMAR WTW	£0.001	£0.000	£0.000	£0.000
1197	BURGHMUIR (OLD) SR PERTH	£0.028	£0.002	£0.000	£0.000
1203	KINNESKIE & MID BELTIE PS UPGRADING	£0.036	£0.000	£0.000	£0.000
1221	HELENSBURGH SEWERAGE SCHEME	£0.016	£0.001	£0.000	£0.000
1224	MILTON BOWLING TO CASTLEGREEN SEWER	£1.628	£0.000	£0.000	£0.000
1227	ARDRISHAIG AND LOCHGILPHEAD ST FACILITIES	£0.989	£0.000	£0.000	£0.000
1228	BALLANTRAE ST FACILITIES	£0.061	£0.003	£0.000	£0.000
1230	BLACKWATERFOOT STW - UPGRADING	£0.048	£0.004	£0.000	£0.000
1233	BOWMORE ST FACILITIES	£1.687	£1.749	£0.000	£0.000
1234	BRODICK ST FACILITIES	£0.014	£0.002	£0.000	£0.000
1237	CARSTAIRS VILLAGE STW UPGRADING	£0.004	£0.001	£0.000	£0.000
1239	CORRIE ST FACILITIES	£0.009	£0.000	£0.000	£0.000
1240	COVE AND KILCREGGAN ST FACILITIES	£2.742	£0.000	£0.000	£0.000
1243	DUNOON SEWERAGE SCHEME	£3.760	£6.378	£0.353	£0.000
1244	DUNURE ST FACILITIES	£1.685	£0.006	£0.003	£0.000
1245	EASTRIGGS ST FACILITIES	£0.027	£0.000	£0.000	£0.000
1248	HELENSBURGH STW - SECONDARY TREATMENT	£0.904	£0.000	£0.000	£0.000
1252	KIRKCUDBRIGHT STW UPGRADING	£0.092	£0.013	£0.001	£0.000
1253	LAMLASH ST FACILITIES	£0.024	£0.004	£0.000	£0.000
1254	LANGBANK ST FACILITIES	£0.007	£0.000	£0.000	£0.000
1255	LARGS SEWERAGE SCHEME	£2.028	£0.011	£0.006	£0.000
1256	LINWOOD AND JOHNSTONE STWS RATIONALISATION	£0.020	£0.000	£0.000	£0.000
1257	LOCHGOILHEAD ST FACILITIES	£0.065	£0.000	£0.000	£0.000
1258	LOCHRANZA ST FACILITIES	£0.010	£0.000	£0.000	£0.000
1262	MILLPORT ST FACILITIES	£0.010	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
1263	NEWTON STEWART STW	£0.026	£0.000	£0.000	£0.000
1266	PORT ELLEN ST FACILITIES	£0.041	£0.000	£0.000	£0.000
1267	SALEN ST FACILITIES	£0.034	£0.000	£0.000	£0.000
1268	STRACHUR ST FACILITIES	£0.090	£0.000	£0.000	£0.000
1270	TARBERT ST FACILITIES	£0.013	£0.000	£0.000	£0.000
1271	TAYVALLICH ST FACILITIES	£0.018	£0.000	£0.000	£0.000
1272	TOBERMORY ST FACILITIES	£3.561	£0.000	£0.000	£0.000
1273	WHITING BAY ST FACILITIES	£0.859	£0.000	£0.000	£0.000
1278	UPPER NITHSDALE WATER SUPPLY - PHASE 2 - MAINS EXTENSION	£0.114	£0.000	£0.000	£0.000
1280	AMLAIRD BLACKESK KETTLETON AND DAER - PHOSPHATE DOSING FACILITIES	£0.051	£0.000	£0.000	£0.000
1283	GLENGAP TW & PENWHIN	£0.010	£0.000	£0.000	£0.000
1285	LOCH ASCOG TW - UPGRADING	£0.020	£0.000	£0.000	£0.000
1286	LOCH KATRINE WATER SUPPLY SCHEME	£18.286	£14.653	£0.329	£0.256
1287	TAYNUILT TW - UPGRADING	£0.002	£0.000	£0.000	£0.000
1687	WHEATLANDSIDE/RIDGEPARK DR FLOOD ALLEVIATION SCHEME	£0.117	£0.000	£0.000	£0.000
1696	CUMBERNAULD &10 WHITEHILL FARM ROAD FLOOD ALLEVIATION SCHEME	£0.002	£0.000	£0.000	£0.000
1721	DALMARNOCK S.T.W.	£0.069	£0.000	£0.000	£0.000
1735	HAMILTON S.T.W.	£1.933	£0.006	£0.004	£0.000
1739	STRATHAVEN S.T.W.	£0.928	£0.004	£0.002	£0.000
1743	LAIGHPARK (PAISLEY) S.T.W.	£0.003	£0.000	£0.000	£0.000
1759	KIRKCONNEL S.T.W.	£0.001	£0.000	£0.000	£0.000
1801	BRAEHEAD S.P.S.	£0.001	£0.000	£0.000	£0.000
1805	KYLEPARK SEWAGE PUMPING STATION	£0.002	£0.000	£0.000	£0.000
1809	SYKESIDE SEWAGE PUMPING STATION	£0.006	£0.000	£0.000	£0.000
1842	TREATMENT WORKS SECURITY	£0.005	£0.003	£0.000	£0.000
2188	ALLERS S.T.W.	£0.003	£0.003	£0.000	£0.000
2191	CSO,S UPGRADING SCHEME	£0.502	£0.000	£0.000	£0.000
2196	DALRY CSO UPGRADING SCHEME	£0.004	£0.000	£0.000	£0.000
2197	DUKE ST, CSO'S UPGRADING SCHEME	£0.005	£0.000	£0.000	£0.000
2199	HOLYTOWN CSO UPGRADING SCHEME	£0.003	£0.000	£0.000	£0.000
2201	TOWNHEAD/WESTFIELD CSO UPGRADING SCHEME	£0.005	£0.000	£0.000	£0.000
2204	GARRIER BRIDGE / HOLMSBRIDGE PS, CSO UPGRADING SCHEME	£0.017	£0.000	£0.000	£0.000
2205	SKELLYTN INLET WORKS CSO UPGRADING SCHEME	£0.009	£0.005	£0.000	£0.000
2207	RENTON 2 PILAN FLATS NO.1	£0.003	£0.000	£0.000	£0.000
2208	ALEXANDRIA 20 FISHERWOOD CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2209	ALEXANDRIA 21 INDIA STREET CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2210	KILWINNING WATERSIDE CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2211	KILWINNING IRVINE 6; KILWINNING ROAD CSO SCHEME	£0.269	£0.000	£0.000	£0.000
2213	BISHOPTON NO.1 C.S.O. (STATION RD.) CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2219	GREENOCK WEST O/F NO.1 (BENTINCK ST.) CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2220	GOUROCK NO.2 (CHAPEL ST.) CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2221	GOUROCK NO.5 (HOPETON ST.) CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2223	GOUROCK BROOMBERRY DRIVE CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2224	GOUROCK NO.8 (ASHTON PL.) CSO SCHEME	£0.004	£0.000	£0.000	£0.000
2225	GREENOCK WEST O/F NO.2 (MADEIRA ST.) CSO SCHEME	£0.002	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
2226	GREENOCK WEST O/F NO.3 (FOX ST.) CSO SCHEME	£0.006	£0.000	£0.000	£0.000
2227	GREENOCK WEST O/F NO.4 (FORSYTH ST.) CSO SCHEME	£0.004	£0.000	£0.000	£0.000
2228	GREENOCK WEST O/F NO.7 (LAIRD ST.) CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2229	GREENOCK WEST O/F NO.5 (CAMPBELL ST.) CSO SCHEME	£0.007	£0.000	£0.000	£0.000
2231	GREENOCK WEST O/F NO.6 (PATRICK ST.) CSO SCHEME	£0.000	£0.000	£0.000	£0.000
2232	JOHNSTONE EAST PEOCKLAND BURN NO.1 CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2233	JOHNSTONE EAST OLD PATRICK WATER NO.1 (GLENMALLOCH PL.) CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2236	FERGUSLIE PARK FERGUSLIE PARK NO.1 CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2237	HUNTERHILL HAWKHEAD NO.1 CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2238	FERGUSLIE PARK TOWN WEST NO.1 CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2243	PORT GLAS. FYFE PARK PORT GLASGOW NO.5 (CARDROSS RD.) CSO SCHEME	£0.005	£0.000	£0.000	£0.000
2245	PORT GLAS. FYFE PARK PORT GLASGOW NO.7 (PARKHILL AVE./MANSION AVE.) CSO SCHEME	£0.009	£0.000	£0.000	£0.000
2246	PORT GLAS. FYFE PARK PORT GLASGOW NO.8 (PARKHILL AVE./HEGGIES AVE.) CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2253	GOUROCK INTERCEPTOR OUTFALL NO.7 (HILLSIDE RD.) CSO SCHEME	£0.004	£0.000	£0.000	£0.000
2256	SEEDHILL HAWKHEAD NO.2 CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2257	HUNTERHILL HAWKHEAD NO.3 CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2259	ERSKINE SUB PARK RD. (INCHINNAN) CSO SCHEME	£0.000	£0.000	£0.000	£0.000
2260	GREENOCK CENTRAL O/F NO.9 (BRYMNER ST.) CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2261	GREENOCK CENTRAL O/F NO.10 (DELLINGBURN ST.) CSO SCHEME	£0.004	£0.000	£0.000	£0.000
2263	POLLOCK SOUTH DAMSHOT CRESCENT - POLLOK RELIEF SEWER CSO SCHEME	£0.257	£0.000	£0.000	£0.000
2266	NEILSTON LOCHLIBO ROAD CLYDE LEATHER CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2267	NEWTON MEARNS WEST WHITECRAIGS GOLF CLUB NO2 CSO SCHEME	£0.014	£0.000	£0.000	£0.000
2268	NEWTON MEARNS WEST BUCHANAN DRIVE CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2269	NEWTON MEARNS WEST WHITECRAIGS GOLF CLUB NO3 CSO SCHEME	£0.005	£0.000	£0.000	£0.000
2277	MILNGAVIE A3 - LENNOX PARK (NETHERMAINS ROAD) CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2286	KILMARDINNY HILLFOOT PUMPING STATION CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2287	KILMARDINNY SEAFIELD PUMPING STATION CSO SCHEME	£0.001	£0.001	£0.000	£0.000
2288	KELVINGROVE HAMILTON DRIVE LANE PUMPING STATION CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2289	CARMYLE, MT VERNON & BAILLIESTON SPRINGHILL FARM PUMPING STATION CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2290	BROWNSBURN INDUSTRIAL ESTATE OPPOSITE 35 ETIVE DRIVE; AIRDRIE CSO SCHEME	£0.004	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
2291	BROWNSBURN IND.ESTATE NW OF MONKLAND BRIDGE;CARLISLE ROAD;AIRDRIE CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2292	MOODIESBURN, GARTCOSH & GLENBOIG REAR OF 76 KELVIN DRIVE CSO SCHEME	£0.005	£0.000	£0.000	£0.000
2293	CALDERCRUIX 21 MAIN STREET CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2294	COLTNESS REAR OF 51-57 MELROSE CRESCENT; WISHAW CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2295	COLTNESS REAR OF 49 GALA CRESCENT; WISHAW CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2296	GOWKTHRAPPLE AT NURSERY; 250M W. OF CASTLEHILL RD WISHAW CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2297	GOWKTHRAPPLE 50M SOUTH WEST OF BELMONT STREET; OVERTOWN CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2298	CRAIGNEUK - CARBARNS SHIELDS GLEN PARK, 100M WEST OF 167 RANGE ROAD, MOTHERWELL	£0.002	£0.000	£0.000	£0.000
2300	NEW STEVENSTON ADJ. TO LOANHEAD ROAD CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2301	BELLSHILL EAST OF HATTONRIG ROAD JUNC. WITH BELL STREET CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2302	DRUMPELLIER 50M EAST HERITAGE WAY; COATBRIDGE CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2303	BIRKENSHAW NEW EDINBURGH ROAD;30M W PHILIP MURRAY ROAD; TANNOCHSIDE CSO SCHEME	£0.001	£0.001	£0.000	£0.000
2304	BIRKENSHAW 100M WEST OF 48 GLASGOW ROAD; UDDINGSTON CSO SCHEME	£0.006	£0.000	£0.000	£0.000
2305	NEW STEVENSTON JCT. STATION ROAD / WRANGHOLM DRIVE CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2307	VIEWPARK 121 LABURNUM ROAD; TANNOCHSIDE CSO SCHEME	£0.026	£0.000	£0.000	£0.000
2308	BELLSHILL 70M EAST OF NORTH ROAD BRIDGE OVER SHIRREL BURN CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2310	CUMBERNAULD WEST SOUTH OF SLIP ROAD; WILDERNESS BRAE CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2312	TWECHAR 80 M TO REAR OF 12/14 WINDY YETTS CSO SCHEME	£0.037	£0.000	£0.000	£0.000
2314	NEWARTHILL SITE FORMER STEVENSTONWOOD STW; LOANHEAD RD; HOLYTOWN CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2317	CARSTAIRS JUNCTION (C.S.O.) - BEHIND LOCK-UPS GEORGE ST. CSO SCHEME	£0.003	£0.001	£0.000	£0.000
2319	HAMILTON WEST REAR 82/100 KELVIN GARDENS CSO SCHEME	£0.021	£0.022	£0.000	£0.000
2320	HAMILTON WEST REAR 17 MILTON TERRACE CSO SCHEME	£0.001	£0.001	£0.000	£0.000
2321	LESMAHAGOW GROUND OPP. 36 MILTON CSO SCHEME	£0.004	£0.000	£0.000	£0.000
2324	LAW MAULDSLIE - 400M N.N.W. 43 WILDMAN ROAD CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2325	STRATHAVEN - SOUTH OF TOWNMILL CSO SCHEME	£0.236	£0.001	£0.001	£0.000
2326	SKELLYTN REAR 3 KARADALE GARDENS CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2327	SKELLYTN OPPOSITE 34 STATION ROAD CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2329	STONEHOUSE FIELD ADJ. TO ENTRANCE CSO SCHEME	£0.001	£0.001	£0.000	£0.000
2330	DOUGLAS CROSSBURN CARAVAN PARK CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2352	OCHILTREE STW (6 DWF) CSO SCHEME	£0.000	£0.000	£0.000	£0.000

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Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
2361	THORNHILL GILL ROAD CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2364	MOFFAT WOOLEN MILL CSO SCHEME	£0.074	£0.002	£0.000	£0.000
2365	DALBEATTIE URR ROAD CSO SCHEME	£0.592	£0.003	£0.002	£0.000
2366	DALBEATTIE MAXWELL PARK CSO SCHEME	£0.003	£0.000	£0.000	£0.000
2367	DALBEATTIE PORT ROAD; CSO SCHEME	£0.123	£0.001	£0.001	£0.000
2369	NEWTON STEWART MORTONS ENTRY (BOTTOM) CSO SCHEME	£0.039	£0.572	£0.003	£0.001
2370	NEWTON STEWART MORTONS ENTRY (TOP) CSO SCHEME	£0.042	£0.621	£0.003	£0.001
2371	NEWTON STEWART QUEEN STREET CSO SCHEME	£0.000	£0.000	£0.000	£0.000
2372	GLENLUCE LADYBANK CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2373	CASTLE DOUGLAS CARLINGWARK PARK CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2376	KIPPFORD CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2377	EASTRIGGS & DORNOCH DORNOCK PS CSO SCHEME	£0.002	£0.001	£0.000	£0.000
2381	DALBEATTIE PORT STREET (ADJACENT TO P/STN), DALBEATTIE CSO SCHEME	£0.113	£0.002	£0.001	£0.000
2383	LOCKERBIE STW CSO SCHEME	£0.640	£0.343	£0.000	£0.000
2385	PERCETON VILLAGE CSO UPGRADING SCHEME	£0.002	£0.000	£0.000	£0.000
2386	IRVINE TOWN, CSO UPGRADING SCHEME	£0.808	£0.000	£0.000	£0.000
2389	HOLM PLANTATION CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2393	ANNICK WATER IRVINE 16, MEADOWHEAD P.S. CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2394	IRVINE TOWN IRVINE 17, AYR ROAD CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2395	IRVINE TOWN RUBIE CRESCENT CSO SCHEME	£0.310	£0.000	£0.000	£0.000
2399	LOCHGILPHEAD FRONT GREEN CSO SCHEME	£0.551	£0.000	£0.000	£0.000
2400	LOCHGILPHEAD PEDDIE BANK CSO SCHEME	£0.581	£0.000	£0.000	£0.000
2401	WEST KILBRIDE MEADOWFOOT ROAD (NO2) CSO SCHEME	£0.006	£0.000	£0.000	£0.000
2405	CSO ADJ.TO 210 FIFE DRIVE,MOTHERWEL. UPGRADING SCHEME	£0.001	£0.000	£0.000	£0.000
2406	STATION RD,SHOTTSKIRK RD,CSO UPGRADING SCHEME	£1.082	£0.000	£0.000	£0.000
2407	STEVENSTON CSO UPGRADING SCHEME	£0.006	£0.000	£0.000	£0.000
2409	COLTNESS AT PLAYFIELD PAST ETTRICK STREET; WISHAW CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2410	WISHAW 110M TO REAR OF 421 CAMBUSNETHAN STREET CSO SCHEME	£0.019	£0.000	£0.000	£0.000
2411	COURSINGTON COURSINGTON BRIDGE VIA WALKWAY; MOTHERWELL CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2413	ORBISTON REAR OF 70 GLENCALDER CRESCENT; BELLSHILL CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2414	HARTHILL GRASS VERGE OPP. POLICE STATION; WEST MAIN STREET CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2415	SWINSTIE IN FIELD SOUTH WEST OF BOWHOUSEBOG; SHOTTS CSO SCHEME	£0.001	£0.000	£0.000	£0.000
2416	SWINSTIE TRACK OFF WESTWOOD ROAD; NEWMAINS CSO SCHEME	£0.002	£0.000	£0.000	£0.000
2480	INNELLAN SEWERAGE SYSTEM	£0.923	£0.000	£0.000	£0.000
2481	ARDBEG / PORT BANNATYNE SEWER	£0.185	£0.000	£0.000	£0.000
2484	UNDERWOOD (CUMNOCK) S.T.W.	£0.284	£0.006	£0.001	£0.000
2486	CARBARNS S.T.W.	£0.040	£0.004	£0.000	£0.000
2929	FINNIESTON TUNNEL UPGRADING, GLASGOW - ELECTRICAL	£0.006	£0.000	£0.000	£0.000
2950	LOCH NELL INTAKE	£0.005	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
2970	SOUTH MOORHOUSE NO.1 C.W.T.	£0.113	£0.000	£0.000	£0.000
2978	COCKMUIR P.S.	£0.065	£0.000	£0.000	£0.000
3052	KNOCKJARDER CIRCULAR NORTH S.R.	£1.789	£0.000	£0.000	£0.000
3172	OVERTON - REHAB	-£0.180	£0.000	£0.000	£0.000
3184	MUGDOCK NO 2 - AREA 2A - REHAB	£0.172	£0.000	£0.000	£0.000
3235	TULLICH C.W.T.	£0.005	£0.000	£0.000	£0.000
3300	INVERGORDON	£2.623	£4.594	£0.009	£0.000
3321	BURNCROOKS W.T.W.	£0.013	£0.000	£0.000	£0.000
3323	CAMPHILL TW IMPROVEMENTS	£3.746	£0.000	£0.000	£0.000
3328	CRAIGNURE (NEW) W.T.W.	£0.045	£0.000	£0.000	£0.000
3329	GARTOCHARN S.T.W.	£0.011	£0.000	£0.000	£0.000
3331	KILMELFORD W.T.W.	£0.013	£0.000	£0.000	£0.000
3332	LUSS S.T.W.	£0.266	£0.000	£0.000	£0.000
3338	ROCKCLIFFE S.T.W.	£0.051	£0.000	£0.000	£0.000
3339	STONEYKIRK S.T.W.	£0.086	£0.003	£0.000	£0.000
3344	DUMFRIES COLLEGE STREET CSO SCHEME	£0.007	£0.001	£0.000	£0.000
3345	DUMFRIES OLD BRIDGE NO.1 CSO SCHEME	£0.014	£0.000	£0.000	£0.000
3346	DUMFRIES SUSPENSION BRIDGE CSO SCHEME	£0.002	£0.000	£0.000	£0.000
3355	WIGTOWN BANK STREET CSO SCHEME	£0.001	£0.000	£0.000	£0.000
3383	KETTLETON W.T.W.	£2.043	£0.011	£0.009	£0.000
3384	KILLYLOUR W.T.W.	£0.004	£0.001	£0.000	£0.000
3386	LOCH ECK W.T.W.	£0.633	£0.000	£0.000	£0.000
3387	BRADAN W.T.W.	£4.860	£0.011	£0.007	£0.000
3388	BLACK ESK W.T.W.	£2.894	£0.035	£0.000	£0.000
3389	GLASSFORD W.T.W.	£0.157	£0.000	£0.000	£0.000
3397	TARBERT W.T.W.	£0.007	£0.000	£0.000	£0.000
3410	PENWHIRN DIRECT - REHAB	£0.933	£0.000	£0.000	£0.000
3429	CASTLEHILL W.T.W.	£0.096	£0.000	£0.000	£0.000
3442	COYLTON,INT.EXT.HIGH.CSO.FLOOD ALLEVIATION SCHEME	£0.011	£0.003	£0.000	£0.000
3444	LIMPETHILL/ LAVERLOCK FLOOD ALLEVIATION SCHEME	£0.002	£0.000	£0.000	£0.000
3445	KILMARNOCK ROAD,CSO,EXT.FLOOD ALLEVIATION SCHEME	£0.018	£0.000	£0.000	£0.000
3446	STEWARTON S.T.W. (AYRSHIRE)	£0.852	£0.005	£0.002	£0.000
3448	MAULDSLIE S.T.W.	£0.012	£0.000	£0.000	£0.000
3449	COALBURN S.T.W.	£0.008	£0.006	£0.000	£0.000
3450	COURSINGTON S.T.W.	£0.003	£0.000	£0.000	£0.000
3453	DOUGLAS S.T.W.	£0.047	£0.000	£0.000	£0.000
3458	EAGLESHAM S.T.W.	£0.142	£0.000	£0.000	£0.000
3459	SALSBURGH S.T.W.	£0.022	£0.000	£0.000	£0.000
3460	UPLAWMOOR S.T.W.	£0.013	£0.000	£0.000	£0.000
3462	SHOTTS S.T.W.	£0.014	£0.000	£0.000	£0.000
3464	KIRKINNER S.T.W.	£0.042	£0.000	£0.000	£0.000
3465	NEILSTON S.T.W.	£0.011	£0.000	£0.000	£0.000
3473	COST OF OPTIMISATION MODIFICATIONS TO PLUMBO DOSING 20 NO.	£0.686	£0.000	£0.000	£0.000
3476	TORRA W.T.W.	£0.062	£0.000	£0.000	£0.000
3488	ARRAN CENTRAL SUPPLIES - UPGRADING	£0.071	£0.000	£0.000	£0.000
3492	DAER W.T.W.	£0.180	£0.000	£0.000	£0.000
3502	ARDFERN SEPTIC TANK	£0.121	£0.000	£0.000	£0.000
3504	AUCHENCAIRN SEPTIC TANK NO.1	£0.119	£0.004	£0.000	£0.000
3509	POWFOOT SEPTIC TANK	£0.020	£0.004	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
3540	GOURDON	£0.341	£0.002	£0.001	£0.000
3553	SEILEBOST	£0.000	£0.003	£0.000	£0.000
3554	FIRST TIME PROVISION - WASTEWATER	£4.137	£0.000	£0.000	£0.000
3557	EVANTON WWTP	£0.008	£0.005	£0.000	£0.000
3603	CLACHAN-SEIL SEWERAGE SYSTEM	£0.033	£0.000	£0.000	£0.000
3613	CASTLE DOUGLAS STW UPGRADE	£0.431	£0.005	£0.002	£0.000
3614	LOCKERBIE STW UPGRADE	£0.560	£0.004	£0.002	£0.000
3820	CROSSGATES - AREA FLOODING (SENSITIVE)	£0.020	£0.000	£0.000	£0.000
3825	PEEBLES SEWERAGE - UCSOS IMPROVEMENTS	£0.056	£0.006	£0.001	£0.000
3996	UNALLOCATED PHOSPHATE DOSING	£0.010	£0.000	£0.000	£0.000
4029	BADDINSGILL	£0.003	£0.000	£0.000	£0.000
4033	FRUID	£0.001	£0.000	£0.000	£0.000
4034	GLADHOUSE	£0.006	£0.005	£0.000	£0.000
4173	FINMONT PUMPING STATION	£0.002	£0.000	£0.000	£0.000
4178	ASSYNT WTW & CWT	£0.049	£0.006	£0.000	£0.000
4179	NEWMORE WTW UPGRADE	£0.004	£0.000	£0.000	£0.000
4181	NEW WTW AT CALDER HOY TO SERVE CAITHNESS, DOUNREAY & NORTH SUTHERLAND	£0.046	£0.000	£0.000	£0.000
4182	PIPELINE & ASSOCIATED SR'S & PS'S TO SERVE CAITHNESS,DOUNREAY & NORTH SUTHERLAND	£0.001	£0.000	£0.000	£0.000
4279	SR IMPROVEMENT SCHEME STOER ZONE - ACHNACARNIN SR	£0.031	£0.000	£0.000	£0.000
4341	ABERDEEN WASTEWATER PROJECT PREPARATORY WORK & ADVISERS' FEES	£0.046	£0.000	£0.000	£0.000
4418	PERTH (GOWANS TERRACE) WTW	£0.001	£0.000	£0.000	£0.000
4429	AYR SEWERAGE SCHEME - TC RELIEF SEWER, INTERC, SEWER, PS & RM	£0.102	£0.000	£0.000	£0.000
4452	LOCH NAW TO DINDINNIE	£0.640	£0.000	£0.000	£0.000
4535	CALLANDER WEST OVERFLOW (LENY FEUS)	£0.072	£0.001	£0.000	£0.000
4544	LOWER LARBERT UCSO	£0.011	£0.000	£0.000	£0.000
4549	LOTHIAN & BORDERS PIPELINE CONSTRUCTORS MAIN RENEWAL	£0.036	£0.000	£0.000	£0.000
4913	ESW WIDE TELEMETRY UPGRADING	£0.005	£0.000	£0.000	£0.000
5094	FORDELL - COALEDGE PS	£0.001	£0.000	£0.000	£0.000
5239	DUNDEE CAMPERDOWN RD CSO	£0.001	£0.000	£0.000	£0.000
5244	MEIGLE ALYTH ROAD CSO	£0.015	£0.000	£0.000	£0.000
5263	ABERDEEN, KINGS LINK CSO	£0.001	£0.000	£0.000	£0.000
5264	BANFF CSO'S	£0.001	£0.000	£0.000	£0.000
5270	BUCKIE NORTH HIGH ST CSOS	£0.001	£0.000	£0.000	£0.000
5570	PERTH TO DUNKELD WATER SUPPLY	£0.001	£0.000	£0.000	£0.000
5792	KYLE OF LOCHALSH WATER IMPROVEMENTS	£0.286	£0.000	£0.000	£0.000
5804	VARIOUS STWS - SCREEN LAUNDER SYSTEMS	£0.056	£0.000	£0.000	£0.000
5907	INVERCANNIE MEMBRANE	£0.003	£0.000	£0.000	£0.000
6262	GRAMPIAN 2-TIER CONSENT REQUIREMENTS PHASE 2 DUNECHT	£0.007	£0.001	£0.000	£0.000
6266	GRAMPIAN 2-TIER CONSENT REQUIREMENTS PHASE 2 INCHMARLO	£0.001	£0.000	£0.000	£0.000
6309	HIGHLAND 2-TIER CONSENT REQUIREMENTS PHASE 2 KINGUSSIE	£0.020	£0.000	£0.000	£0.000
6323	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 AUCHTERARDER	£0.376	£0.002	£0.001	£0.000
6325	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 BRECHIN	£0.002	£0.000	£0.000	£0.000
6328	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 COUPAR ANGUS	£0.001	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
6330	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 FRIOCKHEIM	£0.003	£0.000	£0.000	£0.000
6334	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 INVERKEILOR	£0.002	£0.000	£0.000	£0.000
6340	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 SCONE	£0.000	£0.000	£0.000	£0.000
6342	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 2 TEALING	£0.014	£0.000	£0.000	£0.000
6351	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 3 EDZELL	£0.003	£0.000	£0.000	£0.000
6352	TAYSIDE 2-TIER CONSENT REQUIREMENTS PHASE 3 FETTERCAIRN	£0.004	£0.000	£0.000	£0.000
6374	BOTHWELLBANK S.T.W.	£0.074	£0.000	£0.000	£0.000
6375	PHILIPSHILL S.T.W.	£0.187	£0.001	£0.000	£0.000
6377	CATACOL S.T.W.	£0.020	£0.004	£0.000	£0.000
6378	CRAIGNURE S.T.W.	£0.008	£0.000	£0.000	£0.000
6379	DERVAIG S.T.W.	£1.086	£0.000	£0.000	£0.000
6380	MUASDALE S.T.W.	£0.046	£0.000	£0.000	£0.000
6381	PENINVER S.T.W.	£0.008	£0.000	£0.000	£0.000
6382	PORT CHARLOTTE S.T.W.	£0.060	£0.000	£0.000	£0.000
6383	PORT WEMYSS/PORTNAHAVEN S.T.W.	£0.259	£0.000	£0.000	£0.000
6384	ACHNABA SEWERAGE SYSTEM	£0.007	£0.000	£0.000	£0.000
6385	ARDENFIELD S.T.W.	£0.001	£0.000	£0.000	£0.000
6386	ARROCHAR SEWERAGE SYSTEM	£0.436	£0.000	£0.000	£0.000
6387	BARCALDINE SEWERAGE SYSTEM	£0.003	£0.000	£0.000	£0.000
6388	CAIRNDOW SEWERAGE SYSTEM	£0.052	£0.000	£0.000	£0.000
6390	COLNTRAIVE S.T.W.	£0.056	£0.000	£0.000	£0.000
6394	KILMELFORD S.T.W.	£0.024	£0.000	£0.000	£0.000
6396	MINARD SEWERAGE SYSTEM	£0.006	£0.000	£0.000	£0.000
6398	GRETNA SERVICE STATION S.T.W.	£0.145	£0.004	£0.000	£0.000
6399	LOCHGAIR S.T.W.	£0.294	£0.000	£0.000	£0.000
6423	BERWICKSHIRE OUTFALLS	£0.797	£0.000	£0.000	£0.000
6987	APPLICATIONS	£0.017	£0.000	£0.000	£0.000
7173	WWTP REEDBEDS	£0.010	£0.000	£0.000	£0.000
7227	DUFFTOWN WWTW- NEW ROOF	£0.001	£0.000	£0.000	£0.000
7294	LERWICK WTW (SANDY LOCH)	£0.013	£0.000	£0.000	£0.000
7322	MAINLAND AUGMENTATION	£0.018	£0.000	£0.000	£0.000
7330	INVERCANNIE WATER TREATMENT WO	£0.002	£0.000	£0.000	£0.000
7451	LINTRATHEN/BACKWATER - WATER SUPPLIES	£0.015	£0.000	£0.000	£0.000
7580	LOCH ASHIE IMPOUNDING RESERVOIR SAFETY MEASURES	£0.155	£0.000	£0.000	£0.000
7683	HNDA REMOVAL - LERWICK	£0.686	£0.009	£0.001	£0.000
7691	GLASGOW LEAKAGE	£0.366	£0.005	£0.000	£0.000
7755	TREATMENT WORKS - PHYSICAL SECURITY UNALLOCATED	£0.005	£0.000	£0.000	£0.000
7790	BISHOPBRIGGS TOWN CENTRE RELIEF SEWER	£0.005	£0.000	£0.000	£0.000
7800	BUSBY & NETHERLEE CARTSIDE DRIVE; OPPOSITE PUBLIC PARK CSO SCHEME	£0.007	£0.000	£0.000	£0.000
7878	FERGUSLIE PARK CARTVALE LANE CSO SCHEME	£0.836	£0.000	£0.000	£0.000
7892	GLASGOW DISTRIBUTION VULNERABILITY (KATRINE)	£0.230	£0.000	£0.000	£0.000
7926	LOCHINVAR WATER TREATMENT WORKS	£0.001	£0.000	£0.000	£0.000
7967	PAISLEY CENTRE BLACKHALL LANE CSO SCHEME	£0.001	£0.000	£0.000	£0.000
7969	PAISLEY NORTH SHORTROODS NO.1 CSO SCHEME	£0.001	£0.000	£0.000	£0.000
8042	FORT WILLIAM WTWS & RESEVOIRS	£0.032	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
8078	SCALLOWAY MAIN OUTFALL (CRUDE-UWWT)	£0.487	£0.000	£0.000	£0.000
8309	INMS (I)	£0.029	£0.000	£0.000	£0.000
8486	River Nairn WWTP Impact on Bathing Waters	£0.201	£0.009	£0.003	£0.000
8531	Wards Asda PS	£0.020	£0.000	£0.000	£0.000
8745	ELECTROCHLORINATION & CHLORAMINATION AT SANDY LOCH WTW & EELA WTW	£0.017	£0.000	£0.000	£0.000
8806	Campbeltown Sewerage Infiltration Permanent Solution	£2.506	£6.390	£0.000	£0.000
8884	Fearness Road	£2.656	£0.000	£0.000	£0.000
8885	2 Arnold Avenue Industrial Estate	£0.157	£0.000	£0.000	£0.000
8925	STRATEGIC SUPPORT FRAMEWORK	£0.031	£0.000	£0.000	£0.000
8934	Inverurie Old WWTW - Odour abatement at inlet	£0.001	£0.000	£0.000	£0.000
8979	Brackenhurst SR Water Model	£0.001	£0.000	£0.000	£0.000
9016	Pitcalzean Pump Upgrade	£0.007	£0.000	£0.000	£0.000
9197	KINTORE	£0.175	£0.000	£0.000	£0.000
9200	COLDSTREAM	£0.012	£0.000	£0.000	£0.000
9202	LAURENCKIRK	£0.281	£0.000	£0.000	£0.000
9204	PLEAN	£0.671	£0.015	£0.000	£0.000
9205	WESTFIELD	£1.015	£0.000	£0.000	£0.000
9210	COCKBURNSPATH	£0.148	£0.000	£0.000	£0.000
9215	WEEN	£1.099	£0.000	£0.000	£0.000
9217	DRUM	£0.810	£0.000	£0.000	£0.000
9219	ISLESTEPS	£0.084	£0.000	£0.000	£0.000
9220	KILMANY	£0.055	£0.000	£0.000	£0.000
9223	CULTERCULLEN	£0.328	£0.000	£0.000	£0.000
9224	MELROSE	£0.726	£0.000	£0.000	£0.000
9225	DOUNE	£0.038	£0.000	£0.000	£0.000
9226	CALLANDER	£0.786	£0.000	£0.000	£0.000
9227	BALFRON	£0.766	£0.000	£0.000	£0.000
9229	BUCHLYVIE	£0.508	£0.000	£0.000	£0.000
9231	TAIN LINKS PS CAPITAL MAINTENANCE	£0.002	£0.000	£0.000	£0.000
9234	LAUDER	£0.077	£0.000	£0.000	£0.000
9236	GARGUNNOCK	£1.581	£0.000	£0.000	£0.000
9309	SCOTTISH WATER WIDE TREATED WATER STORAGE TANK SECURITY IMPROVEMENTS	£0.222	£0.000	£0.000	£0.000
9337	OLD TOWN/CANNONGATE WMR	£0.393	£0.000	£0.000	£0.000
9366	C2 - CRAIGMADDIE TO CASTLMILK PS WMR	£0.103	£0.000	£0.000	£0.000
9368	C1 - THORNLIEBANK WMR	£0.216	£0.000	£0.000	£0.000
9379	MORGAN (L&B) 02/03 CARRYOVER	£1.022	£0.000	£0.000	£0.000
9400	ST PATRICK'S PRIMARY SCHOOL, AUCHINLECK - SEWER FLOODING	£0.647	£0.000	£0.000	£0.000
9409	KEITH WWTP - PROVISION OF SURFACE AERATORS	£0.001	£0.000	£0.000	£0.000
9415	PRELOAD TANKS PHASE 2 ASSESSMENT - WEST AREA	£0.015	£0.009	£0.000	£0.000
9429	CAMPBELTOWN WTW & CWT	£0.030	£0.000	£0.000	£0.000
9448	CARBOST WTW/PORTNALONG	£0.022	£0.000	£0.000	£0.000
9450	DUNBEG/CONNEL ST FACILITIES	£0.158	£0.000	£0.000	£0.000
9475	MURDYKES WMR	£0.371	£0.000	£0.000	£0.000
9478	WILLIAMSHAW WMR	£0.095	£0.000	£0.000	£0.000
9479	M1 MUGDOCK 1	£0.328	£0.000	£0.000	£0.000
9484	C2 CASTLEMILK LOW SR	£0.409	£0.000	£0.000	£0.000
9531	LOCHCARRON LEGACY ISSUES	£0.319	£0.000	£0.000	£0.000
9594	HNDA REMOVAL - STORNOWAY	£0.452	£0.009	£0.001	£0.000
9612	Gorthleck WWTP - New WWTP to be constructed	£0.003	£0.002	£0.000	£0.000
9613	Sandend - Submersible PS & Septic Tank	£0.009	£0.006	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
9637	WIC 16 - ROUSAY	£0.602	£0.000	£0.000	£0.000
9638	WIC 16 - LISMORE PRIMARY	£2.443	£0.000	£0.000	£0.000
9640	WIC 16 - STRALOCH PRIMARY	£0.496	£0.000	£0.000	£0.000
9794	ST FERGUS SCOTSTOWN HEAD SEA OUTFALL	£0.158	£0.001	£0.000	£0.000
9839	BONAR BRIDGE/ARDGAY CSO & WWTP	£0.005	£0.000	£0.000	£0.000
10079	DALDERSE WwTW - CONSENT COMPLIANCE	£0.002	£0.000	£0.000	£0.000
10081	ENVIRONMENTAL QUALITY PROJECTS - PARKING LOT	£10.220	£3.577	£0.000	£0.000
10109	Whitehillocks WTW Dosing Pumps	£0.005	£0.000	£0.000	£0.000
10121	BARCLYE AND PALNURE WTWs	£0.360	£1.307	£0.006	£0.003
10144	PERTH WwTW BIOLOGICAL TREATMENT	£0.919	£0.002	£0.001	£0.000
10222	ASSYNT INTAKE RELOCATION	£0.003	£0.000	£0.000	£0.000
10309	Rockliffe PS IMprovement & Kippford Screening	£0.001	£0.001	£0.000	£0.000
10364	Dundee/Riverside Gardens (WORMIT) Sewer Rehab	£0.030	£0.000	£0.000	£0.000
10373	Arbroath Sewer Rehab	£0.003	£0.000	£0.000	£0.000
10376	Newtyle Sewer Rehab	-£0.025	£0.000	£0.000	£0.000
10379	Glasgow - Dalmuir Sewer Rehab	£0.066	£0.000	£0.000	£0.000
10382	Glasgow - Shieldhall Sewer Rehab	£0.013	£0.000	£0.000	£0.000
10386	Johnstone Sewer Rehab	£0.018	£0.000	£0.000	£0.000
10388	Stevenston Sewer Rehab	£0.009	£0.000	£0.000	£0.000
10394	Cumnock Sewer Rehab	£0.033	£0.000	£0.000	£0.000
10429	Aberdeen - York Place PS-Screen Investigation	£0.002	£0.000	£0.000	£0.000
10492	FOREHILL WTW - CAPITAL MAINTENANCE	£0.054	£0.000	£0.000	£0.000
10513	GLENCONVINTH WTW & SOUTH MAINS	£0.520	£0.008	£0.002	£0.000
10514	TAYSIDE 2-TIER CONSENTS (COMRIE/PITLOCHRY/ST FILLANS)	£0.008	£0.000	£0.000	£0.000
10516	Dyke WWTP - Compliance	£0.010	£0.000	£0.000	£0.000
10521	Kelso, Jedburgh & Hawick WWTW - Improvements	£0.006	£0.004	£0.000	£0.000
10524	Dalscone UCSOs	£0.007	£0.000	£0.000	£0.000
10525	Dumfries River East UCSOs	£0.033	£0.005	£0.000	£0.000
10526	Dumfries Pumping Station UCSOs	£0.001	£0.000	£0.000	£0.000
10529	Lochgilphead Sludge Treatment Centre	£1.965	£0.000	£0.000	£0.000
10530	CAITHNESS SLUDGE TREATMENT PROGRAMME	£0.043	£0.005	£0.000	£0.000
10532	Bridgend (Hatton) Septic tank	£0.005	£0.004	£0.000	£0.000
10533	STRATEGIC SITES SECURITY - SITE W COMPLIANCE	£0.135	£0.000	£0.000	£0.000
10535	M4-MUGDOCK 4 PH3. 10km	£0.080	£0.000	£0.000	£0.000
10557	Edinburgh - Capital Maint Valves - Raw Water Connections	£0.082	£0.000	£0.000	£0.000
10575	Telemetry Coverage Phase 1 - Replacement of Obsolete Outstations	£0.033	£0.000	£0.000	£0.000
10580	Telemetry Cov Exp Ph 1-SEPA Consents (NW)	£0.006	£0.000	£0.000	£0.000
10581	Telemetry Cov Exp Ph 1-SEPA Consents (NE)	£0.229	£0.000	£0.000	£0.000
10582	Telemetry Cov Exp Ph 1-SEPA Consents (SW)	£0.051	£0.000	£0.000	£0.000
10583	Telemetry Cov Exp Ph 1-SEPA Consents (SE)	£0.051	£0.000	£0.000	£0.000
10584	Telemetry Cov Exp Ph1-High Priority Assets (NW)	£0.038	£0.000	£0.000	£0.000
10585	Telemetry Cov Exp Ph 1-High Priority Assets (NE)	£0.131	£0.000	£0.000	£0.000
10587	Telemetry Cov Exp Ph 1-High Priority Assets (SE)	£0.023	£0.000	£0.000	£0.000
10588	Telemetry Cov Exp Ph 1-Orphan Telemetry (NW)	£0.024	£0.000	£0.000	£0.000
10589	Telemetry Cov Exp Ph 1-Orphan Telemetry (NE)	£0.113	£0.000	£0.000	£0.000
10590	Telemetry Cov Exp Ph 1-Orphan Telemetry (SW)	£0.058	£0.000	£0.000	£0.000
10591	Telemetry Cov Exp Ph 1-Orphan Telemetry (SE)	£0.053	£0.000	£0.000	£0.000
10592	Telemetry Cov Exp Ph 1-Water Treatment & Network Assets (NW)	£0.018	£0.000	£0.000	£0.000
10593	Telemetry Cov Exp Ph 1-Water Treatment & Network Assets (NE)	£0.210	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
10594	Telemetry Cov Exp Ph 1-Water Treatment & Network Assets (SW)	£0.059	£0.000	£0.000	£0.000
10595	Telemetry Cov Exp Ph 1-Water Treatment & Network Assets (SE)	£0.009	£0.000	£0.000	£0.000
10606	GLASGOW - CARDOWAN LINK SEWER	£2.450	£0.843	£0.000	£0.000
10608	Hatton of Cruden Bay (PITC Request)	£0.073	£0.001	£0.000	£0.000
10609	Ballachulish WWTW - Capital Maintenance	£0.005	£0.000	£0.000	£0.000
10615	Edinburgh - Capital Maint Valves - Mains beneath Structures	£0.134	£0.000	£0.000	£0.000
10635	Cap Maint Water-Castle Moffat WTW-Ph1-Chlorination Equipment	£0.012	£0.001	£0.000	£0.000
10636	Cap Maint Water-Edinburgh WTW-Ph1-Chlorination Equipment	£0.015	£0.000	£0.000	£0.000
10637	Cap Maint Water-Kelty SR-Rebuild	£0.008	£0.000	£0.000	£0.000
10638	Cap Maint Water-Mannofield PS-Refurbishment	£0.034	£0.000	£0.000	£0.000
10639	Cap Maint Water-Stobsmuir SR-Refurbishment	£0.022	£0.000	£0.000	£0.000
10685	Inverclyde - Eldon St	£0.009	£0.000	£0.000	£0.000
10696	Cap Maint Water - Earlston PS - Pump Upgrade	£0.000	£0.000	£0.000	£0.000
10697	Cap Maint Water - Heugh SR - Re-build	£0.414	£0.000	£0.000	£0.000
10698	Cap Maint Water - Longridge SR - Refurbishment	£0.010	£0.008	£0.000	£0.000
10699	Cap Maint Water - Gullane SR - Repairs	£0.001	£0.000	£0.000	£0.000
10707	TILLICOULTRY WWTW - INLET WORKS CAPITAL MAINTENANCE	£0.018	£0.000	£0.000	£0.000
10711	SWW Treated Water Security Phase 2 - Part A	£0.091	£0.000	£0.000	£0.000
10712	SWW Treated Water Security Phase 2 - Part B	£0.011	£0.000	£0.000	£0.000
10713	SWW Treated Water Security Phase 2 - Part C	£0.077	£0.000	£0.000	£0.000
10714	SWW Treated Water Security Phase 2 - Part D	£0.114	£0.000	£0.000	£0.000
10715	SWW Treated Water Security Phase 2 - Part E	£0.272	£0.000	£0.000	£0.000
10716	SWW Treated Water Security Phase 2 - Part F - WTW EKP Sites	£0.009	£0.000	£0.000	£0.000
10720	Cap Maint Water - Dalrymple Main	£0.002	£0.001	£0.000	£0.000
10726	Cap Maint Water - Kelso SR - Refurb/Removal	£0.117	£0.000	£0.000	£0.000
10728	Cap Maint Water - Octagon Wood SR - Repairs	£0.005	£0.002	£0.000	£0.000
10729	Cap Maint Water - Burnswark SR - Repairs	£0.001	£0.000	£0.000	£0.000
10730	Cap Maint Water - Strutherhill SR - New	£0.412	£0.000	£0.000	£0.000
10732	Cap Maint Water - Corrie SR - Repairs	£0.002	£0.001	£0.000	£0.000
10733	Cap Maint Water - Birset No 1 SR - Repairs	£0.006	£0.000	£0.000	£0.000
10734	Cap Maint Water - Bo`Mains SR - Repairs	£0.029	£0.000	£0.000	£0.000
10760	Tayside Secondary Chloronation Upgrade	£0.005	£0.000	£0.000	£0.000
10791	Low Pressure Alleviation - Scotland Wide	£0.019	£0.000	£0.000	£0.000
10795	Edderton ST SWO	£0.102	£0.001	£0.000	£0.000
10796	Cullen PS EO/CSO	£0.001	£0.000	£0.000	£0.000
10797	Drumnadrochit UCSO	£0.022	£0.002	£0.000	£0.000
10798	Ullapool CSO	£0.000	£0.001	£0.000	£0.000
10800	Evanton Culcairn UCSO	£0.012	£0.011	£0.000	£0.000
10801	Moycroft PS EO/CSO	£0.001	£0.000	£0.000	£0.000
10802	Works CSO NE Area	£0.001	£0.000	£0.000	£0.000
10804	Dornoch WTW - H&S Issues	£0.010	£0.000	£0.000	£0.000
10826	Cap Maint Water - Alnwickhill WTW - Phase 1 - Emergency Repairs	£0.012	£0.000	£0.000	£0.000
10827	Cap Maint Water - Tayside SR`s - Survey & Repair (9 sites)	£0.002	£0.000	£0.000	£0.000
10828	Cap Maint Water - Gullane SR - Ph 2 Repairs	£0.003	£0.000	£0.000	£0.000
10835	Hotspots Group 54 - Law & Glens	£0.168	£0.000	£0.000	£0.000
10840	Stow PS - UCSO	£0.002	£0.000	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
10843	Selkirk UCSOs	£0.030	£0.005	£0.000	£0.000
10845	Melrose - Woodyard No 1, Annay Rd - UCSO	£0.001	£0.001	£0.001	£0.000
10846	Cupar UCSOs	£0.003	£0.003	£0.000	£0.000
10847	Falkland (The Pleasance) UCSO	£0.002	£0.000	£0.000	£0.000
10848	Kirkcaldy UCSOs	£0.000	£0.000	£0.000	£0.000
10849	Oakley Storm Tank UCSO	£0.000	£0.000	£0.000	£0.000
10850	Cowie - Poppletrees - UCSO	£0.036	£0.001	£0.000	£0.000
10851	U/S of Tillicoultry WWTW UCSO	£0.001	£0.000	£0.000	£0.000
10884	Killylour WTW - Critical Capital Maintenance	£0.014	£0.008	£0.000	£0.000
10913	Capital Maintenance Water - Tayside SRs Meikle Tullo Old SR	£0.001	£0.000	£0.000	£0.000
10941	SWW Metering Phase 2	£0.351	£0.000	£0.000	£0.000
10942	SWW Metering Phase 3	£0.358	£0.000	£0.000	£0.000
10947	Gemini Optimisation	£0.018	£0.000	£0.000	£0.000
10948	Peoplesoft Optimisation	£0.052	£0.000	£0.000	£0.000
10949	Project Ganymede	£0.041	£0.000	£0.000	£0.000
11003	Teaninich WWTP - Repairs to building	£0.008	£0.000	£0.000	£0.000
11015	Mintlaw WWTP - magnetic flow measurement	£0.005	£0.000	£0.000	£0.000
11019	Aberdeen Lower Dee Valley WWPS - Replace 3 nr actuated penstocks	£0.002	£0.000	£0.000	£0.000
11040	Aberdeen Garthdee Syphon - Provide actuated valves	£0.049	£0.000	£0.000	£0.000
11043	Drumlithie WWTW - Replace RAS/SAS diaphragm pumps	£0.002	£0.000	£0.000	£0.000
11044	Milton of Kildary WWTP - Repair air lines, instal flow control	£0.133	£0.000	£0.000	£0.000
11117	Cap Maint Water - Western Isles WTW Control Panels (Benbecula, Ness, Tolsta)	£0.076	£0.000	£0.000	£0.000
11119	Cap Maint Water - Carman IR - Repairs	£0.002	£0.001	£0.000	£0.000
11121	Cap Maint Water - IR Pitching Package (West)	£0.000	£0.000	£0.000	£0.000
11142	Peninver WTW - Disinfection upgrade	£0.031	£0.000	£0.000	£0.000
11148	Kilmuir WTW - Investigate yield & storage	£0.020	£0.000	£0.000	£0.000
11232	Muiresk Raw Water Intake (Turriff) - Instal oil on water monitor	£0.003	£0.000	£0.000	£0.000
11265	Glendye WTW - Polybatching System improvements	£0.003	£0.000	£0.000	£0.000
11285	Newmore WTW - Filter Refurbishment	£0.010	£0.000	£0.000	£0.000
11307	Cap Maint Water - Carriston Upper IR - Repairs	£0.004	£0.002	£0.000	£0.000
11308	Cap Maint Water - IR Steelwork Package East	£0.000	£0.000	£0.000	£0.000
11311	DSEAR Compliance Regulations - Budget Holding Line	£34.390	£0.000	£0.000	£0.000
11313	DSEAR Workstream 2 - Training & Maintenance	£0.130	£0.000	£0.000	£0.000
11315	DSEAR Workstream 4 - New/Modified Asset Compliance	£0.002	£0.000	£0.000	£0.000
11319	DSEAR Workstream 8 - Project Reporting & Communications	£0.018	£0.000	£0.000	£0.000
11326	Balmoor PS - Refurb/Replace PS Panel & other damaged apparatus	£0.164	£0.000	£0.000	£0.000
11337	Valve Package WEST Repairs IR	£0.000	£0.000	£0.000	£0.000
11341	Alnwickhill WTW - GAC Installation	£0.031	£0.021	£0.000	£0.000
11374	Cupar - Meadowside Rd/Hollybank Park - Sewer Rehab	£0.029	£0.000	£0.000	£0.000
11378	Kirkintilloch - Laurel Ave - Sewer Rehab	£0.029	£0.000	£0.000	£0.000
11403	SWW Treated Water Security Phase 2 - Part H - Additional Sites	£2.058	£0.000	£0.000	£0.000
11405	Pipeline Security Works - Designated Site W	£0.511	£0.000	£0.000	£0.000
11419	Cap Maint Water - IR Benachally Ph1/Lunndaidh	£0.001	£0.000	£0.000	£0.000
11420	Cap Maint Water - IR Instrument Package (East)	£0.000	£0.000	£0.000	£0.000
11422	Cap Maint Water - IR Loch Glass Spillway Repairs	£0.024	£0.012	£0.000	£0.000
11429	Developer Services - Non Standard Connections	-£0.689	£0.000	£0.000	£0.000
11440	Cap Maint Water - IR Clunas/Den of Ogil	£0.005	£0.004	£0.000	£0.000

	Total Forecast	£228.466	£49.062	£0.855	£0.282
Project Number	Project Name	06-07 (£m)	07-08 (£m)	08-09 (£m)	09-10 (£m)
11455	Coulard Bank PS, Lossiemouth - Structural Repairs & Refurb	£0.051	£0.000	£0.000	£0.000
11460	Cap Maint Water - Harlaw IR - Repairs	£0.003	£0.002	£0.000	£0.000
11468	Cap Maint Water - IR Valve Package - East	£0.001	£0.000	£0.000	£0.000
11476	Ballachulish WTW - Intake Improvements 2004	£0.061	£0.003	£0.000	£0.000
11514	Wick Area - Lower Ormlie & Scourie PS - Electrical Control Cabinets	£0.020	£0.000	£0.000	£0.000
11522	Duns Hot Spot - Sewer Rehab	£0.071	£0.000	£0.000	£0.000
11527	Loch Ryan Shellfish Improvements	£0.052	£0.000	£0.000	£0.000
11531	Cap Maint Water - IR Hopes & Faughlin Phase 1	£0.001	£0.001	£0.000	£0.000
11545	Cap Maint Water - IR Bennan	£0.001	£0.001	£0.000	£0.000
11551	Cap Maint Water - Oban South SR - Roof Repairs	£0.004	£0.004	£0.000	£0.000
11554	Loanhead - The Loan - Sewer Rehab	£0.155	£0.000	£0.000	£0.000
11557	Terregles - WIC16 - First Time Rural Sewerage	£1.077	£0.000	£0.000	£0.000
11558	Campbeltown WWTW - Kinloch Park PS - Phase 1	£0.043	£0.000	£0.000	£0.000
11559	Glasgow Strategic Drainage Plan - Stage 2.5	£0.696	£0.000	£0.000	£0.000
11570	Ardrishaig Soda Handling Upgrade	£0.044	£0.000	£0.000	£0.000
11573	DSEAR - Workstream 3 - Existing Asset Compliance	£0.923	£0.000	£0.000	£0.000
11605	Minard - Wastewater - First Time Provision	£0.111	£0.000	£0.000	£0.000
11653	Cap Maint Water - Acharacle CWT - Additional Storage	£0.042	£0.001	£0.000	£0.000
11663	Wick WWTW - Screening Equipment Remedials	£0.197	£0.000	£0.000	£0.000
11669	Gartly SPS - Replace Pumps & Pumping Main	£0.002	£0.000	£0.000	£0.000
11672	Tocher Terrace ST - Replace with New Septic Tank	£0.027	£0.000	£0.000	£0.000
11679	Campbeltown WWTW - Sludge De-watering	£0.014	£0.000	£0.000	£0.000
11685	Lead Completion Project - New Installations	£1.604	£0.000	£0.000	£0.000
11686	Lead Completion Project - Upgrades Phase I	£0.214	£0.000	£0.000	£0.000
11687	Lead Completion Project - Upgrades Phase II	£0.577	£0.000	£0.000	£0.000
11702	Irvine Valley - Laigh Milton Mills Sewer Rehab	£0.194	£0.000	£0.000	£0.000
11721	Dalmally WSZ Mains Rehab	£0.054	£0.000	£0.000	£0.000
11729	Invercannie WTW - SCADA Rationalisation Project	£0.005	£0.000	£0.000	£0.000
11735	Badfluich Rosehall Water Rehab	£0.061	£0.000	£0.000	£0.000
11737	Dalmally - Stonmilichan Road Water Rehab	£0.207	£0.000	£0.000	£0.000
11738	Crypto Action Plan Phase 2 - Installation Works	£1.104	£0.000	£0.000	£0.000
11749	Desktop Infrastructure & Remote Comms (DIRC)	£0.174	£0.000	£0.000	£0.000
11751	Glasgow - Burnbank Gdns Sewer Rehab	£0.001	£0.000	£0.000	£0.000
11768	Maint Plans for Managed Projects (SW will oversee the work not SWS)	£0.205	£0.000	£0.000	£0.000
11795	DSEAR Workstream 3 Delivery	£0.031	£0.000	£0.000	£0.000
11814	DSEAR Workstream 3 Delivery SW Phase 1	£0.015	£0.000	£0.000	£0.000
11815	DSEAR Workstream 3 Delivery SE Phase 1	£0.020	£0.000	£0.000	£0.000
11835	Aberdeen DAP Phase 2	£0.045	£0.000	£0.000	£0.000
11852	Cupar - Off Pitscottie Rd UCSO	£0.091	£0.000	£0.000	£0.000
11853	Kirkcaldy - Lauder Rd UCSO	£0.126	£0.000	£0.000	£0.000
11857	Business Intelligence Optimisation	£0.467	£0.000	£0.000	£0.000
11858	Integration Optimisation	£0.502	£0.000	£0.000	£0.000
11866	PECOS (e-Procurement Scotland)	£0.050	£0.000	£0.000	£0.000
11867	Documentum - Phase 2	£0.102	£0.000	£0.000	£0.000
12002	Troqueer Aeration Lane Upgrade	£0.153	£0.000	£0.000	£0.000
20020	SW Programme Risk Adjustment - Water	£5.942	£0.000	£0.000	£0.000
20021	SW Programme Risk Adjustment - Wastewater	£5.942	£0.000	£0.000	£0.000
1009809	SWS SHARE ACCOUNT WASTEWATER	£1.77	£0.00	£0.00	£0.00
2009809	SWS SHARE ACCOUNT WATER	£1.77	£0.00	£0.00	£0.00
4000006	DAS PARENT LINE	£0.018	£0.000	£0.000	£0.000

Appendix 2

Spend to Save Programme

The table below reports on the prior spend, spend in 2005-06 and future spend by project for the Spend to Save Programme. It includes the assessed NPV, payback period and actual or forecast completion date.

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
138	SPEND TO SAVE	1	1	£0.00	0	n/a
472	ENZIE CROSSROADS ST	4,259	4,259	H&S Project - please refer to note 1 below		19/08/2005
479	BANCHORY-DEVENICK XROADS ST	5,909	5,909	H&S Project - please refer to note 1 below		19/08/2005
483	CRATHIE, FERGACH COTTS ST	3,820	3,820	H&S Project - please refer to note 1 below		19/08/2005
485	INCHMARLO, BELTIE COTTS 1 ST	6,909	6,909	H&S Project - please refer to note 1 below		23/08/2005
489	BARRAS, SCHOOL COTT ST	2,247	2,247	H&S Project - please refer to note 1 below		09/09/2005
492	STONEHAVEN, HIGHFIELD ST	4,159	4,159	H&S Project - please refer to note 1 below		03/09/2005
493	STONEHAVEN, DOUGLAS COTTS ST	5,259	5,259	H&S Project - please refer to note 1 below		12/08/2005
495	DOWNIES, LONGHILLOCK COTTS ST	5,935	5,935	H&S Project - please refer to note 1 below		15/06/2005
555	KINLOCHLEVEN UNKNOWN P.S.	10,785	10,785	H&S Project - please refer to note 1 below		01/12/2005
580	DUROR NEW WWTP	3,946	3,946	H&S Project - please refer to note 1 below		30/05/2005
4376	BUCKIE - THE NEUK - SWS	33,632	33,632	£7,671.21	0.672648	28/06/2002
4377	ROSEHEARTY - THE CASSA SURFACE	43,069	43,069	£10,248.56	0.4306893	25/08/2002
4378	MANHOLE INFILTRATION DIGHTY S	82,271	82,271	£17,615.51	3.2908292	30/04/2002
4379	BUCKIE GT WSTRN RD DISP SURFACE WATER	29,331	29,331	£7,569.10	0.2485712	14/05/2002
5127	S - IT RATIONALISATION PROJECT	2,571,274	2,571,274	IT - please refer to note 2 below		31/03/2004
5219	CUMMINGSTON SW SEPARATION	143,472	143,472	£30,482.17	6.1051723	10/10/2003
5288	SPEND TO SAVE - INFILTRATION AT KING GEORGE V CATCHMENT	52,846	52,846	£12,306.93	0.528462	31/03/2002
5289	SPEND TO SAVE - INFILTRATION WITHIN INVERGOWRIE/RIVERSIDE CATCHMENT	242,588	242,588	£52,370.52	2.2053372	01/07/2002

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
5295	SPEND TO SAVE - PPP INVERNESS SCHEME 1	182,118	182,118	£39,344.68	2.142556	31/03/2003
6981	DATA CENTRE CONSOLIDATION	411,890	411,890	IT - please refer to note 2 below		31/03/2005
6982	LOCATION RATIONALISATION	379,578	379,578	IT - please refer to note 2 below		31/03/2005
7273	PROJECT KESTREL	373,786	373,786	£78,692.01	0	31/03/2004
7928	LOMOND SUPPLY CROSS CONECTION (KATRINE)	1,974,538	1,974,538	£420,004.52	5.4096951	31/08/2002
8417	ENERGY EFF. RENEWABLES	79,459	79,459			31/03/2006
8492	KILTARITY WwTP - GRIT REMOVAL	4,750	4,750	£1,032.25	1.7399267	11/07/2003
8493	Conon Bridge WWTP Pumps	85,307	85,307	£20,564.08	0.3869134	24/11/2003
8608	Inshes Sewer Connect to Allanfearn	35,937	35,937	£7,671.12	4.027922	14/12/2005
8609	WasteWater Pump Replacemnents	49,236	49,236	£10,589.88	2.5913521	01/03/2004
8696	Stanley Humus Return	12,053	12,053	£2,685.17	0.9642456	10/02/2004
8697	Huntly WWTP - Provision of Autodesludging Facilities	71,424	71,424	£15,308.28	3.1053757	31/03/2005
8698	Balbeggie Pumps	11,281	11,281	£2,422.29	2.8203575	03/02/2004
8700	Inverurie WWTP - New Sludge Transfer System	184,784	184,784	£39,395.20	4.4259713	23/08/2004
8701	Aboyne WWTP - Automation of Sludge Treatment Facilities	11,168	11,168	£2,587.34	0.5583755	17/12/2003
8714	Crossgates Interim & Contingency Solutions	12,631	12,631	£2,707.65	3.0838599	31/10/2003
8826	Netherburn WWTW - STS	97,707	97,707	£20,817.99	4.6527143	09/08/2004
8829	Loch Bradan - Turbine Generator	547,281	547,281	£116,634.75	4.5606749	15/11/2004
8830	STS Building Services Efficiency	450,966	450,966	£97,434.84	2.135706	22/12/2002
8831	Dalderse WWTW - Biogas CHP Scheme	44,862	44,862	£9,444.65	0	01/12/2003
8907	PTR CONTACT SYSTEM	3,319,243	3,319,243	IT - please refer to note 2 below		31/03/2005
8908	CUSTOMER BILLING	2,723,325	2,723,325	IT - please refer to note 2 below		31/03/2005
8909	LABORATORY	599,243	599,243	IT - please refer to note 2 below		31/03/2005
8910	BUSINESS INTELLIGENCE	3,988,000	3,988,000	IT - please refer to note 2 below		31/03/2005
8911	FINANCE SYSTEM	3,364,497	3,364,497	IT - please refer to note 2 below		31/03/2005
8912	HR & PAYROLL	1,426,700	1,426,700	IT - please refer to note 2 below		30/01/2006
8913	FLEET SYSTEM	42,836	42,836	IT - please refer to note 2 below		31/03/2005
8914	Integration	3,912,000	3,912,000	IT - please refer to note 2 below		31/03/2005
8915	LIBRARY SYSTEM	0	0	IT - please refer to note 2 below		n/a
8916	PROPERTY BUSINESS APPS.	491,603	491,603	IT - please refer to note 2 below		31/03/2005

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
8917	ADDRESS SYSTEM	63,364	63,364	IT - please refer to note 2 below		30/10/2003
8918	DATA CLEANSING	1,566,000	1,566,000	IT - please refer to note 2 below		31/03/2005
8927	Lerwick Sludge De-Water Feed Pump Improvements	3,615	3,615	£784.63	1.807385	20/12/2004
8928	Kirkhill WWTW - RAS/SAS Pumps	14,201	14,201	£3,117.20	1.3148731	31/03/2005
8929	Fort Augustus WWTP - RAS/SAS Pumps	8,329	8,329	£1,888.07	0.7305772	31/03/2004
9047	Ayre Rd & Weyland Bay WWPS, Kirkwall	266,297	266,297	£56,670.85	5.1708056	08/06/2005
9049	TURBIDITY METERS AT FULL CHEMICAL TREATMENT WORKS	65,138	65,138	£13,999.71	2.6863197	18/06/2004
9050	ELECTROCHLORINATION AT ERISKAY	13,008	13,008	£2,816.97	1.9560075	28/04/2004
9051	ELECTROCHLORINATION AT BERNERAY	12,431	12,431	£2,695.57	1.8692932	28/04/2004
9052	ACCESS TO FLOW REGULATION CHAMBER AT NORTH LOCHS TREATMENT WORKS	7,694	7,694	£1,672.99	1.7098133	16/04/2004
9053	ALVES WWPS TELEMETRY	2,353	2,353	£515.51	1.3842706	17/09/2004
9134	EAST CRAIGS WIND TURBINE TO SUPPLY GOWANBANK WPS	9,973	9,973	£2,099.46	0	31/03/2005
9149	BANCHORY WWTP - SCUM REMOVAL SYSTEM	26,162	26,162	£5,625.93	2.6162	13/01/2004
9157	BOWHOUSE WWTW ADDITONAL AERATION	20,346	20,346	£4,351.89	3.507931	17/03/2004
9305	PROCESS OPTIMISATION PHASE 3	467,084	467,084	£99,702.65	4.0300572	06/05/2005
9390	BO'NESS WWTW - INSTALL SLUDGE PRESS	75,925	75,925	£16,870.13	1.0123245	31/07/2004
9392	STRATHMIGLO WWTW ADDITONAL AERATION	17,547	17,547	£3,747.11	3.9168259	23/03/2004
9393	CHLORAMINATION AT LEWIS & HARRIS	19,164	19,164	£4,137.29	2.204046	28/06/2004
9437	BATHGATE WWTW AUTO DESLUDGING	67,917	67,917	£14,522.78	3.5745774	17/03/2004
9438	BRIDGEND WWTP AUTO DESLUDGING	36,805	36,805	£7,925.53	2.4536347	17/03/2004
9515	ALMONDBANK WWTW - REPLACE DESLUDGE VALVE	1,355	1,355	£302.98	0.9033133	31/05/2004
9516	ABERFELDY WWTW - REPLACE COVERS	2,430	2,430	£570.69	0.486036	31/03/2004
9559	DUNDEE CLATTO WTW - TURBINE UPGRADE	65,736	65,736	£13,839.14	0	01/04/2013
9603	ROC MODIFICATIONS AT LINTRATHEN WTW, DAER WTW AND CLATTO WTW	73,509	73,509	£15,475.63	0	01/04/2013
9604	SALMON INN HYDRO TURBINE OVERHAUL AND ACCESS IMPROVEMENT	72,430	72,430	£15,248.46	0	01/04/2013
9607	DATA MINING AT KINNEIL KERSE	1,597	1,597	£371.68	0.5323733	
9608	FINE BUBBLE DIFFUSERS AT TROQUEER WwTW	6,282	6,282	£1,617.79	0.2512628	
9609	STS WIND TURBINES	181,090	181,090	£38,124.27	0	12/08/2004
9610	DAER ADDITIONAL HYDRO TURBINE	43,934	43,934	£9,249.42	0	05/02/2006

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9618	BRIDGEND WwTW SCREEN	81,834	81,834	£17,417.25	5.1146281	31/01/2004
9619	WINCHBURGH WwTW SLUDGE THICKENING UNT	123,968	123,968	£26,452.91	4.13226	09/07/2004
9628	POWER FACTOR CORRECTION	22,156	22,156	£5,325.98	0.39564	
9629	S2S CLOSURE/VALIDATION PROJECT	59,328	59,328	£12,490.28	0	31/12/2005
9645	WIND TURBINE TO SUPPLY TURRIFF WTW	24,489	24,489	£5,155.67	Project stopped0	n/a
9646	WIND TURBINE TO SUPPLY MUIRESK WPS	618	618	£130.11	Project stopped0	n/a
9647	WIND TURBINE TO SUPPLY FOREHILL WTW	16,172	16,172	£3,404.53	Project stopped0	n/a
9648	WIND TURBINE TO SUPPLY GLENHOVE WPS	15,313	15,313	£5,892.37	0.0677972	05/02/2006
9747	STS - DALDERSE DIGESTERS	1,480,075	1,480,075	£313,992.94	7.2910082	31/03/2006
9748	STS - KINNEIL KERSE SLUDGE RECEPTION	438,456	438,456	£92,779.19	10.961412	31/03/2004
9749	STS - WWTW DISSOLVED OXYGEN CONTROL	105,465	105,465	£22,316.45	10.985876	01/08/2003
9751	STS - INSTALL PEAK LOPPING/TRIAD AVOIDANCE GENERATOR (DALDERSE)	86,878	86,878	£18,419.98	7.8979664	31/03/2004
9752	STS - POWER CORRECTION FACTOR WWTWON	12,624	12,624	£2,734.14	1.9536599	01/10/2003
9753	STS - VARIABLE SPEED DRIVES IRONMILLS WWPS	8,959	8,959	£1,886.29	0	31/03/2003
9754	STS - REPLACE INEFFICENT PUMPS AT GLENHOVE GOWANBANK	217,012	217,012	£39,144.65	14.056734	31/12/2003
9755	STS - REPLACE INEFFICENT PUMPS AT BLAMORE GLENHOVE	113,016	113,016	£24,501.64	1.883596	31/03/2006
9756	STS - REPLACE INEFFICIENT PUMPS AT GLENHOVE DALMACOULTER	175,038	175,038	£37,282.37	4.7827258	31/01/2004
9757	STS - INSTALL COAGULENT CONTROLLERS	129,940	129,940	£28,200.64	1.8171946	01/05/2003
9758	STS - REPLACE LIGHTS AT BALMORE/ROSS PRIORY PSs	7,446	7,446	£1,567.65	0	31/03/2003
9759	STS - INDUSTRIAL CUSTOMER METER REPLACEMENT	80,301	80,301	£17,170.57	3.5778253	01/05/2003
9764	STS - JEDBURGH DIGESTERS	7,178	7,178	£1,511.27	0	31/03/2002
9765	STS - CLOSE SELKIRK PS	154,286	154,286	£33,249.37	2.3736443	31/03/2006
9766	STS - UPPER GLENDEVON TURBINE	53,739	53,739	£11,313.40	0	31/03/2006
9767	STS - QUARTER HYDRA POWER STATION	26,897	26,897	£5,662.38	0	31/03/2006
9768	STS - INSTALL PEAK LOPPING/TRIAD AVOIDANCE GENERATOR (WHITEADDER)	138,570	138,570	£29,503.64	4.9489643	31/03/2006
9770	STS - SR TELEMETRY IMPROVEMENTS	1,267,234	1,267,234	£282,958.38	0.9257313	31/03/2006
9771	STS - PRESSURE MANAGEMENT AND LEAKAGE CONTROL	3,785,508	3,785,508	£804,120.06	6.2364204	31/03/2003
9774	STS - TELEMETRY IMPROVEMENTS	33,917	33,917	£7,140.55	0	31/03/2003

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9775	STS - REPLACE INEFFICENT PUMPS (WITH TRAINING IN THERMODYNAMIC TESTS)	353,482	353,482	£74,861.16	9.4076218	31/03/2004
9776	STS - ENERGY OPTIMISERS PILOT INSTALLATION AT DALDERSE WWTW	8,392	8,392	£1,766.78	0	31/03/2006
9777	STS - ENVIROS PROCESS OPTIMISATION	19,207	19,207	£4,043.63	0	31/03/2003
9781	STS - HYDRO POWER POTENTAL AT ESW RESERVOIRS, WTWS & TRUNK MAINS	16,222	16,222	£3,415.30	0	31/03/2006
9783	STS - WRC SEWERAGE BLOCKAGES STUDY	39,826	39,826	£8,384.38	0	
9785	STS - LOCH TURRET WTW - INSTALL SUBMETERING	78,108	78,108	£17,199.95	1.2204414	01/05/2004
9786	STS - PICAPS	21,933	21,933	£4,617.40	0	31/03/2003
9787	STS - PURCHASE OF LOCH GLOW	350	350	£73.68	0	31/03/2003
9788	STS - PILOT TO PROGRESS FURTHER OPPORTUNITIES AT OTHER FACILITIES	794	794	£167.14	0	31/03/2003
9789	STS - CARRONVALLEY LIGHTING EFF.	164	164	£34.43	0	31/03/2006
9790	STS - LOCH TURRET REPLANT RENEWABLES OBLIGATION	222,216	222,216	£49,617.58	0.9258974	01/05/2003
9791	STS - BUILDING SERVICES EFFICIENCY	60,936	60,936	£12,828.61	0	23/08/2003
9941	GIRVAN WTW - SUPPLY AND INSRALL 2 CONVEYERS	51,500	51,500	£11,078.39	2.575	09/08/2004
10062	SMALL WIND TURBINE(S) FEASIBILITY	47,558	47,558	£10,012.22	0	31/03/2005
10085	STS INVERURIE WwTW - SCUM REMOVAL	76,000	76,000	£16,177.21	5.0666667	17/08/2004
10102	CUPAR WwTW ADDITIONAL AERATION	25,440	25,440	£5,464.53	2.7640156	31/07/2004
10103	KIRKCALDY WwTW - BLOWERS AIR INTAKE	12,306	12,306	£2,670.22	1.8313155	28/05/2004
10104	ABERDOUR SILVER SANDS WwTW - DECANT PUMPS	19,959	19,959	£4,281.64	2.9568889	31/07/2004
10152	WORK FLOW PILOT	148,820	148,820	IT - please refer to note 2 below		31/03/2006
10154	BLUTHERBURN HEADWORKS - PUMP REPLACEMENT	36,568	36,568	£7,904.67	2.0957075	12/10/2004
10155	METHILHILL CSO REPLACEMENT COVERS	6,967	6,967	£1,510.42	1.8829297	29/07/2004
10156	IRONMILL BAY WwTW PUMP LIFTING GANTRY	31,930	31,930	£6,849.70	2.9564815	31/08/2004
10157	ALLOA AERATION AUTOMATION	11,563	11,563	£2,894.64	0.2966701	00/01/1900
10201	WALKERBURN WwTW - SLUDGE TANK DEWATERING	16,783	16,783	£3,564.56	6.3091729	16/11/2004
10202	ELMVALE ROW - FLOODING	13,279	13,279	£2,795.58	0	30/10/2004
10236	KINGUSSIE WwTP SCREEN	69,177	69,177	£14,835.34	3.007703	19/06/2004
10238	Daer TW - Hydro Scheme	82,396	82,396	£17,562.79	4.5025306	31/03/2003
10239	Overton TW - Energy Saving Measures	60,244	60,244	£12,836.58	4.6341708	29/03/2002
10241	Var WTW-Energy Saving Measures	63,885	63,885	£13,449.51	0	29/03/2002

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10242	Var WOSW locations - Small Scale Hydro Investigations	74,617	74,617	£15,708.81	0	29/03/2002
10243	Var WOSW locations - Small Scale Wind Farm Investigations	112,152	112,152	£23,610.96	0	29/03/2002
10244	Var Wastewater PS - Pump Efficiency Testing etc	110,571	110,571	£23,809.72	2.4571313	29/03/2002
10245	Laighpark (Paisley) WWTW - Energy Saving Measures	122,385	122,385	£26,225.71	3.1403349	01/04/2003
10246	Troqueer WWTW - Sludge Thickening Facilities	687,712	687,712	£146,553.74	4.5847514	18/01/2004
10247	DALMARNOCK TO DALDOWIE SLUDGE MAIN - INSTALL FINE SCREENS AT DALMARNOCK PSTs	28,627	28,627	£6,026.71	0	29/03/2002
10248	Var WWTWs - Provision of Sludge Thickening Facilities	18,094	18,094	£3,809.21	0	29/03/2002
10249	Var WWTWs - Prov of Sludge Holding/Thickening Facilities	36,506	36,506	£7,685.56	0	29/03/2002
10250	Var WWTWs - Auto Sludge Surplussing Facilities & Additional Holding Capacity	25,576	25,576	£5,384.38	0	29/03/2002
10251	Var WWTWs - Auto-desludging & Holding Capacity Install	218,644	218,644	£46,030.38	0	29/03/2002
10252	Daldowie WWTW - Screenings Handling & Auto-desludging Facilities	198,002	198,002	£42,275.34	3.9600402	01/06/2003
10253	VARIOUS WWTWs - ENERGY & PROCESS OPTIMISATION	75,147	75,147	£15,820.36	0	29/03/2002
10254	VARIOUS WTWs - ELECTRICAL SUB-METERING INSTALLATION	51,890	51,890	£10,924.21	0	01/04/2003
10255	Dunside WTW - Abandonment of Works	12,850	12,850	£2,705.31	0	29/03/2002
10256	Lochfoot WTW - Abandonment of Works	20,174	20,174	£4,932.38	0.3478281	29/03/2002
10257	Rankinston UV Chamber - Abandonment	217,513	217,513	£46,004.90	12.084066	14/08/2004
10258	Garshake WTW - Abandonment of Works	143,802	143,802	£32,908.74	0.6448539	29/03/2002
10259	Glasgow - Balmore Road Complex-Security gates	86,692	86,692	£18,761.04	2.0076841	06/03/2003
10260	Var WWTWs &WWPSs - Power Factor Correction Equipment	10,242	10,242	£2,298.04	0.8535242	
10261	VARIOUS WTWs - POWER CORRECTION EQUIPMENT	1,880	1,880	£395.86	0	29/07/2004
10262	VARIOUS WwPSs - INSTALL VSD CONTROL EQUIPMENT	43,998	43,998	£9,262.82	0	29/03/2002
10263	VARIOUS WwPSs - REPLACEMENT PUMPS & CONTROL EQUIPMENT	55,960	55,960	£11,781.08	0	29/03/2002
10264	VARIOUS WPs - REPLACEMENT PUMPS & CONTROL EQUIPMENT	29,144	29,144	£6,135.68	0	29/03/2002
10265	VARIOUS WTWs - ELECTRICAL SUB-METERING INSTALLATION	42,513	42,513	£8,950.06	0	03/09/2004
10266	Hamilton WWTW - Aeration Lane Optimisation	40,803	40,803	£8,719.07	3.736866	01/04/2002
10267	TELEMETRY SIGNALS - END TO END TESTING	145,759	145,759	£30,686.06	0	30/07/2004
10268	Blanefield-Burncrooks WTW - Prov of Sludge Treatment Plant	38,333	38,333	£8,070.12	0	31/03/2004
10269	Waterside - Amlaird WTW - Sludge Pipeline	4,219	4,219	£1,195.44	0.1622808	20/05/2002
10273	TELEMETRY SIGNALS - END TO END TESTING REMEDIAL WORKS & RETESTING	103,980	103,980	£21,890.51	0	28/07/2004

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10274	Belmore WTW SSWD - Feasibility	44,984	44,984	£9,470.39	0	
10275	Lochinvar WTW SSWD - Feasibility	27,893	27,893	£5,872.21	0	
10276	Camps WTW SSWD - Feasibility	19,523	19,523	£4,110.17	0	
10277	Muirdykes WTW SSWD - Feasibility	23,501	23,501	£4,947.51	0	31/03/2003
10278	Amlaird WTW SSWD - Feasibility	27,428	27,428	£5,774.37	0	31/03/2003
10279	Philipshill WWTW SSWD - Feasibility	19,133	19,133	£4,027.99	0	31/03/2003
10280	Bradan WTW SSWD - Feasibility	13,130	13,130	£2,764.20	0	31/03/2004
10282	S2S - AFTON HYDRO SCHEME - PLANNING	32,138	32,138	£6,765.88	0	31/03/2003
10283	S2S - GLEN FINLAS HYDRO SCHEME - PLANNING	28,299	28,299	£5,957.74	0	31/03/2003
10284	S2S - LOCH ARKLET HYDRO SCHEME - PLANNING	33,393	33,393	£7,030.01	0	31/03/2003
10285	S2S - CAMPHILL/MUIRHEAD/GLENGAVEL/BALCK ESK HYDRO SCHEMES - PLANNING	26,202	26,202	£5,516.25	0	31/07/2003
10286	Wastewater Non-Infrastructure-S2S-Erskine WWTW Sludge Transfer	7,687	7,687	£2,551.59	0.0973011	31/03/2004
10287	VARIOUS WwTWS - PROCESS CONTROL PHASE 1/PHASE 2 DEVELOPMENT	25,267	25,267	£5,319.35	0	29/03/2002
10288	Prov of Telemetry to various High Risk WWTWs - Feasibility	37,827	37,827	£7,963.66	0	31/03/2004
10289	Var WTWs-Installation of VSDs-Development	130,385	130,385	£27,721.25	5.6689243	29/03/2002
10290	VARIOUS PSs - REPLACE PUMPS & CONTROL EQUIPMENT, DEVELOPMENT CONTRACT 2	123	123	£25.83	0	29/03/2002
10299	Hawick WWTW - Auto Desludging	103,305	103,305	£22,020.18	4.4915287	19/02/2004
10300	Lauder WWTW Screen	70,305	70,305	£14,990.15	4.3940825	21/12/2003
10301	Armadale WWTW Auto Desludging	45,305	45,305	£9,537.93	0	31/03/2005
10302	Galashiels WWTW Auto Desludging	92,000	92,000	£19,368.36	0	31/03/2005
10303	Haddington WWTW Auto Desludging	68,705	68,705	£14,464.30	0	01/04/2003
10304	Linlithgow WWTW Auto Desludging	48,306	48,306	£10,169.61	0	31/10/2003
10305	Springfield WWTW	51,306	51,306	£11,025.65	2.7002947	31/03/2004
10306	Eddleston WWTW Screen	91,758	91,758	£19,506.53	5.7348838	31/07/2004
10307	Rosewell WWTW Screen	73,305	73,305	£15,621.59	4.5815419	19/12/2003
10308	Gifford WWTW Screen	78,305	78,305	£16,638.80	6.0234462	10/05/2004
10417	SANDYBRAES - SECONDARY CHLORINATION	35,900	35,900	£7,667.26	3.8768737	31/03/2005
10443	IT - ROADMAP	929,011	929,011	IT - please refer to note 2 below		01/12/2005
10444	DHU LOCH WTW - SLUDGE PRESS FILTER CLOTH REPLACEMENT	3,019	3,019	£662.25	1.3457086	30/09/2005

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
10445	ANSTRUTHER - CONCERES SCREEN REPLACEMENT	51,608	51,608	£11,090.79	2.6984575	31/08/2004
10460	S2S - BUILDING SERVICES EFFICIENCY - PHASE 3	191,124	191,124	£42,259.65	1.1162195	23/03/2005
10501	ASHGROVE WTW - SKIP OPTIMISATION	15,999	15,999	£3,483.01	1.6478999	31/08/2004
10510	PERTH WwTW - SCREEN REPLACEMENT & AUTO DESLUDGE	354,801	354,801	£61,446.41	6.4981861	29/04/2005
10552	SPEND TO SAVE - BUILDING SERVICES EFFICIENCY PHASE 4	100,798	100,798	£21,812.23	2.0134369	11/11/2005
10571	ALAN PARK ROAD, EDINBURGH - FLOODING	2,787	2,787	£645.78	0.5561477	28/02/2005
10572	BLAIRBEATH ROAD, RUTHERGLEN - FLOODING	491	491	£192.21	0.0653706	31/12/2004
10573	LAUREL AVENUE, LENZIE - FLOODING	8,501	8,501	£1,829.15	2.5452216	31/12/2004
10633	PUMP TESTING AT GOWANBANK, INCHGARTH & BALMOOR	29,201	29,201	£6,147.53	0	31/03/2006
10640	Glasgow-Morningside St, Carntyne-Interim & Contingency Solutions	7,533	7,533	£1,619.08	2.6905321	30/09/2003
10641	GLASGOW - BURNSIDE ROAD, RUTHERGLEN - FLOODING	2,698	2,698	£588.05	1.5869529	30/11/2004
10691	Newburgh WTW - Electrochlorination	5,115	5,115	H&S Project - withdrawn		n/a
10695	CUMNOCK WWTW - MAXIMISATION OF BENEFITS OF CHP FACILITY	15,393	15,393	£3,240.74	0	
10709	Wrack RWPS Chloronation System	35,000	35,000	H&S Project - please refer to note 1 below		12/08/2005
10830	Replacement Aluminium Monitors at WTW`s	271,570	271,570	£58,247.72	2.9842859	30/10/2005
10831	Drongan WWTW - Timed Auto Desludging	19,606	19,606	£4,200.69	3.1621565	30/04/2005
10832	Linlithgow - Mill Rd - Flooding Prevention	2,462	2,462	£597.19	0.3685284	26/11/2004
10872	Appin WWTW - New Pump Valves	1,394	1,394	£347.79	0.3030152	31/03/2005
10873	Benderloch WWTW - New Pump Valves	67,149	67,149	£14,563.15	1.8600864	31/01/2006
10874	Gremista WWPS - Inlet Screens	155,749	155,749	£33,309.23	3.5397652	28/10/2005
10875	Lairg WWTW - De Watering Facilities	5,601	5,601	£1,233.59	1.2176978	16/05/2005
10876	Taynuilt WWTW - Instal Pump & Pipework	14,668	14,668	£3,216.83	1.345711	18/05/2005
10895	Heldale WPS - VSD Install	2,355	2,355	£554.92	0.47106	01/04/2013
10956	Kirkmuirhead - Vere Terr - Flooding	711	711	£159.67	0.8521677	31/03/2005
10957	Wishaw - Mossbank Rd - Flooding	5,443	5,443	£1,185.29	1.6295509	31/03/2005
10958	Larkhall - Ashgillhead Terrace - Flooding	3,062	3,062	£664.29	1.8333293	31/03/2005
10963	Familiars PS - Provide alt support/removal mech for beam	9,412	9,412	H&S Project - please refer to note 1 below		20/10/2005
10969	Kinlochleven WWTP - H&S	73,082	73,082	H&S Project - please refer to note 1 below		13/12/2005
10970	Head of Work WWTW - H&S	66,794	66,794	H&S Project - please refer to note 1 below		27/03/2006

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
10979	Dunlop WWTW - H&S issues	2,947	2,947	H&S Project - please refer to note 1 below		15/08/2005
10980	Kinlochmore Sts - H&S	17,831	17,831	H&S Project - please refer to note 1 below		25/11/2005
10990	Guardbridge PS - Main St - Rebuild davit socket and certify	2,277	2,277	H&S Project - please refer to note 1 below		19/09/2005
10991	Guardbridge Hotel PS - Rebuild davit socket and certify	4,204	4,204	H&S Project - please refer to note 1 below		04/10/2005
10994	Anstruther Billowness Headworks - H&S issues	10,711	10,711	H&S Project - please refer to note 1 below		20/01/2006
10998	Saline PS - Argyll Place, Replace heavy cover with single lift	2,380	2,380	H&S Project - please refer to note 1 below		27/05/2005
11001	Cairneyhill PS - Replace concrete covers in road	18,830	18,830	H&S Project - please refer to note 1 below		24/10/2005
11004	West Shore PS, Pittenweem - Provide tripod and winch to allow safe removal of pump	8,181	8,181	H&S Project - please refer to note 1 below		01/03/2006
11005	Aberdour Silver Sands WWTW - Provide davit crane, improve access to tank	5,420	5,420	H&S Project - please refer to note 1 below		01/02/2006
11006	Bank St PS - Provide davit crane & frame for man handling pump	4,155	4,155	H&S Project - please refer to note 1 below		24/03/2006
11007	Portgower ST - H&S issue with de-sludge covers	8,040	8,040	H&S Project - please refer to note 1 below		22/09/2005
11008	Danger Point, Arbroath PS - replace covers and move control panel	9,308	9,308	H&S Project - please refer to note 1 below		17/10/2005
11009	Torridon PS - H&S	6,249	6,249	H&S Project - please refer to note 1 below		07/09/2005
11112	Variable Rate Pumping using VSD`s	39,342	39,342	£9,345.87	0.4371373	31/03/2006
11116	Craigneuk, Airdrie - Flooding	19,494	19,494	£4,232.32	1.7958895	31/03/2005
11124	Vario Lightweight Valve Keys	34,796	34,796	H&S Project - please refer to note 1 below		31/10/2005
11125	Asset Site Surveys	52,133	52,133	H&S Project - please refer to note 1 below		30/09/2005
11126	Assynt WTW	324,993	324,993	H&S Project - please refer to note 1 below		31/03/2005
11127	Audit Software Package	2,382	2,382	H&S Project - please refer to note 1 below		30/04/2005
11128	Behavioural Safety Training Workshops	36,000	36,000	H&S Project - please refer to note 1 below		28/02/2005
11129	Gator Grips	5,248	5,248	H&S Project - please refer to note 1 below		31/10/2005
11130	Portacount Facemask Testing Equipment	32,426	32,426	H&S Project - please refer to note 1 below		30/04/2005

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
11131	Tornado Powered Respirators	81,685	81,685	H&S Project - please refer to note 1 below		31/03/2005
11136	Carradale WTW - Sodium Hydroxide delivery system improvements	8,164	8,164	H&S Project - please refer to note 1 below		28/02/2006
11147	Ardrishaig WTW - BPT cover replacement	11,748	11,748	H&S Project - please refer to note 1 below		18/08/2005
11215	Katrine Aqueduct Old & New - Stop Log replacement Phase 2	52,466	52,466	H&S Project - please refer to note 1 below		01/12/2005
11297	Glasgow - Tollcross Garage - Flooding	7,391	7,391	£1,619.82	1.3657639	31/03/2005
11299	Coupar Angus WWTW - Sludge Thickening Centre	138,278	138,278	£29,608.53	3.2845131	30/10/2005
11324	Flooding - C&IS - Project 1 Strathblane Rd, Milngavie	3,941	3,941	£859.66	1.5452039	31/03/2005
11325	Flooding - C&IS - Project 2 Mainsacre Dr, Stonehouse	4,867	4,867	£1,044.46	2.9146527	31/03/2005
11340	ICMS	248,093	248,093	IT - please refer to note 2 below		08/06/2004
11395	Sludge Management	262,680	262,680	IT - please refer to note 2 below		31/03/2006
11433	Flooding - C&IS - Project 3 - Camps Rd, Carnock	3,499	3,499	£754.76	2.2764281	15/04/2005
11434	Flooding - C&IS - Project 4 - Carronflats Rd/St Marys Pl, Grangemouth	12,888	12,888	£2,737.99	6.1725575	01/07/2005
11435	Flooding - C&IS - Project 5 - Greenlaw Dr, Newton Mearns	9,293	9,293	£2,015.51	1.8547964	27/05/2005
11436	Flooding - C&IS - Project 6 - Stobs Dr, Barrhead	11,850	11,850	£2,524.40	4.7306707	20/05/2005
11479	Flooding - C&IS - Project No 8, Inveroran Dr, Bearsden, Glasgow	7,597	7,597	£1,626.95	3.2492772	30/09/2005
11494	Abercrombie WWTW - H&S Issues	11,277	11,277	H&S Project - please refer to note 1 below		09/09/2005
11535	Flooding - C&IS - Project No9 - Overton Rd, Strathaven	3,688	3,688	£786.23	4.4164671	28/06/2005
11536	Flooding - C&IS - Project No 10 - Meadowside Rd, Holy Park	8,238	8,238	£1,793.48	1.6442894	30/06/2005
11574	Standingstone SR - H&S access/operation improvements to valves	7,000	7,000	H&S Project - please refer to note 1 below		20/02/2006
11575	Caigton SR - Valve House Edge Protection	14,200	14,200	H&S Project - please refer to note 1 below		20/02/2006
11576	Muirhead SR - H&S access improvements to Valve House	19,731	19,731	H&S Project - please refer to note 1 below		14/03/2006
11579	Flooding - C&IS - Project 13, Scottish Ballet, West Princes St, Glasgow	2,101	2,101	£462.36	1.2357647	23/08/2005
11580	Flooding - C&IS - Project 7, Port Brae Bar, Kirkcaldy	37,196	37,196	£7,938.15	4.0874242	19/08/2005
11581	Flooding - C&IS - Project 11, The Crescent, Lesmahagow	3,358	3,358	£746.02	1.0176939	23/07/2005
11582	Flooding - C&IS - Project 12, Cash Feus, Strathmiglo	7,628	7,628	£1,664.91	1.525544	21/07/2005
11603	Nairn WWTW - Installation of Centrifuge	311,550	311,550	£63,195.29	1.9471853	14/02/2006
11604	Lairg WWTW - Aerator & Inlet Screen	1,616	1,616	£1,072.66	0.0260621	01/04/2013

Autocode	Project Description	Spend to March 2006	Total Expenditure Forecast	Assessed NPV	Payback Period	Actual/ Forecast Completion Date
11609	Stonehaven Headworks - Replace Access Covers on wet well	2,460	2,460	H&S Project - please refer to note 1 below		29/08/2005
11654	Kintore SPS - Requirement of New Lifting Beam & Wall Repair	13,292	13,292	H&S Project - please refer to note 1 below		18/11/2005
11689	Flooding - C&IS - Project 16 - Main St, Inverkip	17,778	17,778	£3,797.19	3.862342	05/10/2005
11690	Flooding - C&IS - Project 14 - Hill St, Motherwell	5,842	5,842	£1,257.52	2.4987169	21/09/2005
11691	Flooding - C&IS - Project 15 - Greenrig, Uddingston	12,304	12,304	£2,631.98	3.4945527	03/11/2005
11700	Grampian South Meter Lid Replacement Project	17,553	17,553	H&S Project - please refer to note 1 below		12/12/2005
11759	Kilmelford WTW - Filter Lids	37,517	37,517	H&S Project - please refer to note 1 below		01/03/2006
11760	Flooding - C&IS - Project 17 - 38a Cash Feus, Strathmiglo	3,525	3,525	£766.90	1.6785333	17/11/2005
11791	Flooding - C&IS - Project No 18 - Croft Park, Perth	16,521	16,521	£3,547.85	2.8002017	31/01/2006
11808	Flooding - C&IS - Project 21 - Butts St/Millpark Terr	17,257	17,257	£3,708.75	2.6964672	01/03/2006
11809	Flooding - C&IS - Project 19 - Belvoir Cottage, Dumfries	4,518	4,518	£967.70	3.2271429	14/02/2006
11810	Flooding - C&IS - Project 20 - Coalburn Rd, Coalburn	12,659	12,659	£2,713.39	3.087439	30/01/2006
11817	Newton Stewart Old WWTW - H&S Issues	30,181	30,181	H&S Project - please refer to note 1 below		08/03/2006

Notes:

1. This activity has been carried out to provide indirect financial benefits for Scottish Water through reduction in lost time accidents and subsequent injuries to employees. In addition the improvements will also mitigate the risk of HSE enforcement action and the associated significant costs of civil litigation claimed against the business.
2. The expenditure against IT was primarily to consolidate onto a single portfolio of 'best of breed' applications for all of Scottish Water. This resulted in a direct saving of c£2m in IT attributable costs primarily due to the reduction and consolidation of IT infrastructure i.e. removal of duplicate data networks. This expenditure enabled and supported additional savings across the directorates.

Appendix 3

Total Grants and Contributions

The total value of grants and contributions received in Q&SII is shown by project below.

Note: There have been the following changes from the values reported in 2005-06 Q4 CIR following further information on the contributions received.

4181 NEW WTW AT CALDER HOY TO SERVE CAITHNESS, DOUNREAY & NORTH SUTHERLAND reduced by £450,000
265 Tarland WWTP added to schedule - £50,000
11542 Cust Acc GM added to schedule - £18,082
7693 Developer Contributions - increased by £381,918.

AUTOCODE	PROJECT NAME	CONTRIBUTIONS	2002-03		2003-04		2004-05		2005-06		2006-07	
			Grant	Contrib	Grant	Contrib	Grant	Contrib	Grant	Contrib	Grant	Contrib
54	ALNWICKHILL/FAIRMILEHEAD WTW SECURITY	£29,572							£29,572			
237	INVERURIE - MARKET PLACE CSO & STRATHBURN CULVERT	£482,000		£482,000								
330	PORTREE MACERATOR	£428,284							£428,284			
695	Tarland WWTP	£50,000								£50,000		
705	SITE SERVICING - HOUSING - WASTEWATER	£18,082		£18,082								
1235	CARGENBRIDGE DRAINAGE SCHEME (AIRDS POINT TANKS)	£201,438						£201,438				
1260	MAIDENS SEWERAGE SCHEME	£50,000						£50,000				
3553	SEILEBOST	£50,000		£50,000								
4181	NEW WTW AT CALDER HOY TO SERVE CAITHNESS, DOUNREAY & NORTH SUTHERLAND	£2,050,000		£450,000		£750,000				£850,000		
4182	SERVE CAITHNESS,DOUNREAY & NORTH SUTHERLAND	£470,000						£470,000				
4319	BALIVANICHWWTP & CS	£750,891		£750,891								
4331	GOLSPIE WWTP	£431,407	£392,407						£39,000			
5079	MILLHALL SR INTERNAL & PERIMETER SECURITY	£20,845			£20,845							
6684	ALNWICKHILL/FMH WTW SECURITY - HIGH LEVEL SECURITY	£38,250			£38,250							
7174	CARDHU WWTP	£41,232		£41,232								
7176	DOUNBY WWTP ACCESS RD UPGRADE	£5,495			£5,495							
7514	INVERCANNIE/BULLION SECURITY	£3,662			£3,662							
7528	CARSE AREA WATER SUPPLY - RENEWAL AT INCHTURE INTERCHANGE	£26,085		£26,085								
7693	DEVELOPER CONTRIBUTIONS	£4,738,885		£292,413		£397,411		£60,752		£3,988,309		
7730	SENSITIVE SITES SECURITY	£11,211			£11,211							
7732	BRADAN WTW - EKP SECURITY WORK	£18,000							£18,000			
8327	BALANCING LINE FOR PROJECTS WITHOUT AUTOCODE NO	£11,380							£11,380			
8489	Glasgow Southern Orbital & M77 Mains Diversion	£1,400,000								£140,000		£1,260,000
8884	Fearness Road	£4,399,314								£4,399,314		
9651	GLASGOW RAW RESERVOIRS SECURITY	£557,250			£545,850		£11,400					
10606	GLASGOW - CARDOWAN LINK SEWER	£3,500,000								£3,500,000		
11542	Cust Acc GM	£18,082								£18,082		
20020	SW Programme Risk Adjustment	£619,600							£619,600			
	Total	**£20,420,964**	£392,407	£2,110,703	£625,313	£1,147,411	£11,400	£782,190	£1,145,836	£12,945,705	£0	£1,260,000

Appendix 4

CS2 Projects

The attached table details the projects with Cs2 as one of their output measures and the benefits resulting for customers.

AUTOCODE	Project Description	Benefit to Customers
4065	ALNESS MR	Reduction in pressure problems, interruptions and improved water quality
4066	BADACHRO - SIDHEAN NAH AIRDE BRANCH MR	Reduction in pressure problems, interruptions and improved water quality
4067	BARBARAVILLE MR	Reduction in pressure problems, interruptions and improved water quality
4068	BONAR BRIDGE MR	Reduction in pressure problems, interruptions and improved water quality
4069	BROOMHILL MR	Reduction in pressure problems, interruptions and improved water quality
4070	BRORA MR	Reduction in pressure problems, interruptions and improved water quality
4071	DULNAIN BRIDGE MR	Reduction in pressure problems, interruptions and improved water quality
4072	EDDERTON MR	Reduction in pressure problems, interruptions and improved water quality
4073	EMBO MR	Reduction in pressure problems, interruptions and improved water quality
4074	KILMUIR BRANCH MR	Reduction in pressure problems, interruptions and improved water quality
4075	MARYBURGH MR	Reduction in pressure problems, interruptions and improved water quality
4076	MILTON MR	Reduction in pressure problems, interruptions and improved water quality
4077	MULCHAICH PRV DMA MR	Reduction in pressure problems, interruptions and improved water quality
4078	MUIR OF ORD MR	Reduction in pressure problems, interruptions and improved water quality
4079	POOLEWE MR	Reduction in pressure problems, interruptions and improved water quality
4080	PORT NIS MR	Reduction in pressure problems, interruptions and improved water quality
4081	TORE MR	Project not progressed.
4082	THURSO ORMLIE DMA MR	Reduction in pressure problems, interruptions and improved water quality
4083	ULLAPOOL MR	Reduction in pressure problems, interruptions and improved water quality
4084	ABERDEEN WATER SUPPLY - WELLINGTON RD	Reduction in pressure problems, interruptions and improved water quality
4085	BALNAGOWAN MAINS RENEWAL (SHANDWICK MAINS)	Reduction in pressure problems, interruptions and improved water quality
4086	CARSE AREA WATER SUPPLY RENEWAL AT KINFAUNS INTERCHANGE	Reduction in interruptions
4087	A92 DUNDEE TO ARBROATH TRUNK ROAD - ALTERATIONS TO WM	Reduction in pressure problems, interruptions and improved water quality
4088	CARSE AREA WATER SUPPLY RENEWAL AT GLENDOICK INTERCHANGE	Reduction in interruptions
4089	GAIRLOCH MAINS RENEWAL (DESIGN)	Reduction in pressure problems, interruptions and improved water quality
4090	INVERASDALE MAINS RENEWAL (DESIGN)	Reduction in pressure problems, interruptions and improved water quality
4091	MULBUIE (BLACK ISLE) MAINS RENEWAL (DESIGN)	Reduction in pressure problems, interruptions and improved water quality
4092	KILCHOAN MAINS RENEWAL	Reduction in pressure problems, interruptions and improved water quality
4093	BONAR BRIDGE ZONAL MAINS RENEWAL	Reduction in pressure problems, interruptions and improved water quality
4094	WATER MAINS RENEWALS 2002 - 2003 - TAYSIDE WEST AREA	Reduction in pressure problems, interruptions and improved water quality
4095	WATER MAINS RENEWALS 2002 - 2003 - TAYSIDE EAST AREA	Reduction in pressure problems, interruptions and improved water quality
4096	WATER MAINS RENEWALS 2002 - 2003 - GRAMPIAN	Reduction in pressure problems, interruptions and improved water quality
4097	WATER MAINS RENEWALS 2002 - 2003 - FINDOCHTY	Reduction in pressure problems, interruptions and improved water quality

AUTOCODE	Project Description	Benefit to Customers
4098	WATER MAINS RENEWALS 2002 - 2003 - FRASERBURGH PHASE 2	Reduction in pressure problems, interruptions and improved water quality
4099	MULCHAICH PHASE 2 MR (CONSTRUCTION)	Reduction in pressure problems, interruptions and improved water quality
4100	STRATHPEFFER (UPPER) MR DESIGN	Reduction in pressure problems, interruptions and improved water quality
4101	TULLICH MR DESIGN	Reduction in pressure problems, interruptions and improved water quality
4102	SOUTH HOY AND FLOTTA WMR	Reduction in pressure problems, interruptions and improved water quality
4103	MARYBURGH MR (DESIGN)	Reduction in pressure problems, interruptions and improved water quality
4104	KILTARLITY MAINS RENEWAL	Reduction in pressure problems, interruptions and improved water quality
4105	GOLSPIE MAINS REPLACEMENT	Reduction in pressure problems, interruptions and improved water quality
4106	CLAYSIDE (BRORA) WATER MAINS RENEWALS	Reduction in pressure problems, interruptions and improved water quality
4264	DUNDEE - CLATTO TO JEANFIELD AUGMENTATION	Reduction in pressure problems, interruptions and improved water quality
5473	INVERNESS WATERMAINS REPLACEMENT	Reduction in pressure problems, interruptions and improved water quality
5662	GILBERTSON ROAD, LERWICK MR	Reduction in pressure problems, interruptions and improved water quality
5663	URCHANY (NAIRN) MR DESIGN	Reduction in pressure problems and interruptions
5664	LOCHINVER MR - DESIGN	Reduction in pressure problems, interruptions and improved water quality
5665	BALAGUNLOUNE MR - CONSTRUCTION	Reduction in pressure problems, interruptions and improved water quality
7616	INVERURIE WWTP-ODOUR SURVEY	Identify cause of apparent odour problem
8299	UNALLOCATED NORTH MAINS RENEWALS	Reduction in pressure problems, interruptions and improved water quality
8329	N - Garmouth Septic Tank Outfall	Remove outfall from popular fishing pool – project not progressed as river has changed its cours
8478	Nairn WWTP Peracetic Acid Dosing and Odours	Address odour problem
8515	Killen Pump Upgrade	Improve and maintain steady water pressure and avoid interruptions
8518	Kilcoy Redcastle MR	Reduction in pressure problems, interruptions and improved water quality
8519	Elgin Kellas River Crossing Repairs	Risk assessment - not progressed
8554	Culloden Castle Stuart MR	Reduction in pressure problems, interruptions and improved water quality
8628	Troqueer WWTW - Odour Control Equipment	Identify cause and address odour problem
8664	Grantown WWTP - Odour Problem	Project not progressed. Upgrade of WWTP undertaken through different project
8745	ELECTROCHLORINATION & CHLORAMINATION AT SANDY LOCH WTW & EELA WTW	Address odour and taste complaints
9016	Pitcalzean Pump Upgrade	Improve and maintain steady water pressure and avoid interruptions
9127	KEISTLE PUMP UPGRADE	Improved water quality

Appendix 5

Security and Emergency Measures Directive and the Code of Practice for Security of Service Reservoirs

Projects addressing security measures as part of the Security and Emergency Measures Directive or Code of Practice for Security of Service Reservoirs are reported with a number of different purpose and output measures as shown below. In some instances this reflects the original codes allocated when projects commenced.

Autocode	Project Description	Purpose Codes	Output Codes
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
XXXXXX	XXXXXX	XXXXXX	XXXXXX
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H Tables – Asset Inventory and System Performance

Table H1-H6 Asset inventory

Methodology & Data sources

- The Current Asset Inventory is produced using the WIC definitions and created by the SW Asset Management System.
- A structured approach has been adopted, grouping the Asset Data into the key components and analysing each of these areas for gaps in X factors, condition/ performance grades and EARC calculations.
- The Gaps in X factors have been populated using simple extrapolations based on the data present. The commentary in each sub section defines in detail the methodologies for these extrapolations.
- The gaps within Condition and Performance have been dealt with in a similar methodology. In each WIC grade (Non Infrastructure only), an analysis was carried out to obtain the percentages of population in each grade at the sub asset level. This is the basis for the main extrapolation. To allocate the missing grades a methodology was then applied by using table G outputs for base maintenance by project, by site, to prioritise the allocation of missing condition and performance grades to sub assets within these projects.
- Data sources for the Asset Inventory include the Ellipse Works and Asset Management system for non-infrastructure and GIS & INMS for infrastructure.
- The EARC's have been calculated using the cost equations produced for the 2004 WIC Return with a new COPI index figure. The commission requested that the costs should be quoted as MEAVs, as Scottish Water have not completed a MEAV valuation, Scottish Water considered that the difference between EARC and MEAV values are within the accuracy band quoted within the confidence grades.
- There was an error found with an equation used to value critical sewers last year. It is estimated that the critical sewers where over valued by 5.67%. The same equation has been updated to use the correct values for this year's reported valuation. For more details see appendix A.

Changes to Confidence Grades

Scottish Water has made some significant changes to its confidence grades for H1 for this year's Annual Return. This is to reflect the shortfalls in the asset valuation process.

There are various points Scottish Water took into consideration when selecting the appropriate confidence grades for Table H1, they are as follows:

Section 1 & 2

1. Some Asset data at site level is incomplete and has been extended by extrapolation
2. Some cost functions rely on old data
3. Valuation process relies on limited samples of assets
4. The valuation process for non-infrastructure assets is modelled at site level and then prorated to unit level

Section 5 & 6

5. All of the points identified for section 1 & 2 on valuation are related to these confidence grades. This means that none of the confidence grades stated in sections 5 & 6 can be higher than the confidence grades stated in 1 & 2.
6. Asset data for condition and performance is incomplete and has been extended by extrapolation

7. The analysis process for allocation of EARC values between replacement periods produces unrealistic figures.

Scottish Water took all the above reasons into consideration and decided to adjust the confidence grades accordingly.

Table H2 Water Non-Infrastructure

Changes to Confidence Grades
Scottish Water has made some significant changes to its confidence grades for H2 for this year's Annual Return. This is to reflect the shortfalls in the asset valuation process.

There are various points Scottish Water took into consideration when selecting the appropriate confidence grades for Table H2, they are as follows:

Section 0

1. Scottish Water implemented a rule set to distinguish between the selection of a "B" and "C" grade. The rule was based on the amount of extrapolation involved on the X factor used for banding. If a section had less than 20% extrapolated, then a "B" grade was stated. If a section had more than 20% extrapolated, then a "C" grade was stated.

Section 1 & 2

2. Some Asset data at site level is incomplete and has been extended by extrapolation Some cost functions rely on old data
3. Valuation process relies on limited samples of assets
4. The valuation process for non-infrastructure assets is modelled at site level and then prorated to unit level

Section 5 & 6

5. All of the points identified for section 1 & 2 on valuation are related to these confidence grades. This means that none of the confidence grades stated in sections 5 & 6 can be higher than the confidence grades stated in sections 1 & 2.
6. Asset data for condition and performance is incomplete and has been extended by extrapolation
7. The analysis process for allocation of EARC values between replacement periods produces unrealistic figures.

Scottish Water took all the above reasons into consideration and decided to adjust the confidence grades accordingly.

H 2.1-2.8 Water Treatment Works

Asset Stock

The total number of works has decreased from 545 in 2005 to a total of 541 in 2006, a difference of 4 sites. Six new Water Treatment Works have opened this year; while there have been 15 closures. There have been 9 sites sold and one site removed because of data cleansing.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of changes
Change in WIC grade	DATA CLEANSING	1
Changes to Status	DATA CLEANSING	3
Changes to Status	SITE CLOSED	15
Changes to X Factor	DATA IMPROVEMENT	198
In AR05 not AR06	DATA CLEANSING	-1
In AR05 not AR06	SITE SOLD	-9
New to AR06	NEW SITE COMMISSIONED	+6
Variance		-4

Comparison of Site status

Status	2003/04	2004/05	2005/6	Dif +/-
Operational	363	324	316	-8
Out of service	0	0	0	0
Emergency	8	3	3	0
Work In Progress	0	6	4	-2
Total	371	333	323	-10
Redundant	163	200	210	10
Decomissioned	15	12	8	-4
Total	549	545	541	-4

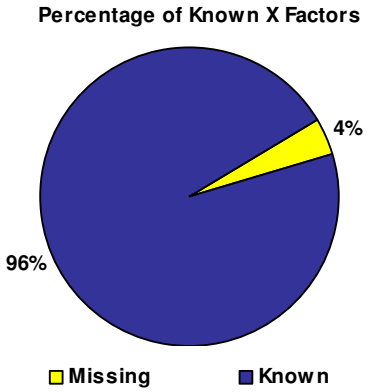
Differences in X factor from 2005 to 2006

Summary of X factors 2005

WIC Grade	Total Design capacity
1	1162.67
2	266.11
3	1311.805
4	1412.057
5	72.215
6	13.116
7	30.86
8	14.15
Total	4282.983

Summary of X Factors 2006

WIC Grade	Total Design capacity	Dif
1	1153.026	-9.644
2	271.505	5.395
3	1311.106	-0.699
4	1386.9066	-25.1504
5	82.91	10.695
6	13.085	-0.031
7	30.855	-0.005
8	12.61	-1.54
Total	4262.0036	-20.9794

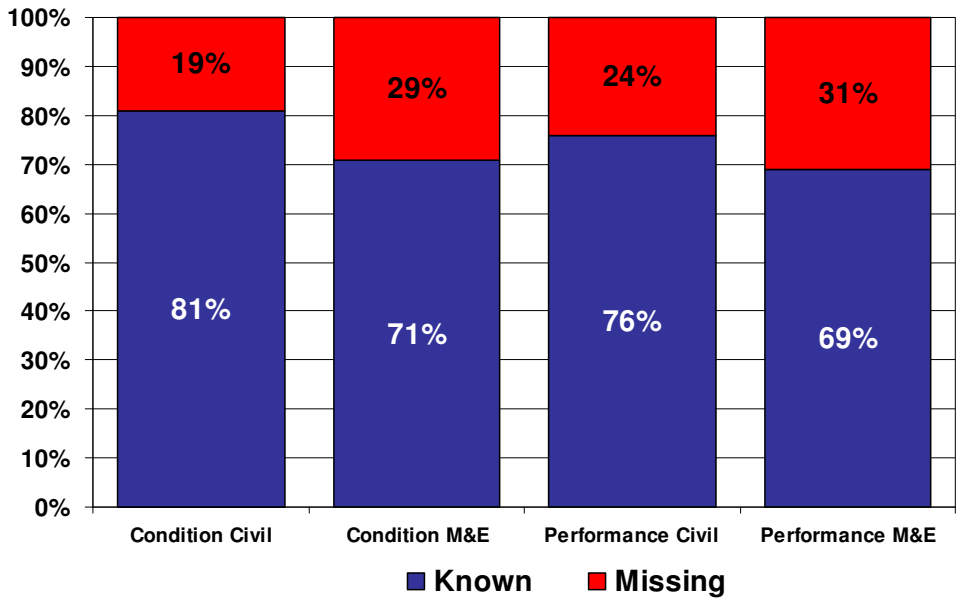


The above pie chart shows a high percentage of known X factors (design capacity) for Water Treatment works. The small percentages of works are redundant works and are assumed to be in the lowest banding of works.

Asset Valuation

The Asset valuation for 2006 has increased by 5.5% on last year, from £1.782 Billion in 2005 to £1.880 billion in 2006. This slight increase in value is mainly due to Inflation considering that the number of Work has decreased.

Condition and Performance Assessment



The graph shown above indicates a high percentage of data is present on the condition and performance of the all sub assets at Water Treatment works.

H2.9-H2.10 Water Storage

Asset Stock

The total number of Water Storage sites has decreased from 2185 in 2005 to a total of 2124 in 2006, a decrease of 61 sites. There were 4 sites commissioned this year with 12 added because of data cleansing exercises. Another extra site is reported as it has transferred ownership to Scottish water. There has been 18 sites sold, 9 demolished and 49 removed

because of data cleansing. Another extra site was not reported due to being transferred to private ownership.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of changes
Change in WIC grade	DATA CLEANSING	6
Changes to Status	DATA CLEANSING	31
Changes to Status	SITE CLOSED	5
Changes to X Factor	DATA IMPROVEMENT	3
In AR05 not AR06	CHANGE OF OWNERSHIP	-1
In AR05 not AR06	DATA CLEANSING	-50
In AR05 not AR06	SITE DEMOLISHED	-9
In AR05 not AR06	SITE SOLD	-18
New to AR06	CHANGE OF OWNERSHIP	+1
New to AR06	DATA CLEANSING	+12
New to AR06	NEW SITE COMMISSIONED	+4
Variance		-61

Comparison of Site status

Status	2003/04	2004/05	2005/6	Dif +/-
Operational	1661	1612	1555	-57
Out of service	20	38	32	-6
Emergency	11	5	4	-1
Work In Progress		1	2	1
Total	1692	1656	1593	-63
Redundant	476	506	511	5
Decomissioned	31	23	20	-3
Total	2199	2185	2124	-61

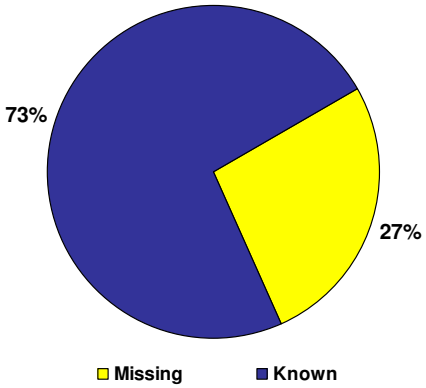
Differences in X factor from 2005 to 2006

Summary of X factors 2005

WIC Grade	Total Design capacity
9	4737.46077
10	42.57
Total	4780.03077

Summary of X Factors 2006

WIC Grade	Total Design capacity	Dif
9	4676.18178	-61.279
10	43.92	1.35
Total	4720.10178	-59.929

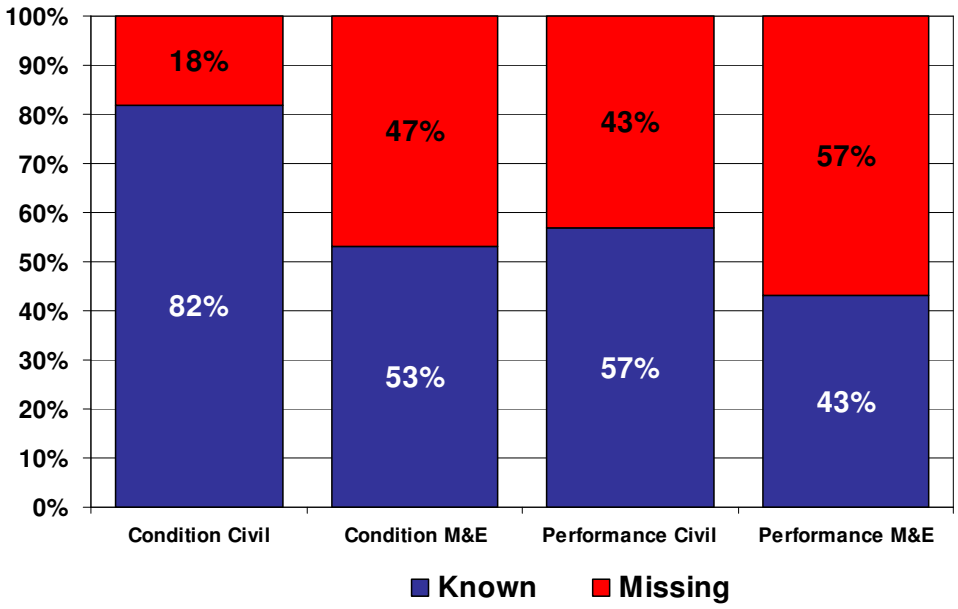


The above chart shows that the asset valuation was based on having X factors for 73% of Water storage sites. The Missing 27% used the same extrapolated values as last year's extrapolation.

Asset Valuation

The asset valuation for 2006 has increased slightly by 4.8% on last year, from £905.6 million in 2005 to £948.7 million in 2006. This increase is mainly due to inflation considering the number of water storage sites has fallen.

Condition and Performance assessment



The graph shown above indicates a high percentage of data is present on the condition civil of sub assets at water storage sites but a low percentage of data present on Condition M&E and Performance of sub assets at Water Storage sites.

H2.11-H2.13 Water Pumping Stations

Asset Stock

The total number of Water pumping stations has decreased from 1036 in 2005 to a total of 1035 in 2006, a decrease of 1 site. There have been 8 new sites commissioned, with additional 25 added as part of on going data cleansing. 12 sites have been sold, 2 sites demolished and 19 where removed because of data cleansing. Another extra site was not reported due to being transferred to private ownership.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of changes
Change in WIC grade	DATA CLEANSING	7
Changes to Status	DATA CLEANSING	28
Changes to Status	SITE CLOSED	4
Changes to X Factor	CHANGE FROM ORIGINAL	165
Changes to X Factor	DATA CLEANSING	2
Changes to X Factor	DATA IMPROVEMENT	93
In AR05 not AR06	CHANGE OF OWNERSHIP	-1
In AR05 not AR06	DATA CLEANSING	-19
In AR05 not AR06	SITE DEMOLISHED	-2
In AR05 not AR06	SITE SOLD	-12
New to AR06	DATA CLEANSING	+25
New to AR06	NEW SITE COMMISSIONED	+8
Vaiance		-1

Comparison of Site status

Status	2003/04	2004/05	2005/6	Dif +/-
Operational	631	652	647	-5
Out of service	7	7	7	0
Emergency	37	27	28	1
Work In Progress	0	1	2	1
Total	675	687	684	-3
Redundant	318	336	336	0
Decomissioned	12	13	15	2
Total	1005	1036	1035	-1

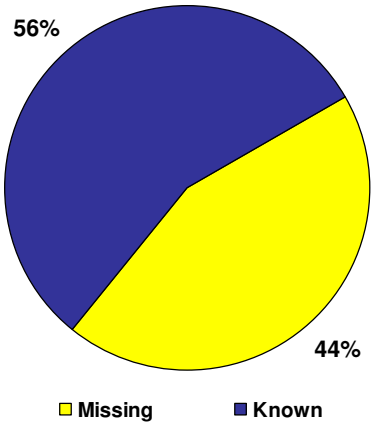
Differences in X factor from 2005 to 2006

Summary of X factors 2005

WIC Grade	Total Design capacity
11	19354.2
12	17734.705
13	48473.297
Total	85562.202

Summary of X Factors 2006

WIC Grade	Total Design capacity	Dif
11	18877.7	-476.5
12	21970.355	4235.65
13	47981.597	-491.7
Total	88829.652	3267.45

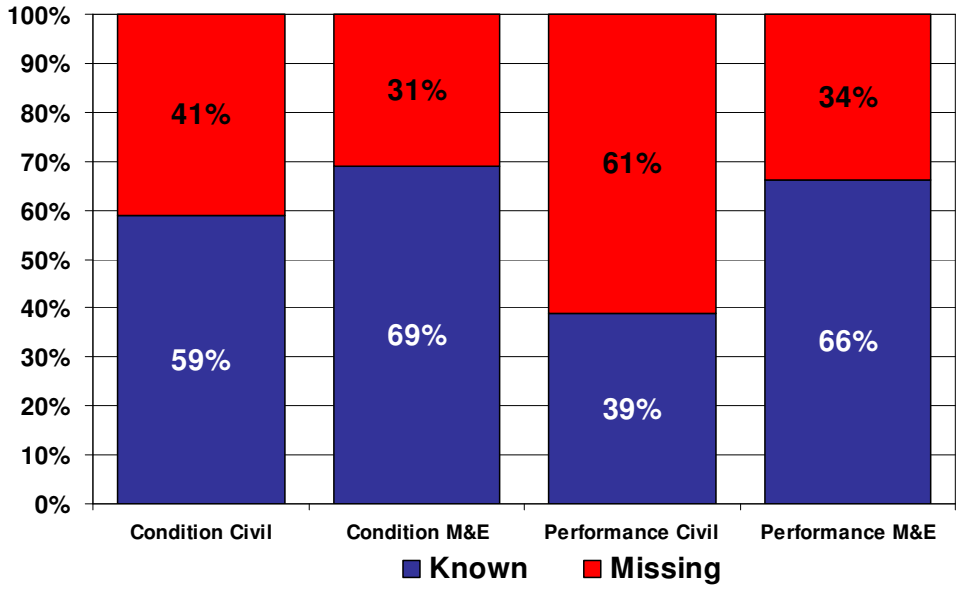


The above chart shows that the asset valuation was based on having X factors for 56% of Water Pumping Stations. The Missing 44% was based on an extrapolation of the 56% known Water Pumping stations. The methodology for the extrapolation was to group the sites by their WIC grade, then group by the sites Region and categorise it into the WIC s size band based on the known Kilowatt rating. This data is then converted into a percentage in each of the above areas, which gives the basis for the extrapolation across the whole asset stock.

Asset Valuation

The asset valuation for 2006 has increased by 11% on last year, from £237.1 million in 2005 to £262.3 million in 2006. This is mainly due to the identification of more Water Pumping stations. The Total kW rating overall has risen from 85,562kW to 88,830kW in 2006.

Condition and Performance Assessment



The graph shown above indicates a high percentage of data is present on the condition and performance of mechanical and electrical elements of sub assets at water pumping stations.

Table H3 Water Infrastructure

Changes to Confidence Grades
Scottish Water has made some significant changes to its confidence grades for H3 for this year's Annual Return. This is to reflect the shortfalls in the asset valuation process.

There are various points Scottish Water took into consideration when selecting the appropriate confidence grades for Table H3, they are as follows:

Section 0

1. Scottish Water implemented a rule set to distinguish between the selection of a "B" and "C" grade. The rule was based on the amount of extrapolation involved on the X factor used for banding. If a section had less than 20% extrapolated, then a "B" grade was stated. If a section had more than 20% extrapolated, then a "C" grade was stated.
2. Scottish Water considered the fact that derived data sets have been used in the absence of actual data.

Section 1 & 2

3. Some Asset data at site level is incomplete and has been extended by extrapolation
4. Some cost functions rely on old data
5. Valuation process relies on limited samples of assets
6. The valuation process for non-infrastructure assets is modelled at site level and then prorated to unit level

Section 5 & 6

7. All of the points identified for section 1 & 2 on valuation are related to these confidence grades. This means that none of the confidence grades stated in sections 5 & 6 can be higher than the confidence grades stated in sections 1 & 2.
8. Asset data for condition and performance is incomplete and has been extended by extrapolation
9. The analysis process for allocation of EARC values between replacement periods produces unrealistic figures.

Scottish Water took all the above reasons into consideration and decided to adjust the confidence grades accordingly.

H3.1-3.2 Water Resources

Asset Stock
The total number of Water resources has fallen from 1083 in 2005 to a total of 1023 in 2006, a decrease of 60 sites.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of
Change in WIC grade	DATA CLEANSING	25
Changes to Status	DATA CLEANSING	53
Changes to Status	SITE CLOSED	15
Changes to X Factor	DATA IMPROVEMENT	38
In AR05 not AR06	CHANGE OF OWNERSHIP	-1
In AR05 not AR06	DATA CLEANSING	-85

In AR05 not AR06	SITE SOLD	-7
New to AR06	DATA CLEANSING	+33
Variance		-60

Comparison of Site status

Status	2003/04	2004/05	2005/6	Dif +/-
Operational	668	611	522	-89
Out of service	4	7	6	-1
Emergency	26	22	12	-10
Work In Progress	0	1	1	0
Total	698	641	541	-100
Redundant	353	428	470	42
Decomissioned	14	14	12	-2
Total	1065	1083	1023	-60

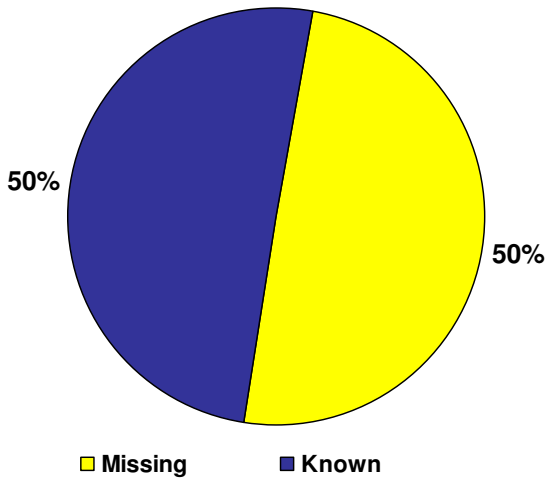
Differences in X factor from 2005 to 2006

Summary of X factors 2005

WIC Grade	Total Design capacity
14	6544.88
15	4718.499
Total	11263.379

Summary of X Factors 2006

WIC Grade	Total Design capacity	Dif
14	6070.237	-474.643
15	5155.6743	437.1753
Total	11225.9113	-37.4677

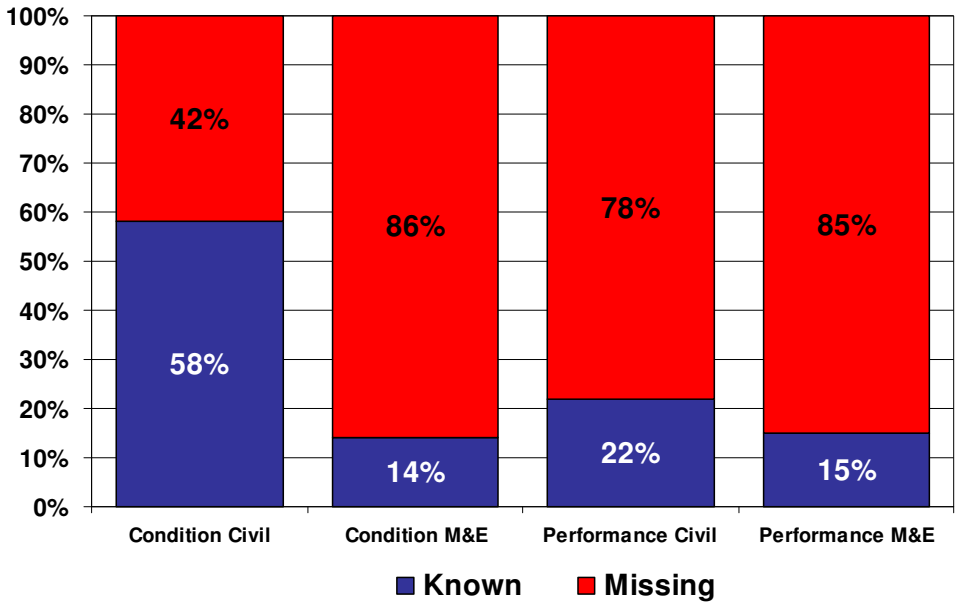


The above chart shows that the asset valuation was based on having X factors for 50% of Water resources. The Missing 50% was based on an extrapolation of the 50% known Water Resources. The methodology for the extrapolation was to group the sites by there WIC grade, then group by the sites Region and categorise it into the WIC s size band based on the known flow rating. This data is then converted into a percentage in each of the above areas, which gives the basis for the extrapolation across the whole asset stock.

Asset Valuation

The asset valuation for 2006 has decreased by 7% on last year, from £3,703.9 million in 2005 to £3,442.7 million in 2006.

Condition and performance Assessment



The graph shown above indicates a very high percentage of data is missing on the condition and performance of mechanical and electrical elements of sub assets at water pumping stations. The Performance civil element is also very low but the condition civil element is 58% populated.

H3.3 Raw Water Aqueducts

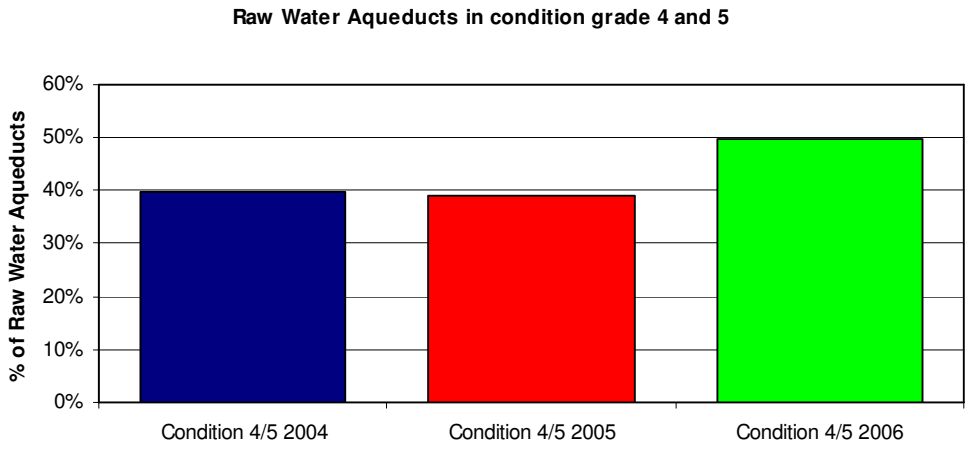
Asset Data

The total Length of Raw Water Aqueducts has decreased from 1924 km in 2005 to a total of 1905.63 km in 2006, a decrease of 18.37 km.

Asset Valuation

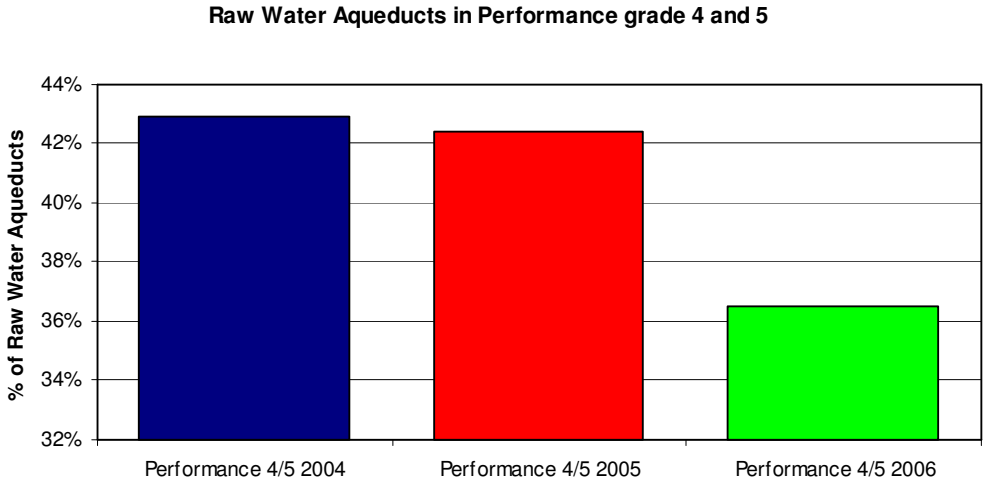
The asset valuation for 2006 has increased by 6% on last year, from £1,106.1 million in 2005 to £1,170 million in 2006. This is due to COPI considering the total length of aqueducts has decreased.

Condition



The above graph shows that the Condition of Sub assets in condition grades 4 and 5 has increased from 38.9% in 2005 to 49.8% in 2006, an increase of 10.9%. This suggests the larger – older stock of inventory, perhaps at default ages, is influencing the assessment.

Performance



The above graph shows that the Performance of Sub assets in condition grades 4 and 5 has decreased from 42.4% in 2005 to 36.5% in 2006, a decrease of 5.9%. This is due to the reduction in internal corrosion and bore-loss models having greater effect on the smaller pipe network.

Methodology

The base data on raw water mains and aqueducts has been taken from the Scottish Water corporate geographic information systems (SWGIS). Following up doubts raised on lengths of aqueduct within the inventory, a review of principal aqueducts was undertaken, suggesting minor updates of records are due.

The condition and performance grading of raw water mains has followed the principles developed for the potable water main asset stock, applying AR05 condition assessment adjusted for 1 year's movement. A revised Asbestos Cement and internal bore-loss approach was introduced, using pH of raw water as an indicator.

Strengths of submission

The condition grading model for Asbestos Cement has been updated by allocating CACI age and raw water quality data to the pipe sample database to derive a revised service life model. A review of internal corrosion and tuberculation rates by raw water quality has revised the performance by bore-loss assessment for ferrous pipes.

Issues with data

Data cleansing of GIS records for raw water main assets has not achieved the same level of investment as that for potable mains. This is due to the lesser use being made of the GIS on a day to day basis for operating this asset stock.

H3.4-8 Water Mains

Asset Valuation

The asset valuation for 2006 has increased by 6.6% on last year, from £7,238.6 million in 2005 to £7,712.8 million in 2006.

H3.4 Potable Water Mains

Asset Data

The total Length of Potable Mains has increased from 46,788 km in 2005 to a total of 46941.84 km in 2006, an increase of 153.84 km.

Methodology

The base data on water mains is held on the Scottish Water Geographic Information System (SWGIS). Data infill was carried out in AR05 to assign missing asset attribute, with data missing being assigned model default attributes.

The condition grade from the current deterioration model was carried through from AR05 and supplemented with a revised Asbestos Cement model and revised corporate burst incidence. Default service lives are used for inventory not found previously - principally rehabilitated Q&S2 works. The missing Legacy rehabilitation records identified in AR05 have been incorporated in the return with default dates and materials, following regional practice at the time.

The internal corrosion rates have been revised from the update of pipe sample age previously defaulted and expressed against water quality graded by pH. Corporate incidents of water quality failures and customer contacts are added for contact incidence. The methodology follows INMS methodologies documented in the WIC guidance note library.

Strengths of Submission

The Q&S2 record backlog has been significantly reduced, though not eliminated from the return as the inventory was extracted for analysis before year end. The record backlog assessed from Legacy programmes had been revisited, a number of record features identified and reporting inventory adjusted to reflect works carried out, but not yet reaching the inventory record.

The Asbestos Cement condition grading model has been updated to provide a service life matrix by soil and water quality from the draft amendments to the AC pipe samples. Similarly, the internal ferrous corrosion rate has been reviewed against raw water quality – indicated by pH. A graduation by historic raw water quality now drives internal bore-loss.
These refinements incorporate the latest information from source data and provide an audit trail of assumptions on pipe deterioration assessment. The refinements in burst/repair, water quality and customer incidence data from improving corporate systems provides validation of the AR06 submission.

Regarding performance grading, customer contacts were consolidated at extract around service tasks, and cleansed for taste problems caused by treatment issues. To offset the effect of customer disruption from major rehabilitation programmes, incidents in postcodes where work was programmed were omitted from the performance incidence analysis.

Issues with data

Duplication of pipe spans has been encountered, which disrupts tracing processes. Lengths of pipe seem located outside the Operating Area polygons and may be GIS test lengths of drawing keys. Of more concern is the pipes that appear to bridge two or more water supply zones which affects zone reports. Although these disrupt report audits, the overall scale is miniscule against the inventory. Their resolution will improve automated reporting.

The discernment of pattern of AC pipe deterioration broadens the confidence in the prediction of the service life of this inventory and explains the wide range of performance exhibited in samples. Clearly, verification of early initial work and sample age assessment needs to be re-visited. The pattern suggested by a similar assessment of internal corrosion and tuberculation also requires a sensitivity assessment. Leak losses, pressure rating, fracture potential of weakened mains and poor joint performance are not fully addressed by the current approach.

Analysis of the SWGIS records show that significant efforts have been made in record backlog reduction for Q&S2 works, and also some movement in legacy records. The 'Off-Inventory Adjustment' is confined to Legacy assessment.

Comparisons with Previous Return

Inventory has risen by 0.3% by length and 6.5% by value.

The percentage value of mains reported as being in Condition grades 4 & 5 decreases by 3159km (6.7%). This is mainly due to record backlog reduction and the off inventory Legacy assessment, though a small percentage is due to AC deterioration model changes. Pipes at Condition Grade 5 rise by 942km to 4,820km, approximately 10% of inventory.

The percentage of mains in performance grades 4 & 5 has reduced by 4,252km (9%) and £481m (7%) by value. The effect of the Q&S2 works programme would account for the major part of this fall, although the refined internal bore-loss model and customer incident consolidation would have an influence.

H3.5 Other Water Mains

Asset Data

The total Length of Other Mains has decreased from 144 km in 2005 to a total of 140.75 km in 2006, a decrease of 3.25 km.

Methodology

Pipes meeting WIC classifications in Raw Water, Potable and Service Pipe in the Scottish Water Corporate Geographic Information System (SWGIS) inventories are reported from the data extracted from the SWGIS. Fire Mains within the Potable and Service Pipe data types are tagged for reporting 'Other'. Raw mains identified as feeding industrial sites were identified in previous years from raw water billing locations and similarly tagged. Condition and performance analysis follows the principles applied to the potable mains; however a larger proportion of the service pipe data receives default values based on the potable mains process.

Strengths of Submission

This year's submission is consistent with the previous year's detailed effort of assets included in this category.

Issues with data

Although all water mains are recorded on the SWGIS, some mains falling within the 'other mains' definition, such as raw water mains supplying industrial customers, are not currently classed as a separate type on the SWGIS from other raw water mains. Their identification and extraction cannot therefore currently be automated or verified within corporate systems.

Comparisons with Previous Return

The total length of asset reported in this category is 4km lower than the previous return, likely to be mains abandoned. This is not felt significant. The overall value has remained the same. Variance in the size banding may be due to default conversion of imperial sizes to metric appearing from the service pipe data.

H3.6 & H3.7 Communication Pipes (Lead and Other)

Asset data

The total number of lead communication pipes has decreased from 962,412 in 2005 to a total of 956,510 in 2006, a decrease of 5902. The total number of non-lead communication pipes has increased from 831,854 in 2005 to a total of 838,741 in 2006, an increase of 6887.

Methodology

Information on communication pipes has historically not been recorded on Scottish Water's corporate geographic information system (SWGIS). An attempt to derive and track Comms Pipe inventory uses the Integrated Network Management Systems (INMS) Communication Pipe Database. The 'Comms Register', provides a framework of assessment of communication pipe numbers, material type and location on which to base condition and performance.
The INMS Comm Pipe database has a record of all the properties within the area of supply based on the June 2003 OS Address Point Data, with inferred connection to the nearest SWGIS potable water main in AR06. The age of the communication pipe is then assumed to be the same age as the water main/property to which it is connected. As different material types were used in distinct time periods, the material of the communication pipe can then be derived from its age. It has been assumed for these purposes that lead was used for communication pipes up to 1963.

Strengths of submission

The INMS Communication Pipe Database has now been in use for a number of years and is believed to provide the best estimate on communication pipes numbers and material types from the information available.

Issues with data

Where information exists in the authority's works management systems, or other historical records, that lead replacements have occurred, these are also incorporated into the communication pipe database. However information on older historical lead replacements is limited and more will have occurred than have been incorporated.

Comparisons with Previous Return

The value of the inventory has risen by 6.3% to £727m. The methodology relies on default age bands to drive condition and performance grading. Age defaults caused a large movement from Performance Grade 3 to 5, not evident from operations activities.

Consequently, the AR05 procedure has been modified so that performance grading matches age bands used for condition grades. This adjustment regularises the process.

H3.8 Water Meters

Asset Data

The total number of Water Meters has increased from 97,147 in 2005 to a total of 104,854 in 2006, an increase of 7707.

Methodology

The meter inventory has been derived from extracts from customer billing system in April 2006. Condition grades have then been allocated based upon the service life of the meter and the age of installation. Service lives are assumed to be for meters below 40mm 15 years, for those from 40 to 125mm 10 years, and for those above 150mm, 6 to 10 years. Meter performance is considered to be synchronous with condition.

Strengths of submission

Meter details are now held on one system for the whole of Scotland for the first time. This gives higher confidence to the overall asset stock assessment as well as allowing the development of a consistent basis for assessing condition.

Table H4 Wastewater Infrastructure

Changes to Confidence Grades
Scottish Water has made some significant changes to its confidence grades for H4 for this year's Annual Return. This is to reflect the shortfalls in the asset valuation process.

There are various points Scottish Water took into consideration when selecting the appropriate confidence grades for Table H4, they are as follows:

Section 0

1. Scottish Water considered the fact that derived data sets have been used in the absence of actual data.

Section 1 & 2

2. Some Asset data at site level is incomplete and has been extended by extrapolation
3. Some cost functions rely on old data
4. Valuation process relies on limited samples of assets
5. The valuation process for non-infrastructure assets is modelled at site level and then prorated to unit level

Section 5 & 6

6. All of the points identified for section 1 & 2 on valuation are related to these confidence grades. This means that none of the confidence grades stated in sections 5 & 6 can be higher than the confidence grades stated in sections 1 & 2.
7. Asset data for condition and performance is incomplete and has been extended by extrapolation
8. The analysis process for allocation of EARC values between replacement periods produces unrealistic figures.

Scottish Water took all the above reasons into consideration and decided to adjust the confidence grades accordingly.

H4.1-H4.3 Sewers Overview

Asset Valuation

The asset valuation for 2006 has decreased by 1.5% on last year, from £10,879.9 million in 2005 to £10,721.8 million in 2006. As part of Scottish waters audit this year, an error was identified in the Critical sewer valuation for last year. An error in one of the formulas produced an overestimation 5.67%. For more detail on the difference, refer to Appendix a.

H4.1 Critical Sewers

Asset Data

The total Length of Critical Sewers has increased from 10,595.4 km in 2005 to a total of 10,820.97 km in 2006, an increase of 225.57 km.

Methodology

The base data on sewers has been extracted from the corporate GIS and supplemented with sub-asset level data from completed Drainage Area Studies loaded to the SWGIS after the extract was taken. In addition, the data infill from AR05 for material, depth and size supplemented null fields to create a WIC reporting inventory. The WIC inventory comprises

sewer in use or isolated, not being designated private or Private Finance Initiative assets on the SWGIS.

The allocation of criticality is based on the process introduced in AR05, supplemented by three new proximity data sets: NRSWA traffic sensitivity and OSCAR pedestrian streets, OS Startegi tourist sites and Yell.dot polygons for industrial, retail and hospital sites. This has lead to a reclassification of 177 km of sewers, which with new construction identifies 10,821km as critical representing 32.8% of the sewerage network, (excluding lateral sewers). The assessment includes an off-inventory item of 50km being 5% of the 1000km record backlog described in commentary H4.2.

Condition grade for critical sewers is based on the DAS CCTV survey data using the SRM 'hard wired' method in strictly controlled order. This sample is assumed to be unbiased since sewers to be surveyed are generally selected on the basis of criticality. The DAS CCTV dataset, with superseded surveys removed gives a coverage of approximately 50% of critical sewers. The profile generated is consequently a moving average which is used to apply condition grade across the whole critical sewer inventory by size band. The actual CCTV grading is then applied to surveyed sewers. Condition grade from Corporate Incidence Data (WAMS/PROMISE) is applied to assets in proximity to address points. Finally, the revised condition grades are added to assets for the completed Q&S2 sewer rehabilitation programme, although exact matches could be made for only 50km of 400km anticipated.

Performance grades for critical sewers are based on the AR05 profile applied on a Monte Carlo basis. Corporate Incidence Data records (WAMS/PROMISE). Sewers recording more than one event over the 5-year period have been allocated to grade 5 and those with one event are allocated to Grade 4. Finally, the revised condition grades (i.e. CG1) are added to assets for the completed Q&S2 sewer rehabilitation programme.

Strengths of Submission

The main improvements over the previous submission are the continuing extension of CCTV survey data and improving methods for determining the length of critical sewers.

The allocation of sewer interventions onto the sewer network provides direct assessment of sewer issues once loaded to a suitable graphic platform (PSP).

The continued refinement of the critical sewer criteria as identified in the SRM has improved the determination of Category A and Category B critical sewers.

Issues with Data

Since the length of critical sewers has increased significantly since the Drainage Area Studies (DAS) were initially identified, there is a need to re-visit the DAS specification as there will be a significant length of critical sewer which has yet to be verified visually. The procedure is standard practice in the England & Wales water companies and is part of the annual Ofwat audit procedure. The surveys would then identify additional rehabilitation works for the Q&S3 (and subsequent) period.

Comparisons with Previous Return

The length of critical sewers has increased by 2.1% on the previous return to 10,821km due to the continuing revised method of determining the proportion sewers that are critical. The proportion of critical sewers in the sewerage network is 32.8%, excluding lateral sewers and 22.1% including lateral sewers. This is down from 33.5% and 22.3% respectively in AR05 due to the rise in sewer inventory.

The value of the inventory has dropped by £280m following a revision in the valuation formulae for large bore pipes. This has lead to a marked drop in value of sewers in performance grade 5.

Overall, there has been movement in the percentage of assets reported as being in condition and performance grades 4 & 5. There is an increase in the proportion of critical sewers condition grade 5 (1.8% to 2.1%), but a reduction in proportion graded 4&5 (9.5% from 18.1%). There is a drop in critical sewers performance grade 5 (6.3% from 7.45%), but a rise in sewers graded 4 & 5 (14.1% from 10.1%).

These variations are primarily due to the effect of using the moving average DAS CCTV survey profile and the increased volume of corporate performance data. The Monte Carlo methodology applied to records inherently introduces a random element so some year by year movement should be anticipated.

H4.2 Non-Critical Sewers

The total Length of Non Critical Sewers has decreased from 36,911.1 km in 2005 to a total of 36,653.01 km in 2006, a decrease of 258.09 km.

Methodology

The WIC reporting inventory for non-critical sewers has been extracted from the corporate GIS and supplemented as described in commentary H4.1. Three 'Off-Inventory' items are added: Lateral Sewers, 15,935km being calculated by house type from unit lengths adjusted by proximity analysis; Record Backlog assessment remains 1000km, (justified from proximity of OS seeds to mapped sewers); and Developer Backlog, being self-lay schemes approved in 2005/06 (an initiative to clear housing site backlog has reduced this adjustment from previous years).

The proportion of sewers classified as critical is described in the commentary for Line H4.1.

The process for asset grading remains the same as AR05, however asset grade profiles for non-critical sewers is now from processed CCTV surveys of Operational interventions rather than DAS critical sewers. Processed CCTV surveys from three contractors provided data from approximately 3,500km non-critical main sewers and approx 1,000km lateral sewers, (including those surveyed for the October 2004 ADI Lateral Sewer Study). While the hard wired approach was used for condition, the performance grading applied the 'point scoring' method identified in the SRM which provides a more sensitive and accurate assessment.
The distributions of condition and performance from these samples were then cast across to the entire network using the Monte Carlo method as for AR05.

Geographically located intervention data was attached to mains sewers using rule base grading to supplement the condition and performance grades allocated from randomised allocation of the CCTV profile model.

Strengths of submission

The extension of proximity analysis has determined more sewers being critical sewers. The estimate for the length of lateral sewers now uses house type ranges by region to assess estimated lengths.

The 'Off-Inventory' adjustment for record backlog is now justified by the proximity analysis undertaken, which allows the backlog to be tracked and addressed by street.

The use of CCTV directly obtained from the inspection of Non-Critical Sewers increases confidence in the asset grading of the inventory, particularly the lateral sewers.

Comparisons with Previous Return

The length of non-critical sewers has risen due to the increase in the estimate for the length of laterals. The length of sewer has increased by 1.0% on the AR05 total to 37,224km inclusive of 15,935km lateral sewers.

The movement in the percentage of non-critical sewer assets reported as being in condition and performance grades 4 & 5 is wholly due to the use of the newly acquired Operations CCTV survey data.

H4.3 Sewage & Sludge Pumping Mains

Asset Data

The total Length of Sewage & Sludge pumping Mains has increased from 842 km in 2005 to a total of 906.44 km in 2006, an increase of 64.44 km.

Methodology

The base data on rising mains has been extracted directly from the corporate GIS. The condition of these assets has then been assessed on the basis of their age and material, with the performance assessment similarly derived. Those assigned to grades 4 & 5 through this methodology are primarily ferrous, asbestos cement laid before 1950 and uPVC mains laid post 1960 and before mPVC became available.

Strengths of submission

Assessment of condition and performance uses knowledge gained from the extensive work on pipe condition and performance carried out for the clean water network.

H4.4-H4.5 Sewer Structures Overview

Asset Valuation

The asset valuation for 2006 has increased by 13% on last year, from £404.9 million in 2005 to £458.2 million in 2006.

H4.3 Combined Sewer & Emergency Overflows

Asset Data

The total number of Combined Sewer & emergency overflows has increased from 4451 in 2005 to a total of 4783 in 2006, an increase of 332.

Methodology

The inventory report has been compiled from the latest version of the Scottish Water "Overflows and Outfalls Corporate Satellite Application" database, which is planned to hold information on the location, condition and performance of structures controlling intermittent discharges from the sewer system. The register currently contains 4,783 overflows meeting Table H4 line 4 and excludes overflows believed to be discharging surface water or treated effluent or not discharging (e.g. a bifurcation).

CSOs identified as "abandoned" are also included - unless complete removal is achieved, these assets attract similar replacement and maintenance costs to operational CSOs.

The monitored forward flow has been used to determine the size band where the data is available. For those installations without a measured flow but where downstream forward flow pipe diameter has been provided, the flow has been calculated using the Colebrook-White equation with assumed parameters. Where no data is available, the size band flow is based on the average of known values in the data base. As more information is loaded, this default has dropped from 271l/s to 225l/s.

Condition grades have been derived from the register of the 950 assets surveyed. The chamber, CSO structure and M&E are graded in a five-option system (Good/Fair/Adequate/Poor/Bad) and the worst of the three types of assessment grades has been taken as the grade 1 to 5 as above. Overflows not surveyed have been allocated grades extrapolated from the 950 surveyed sample.

Performance data has been based on the SEPA classification and supporting information. If the SEPA classification is unsatisfactory, the CSO is grade 4 or grade 5 and otherwise the CSO is grade 1, 2 or 3. This classification is always available and divides the CSOs into two sets. The supporting data used is the modelled number of floods per annum, whether the CSO passes formula A flow or not and whether it is screened or not. For each of the two sets, these fields are used to subdivide the sets and if the fields are absent, the remaining CSOs are divided pro-rata.

Strengths of submission

The submission is based on a comprehensive register of this asset inventory.

SEPA classification is available for 100% of CSOs.

Issues with data

The inventory report has been compiled from the outputs of the final stages of a data reconciliation project on CSOs, This set includes Emergency Overflows (EO's) and CSO's at Wastewater Treatment Works. The quality and quantity of the data was rising continually from Drainage Area Studies and Operations/Area Strategic Planner knowledge during the reporting period, so only represents a snapshot. Asset data, condition and performance data for currently non-surveyed overflows should however continue to improve through the ongoing programme of Drainage Area Studies and through data update from asset planners in the field.

Condition data coverage needs improvement. The Q&S2 programme of works has improved the condition and performance grades of a few hundred CSOs. The details of approximately 80 projects have been used to improve the condition and performance grades to CG1 and PG1, respectively. The inclusion of condition and performance grades for all of those installations within the Q&S2 programme of works will significantly improve the database.

Comparisons with Previous Return

The increase over last year has been from 4453 to 4,783 and is entirely due to improved data following the reconciliation exercise. The reconciliation and development of corporate application represents a significant improvement both in data quality and its future management.

The proportion of overflows in condition grades 4 & 5 has reduced from 6% to 5.4%, and the proportion in performance grades 4 & 5 has increased from 11% to 25%. The 25% of performance grade 4 and 5 is a direct indication of the number of CSOs classified as unsatisfactory by SEPA. The changes in percentage are indicative of a more logical system of classification and not changes in the assets.

H4.5 Other Sewer Structures

Asset Data

The total number of Sewer Structures has stayed the same as the figure reported in 2005, which was 312.

Methodology

The inventory is based on the Ellipse system for sewer structures, supplemented by named structures from the AR05 legacy sewer structure inventory. Structures in the Ellipse inventory with a volume identifier were chosen.

No condition and performance data was found for this inventory. To make this transparent all assets have been allocated condition and performance grades on a pro-rata basis 20% Grade 1; 20% Grade 2; 20% Grade 3; 20% Grade 4; 20% Grade 5, allocated by random number.

Strengths of submission

The inventory is based on the asset register in ELIPSE.

Issues with data

The geographic distribution of structures in Ellipse suggests low inventory (12%) of structures is in the South West. This may indicate a large proportion of Line H4.4 inventory is not recorded effectively on current systems. Consequently, 312 is thought to be an underestimate. Assigned confidence grade reflects this.

H4.6 & H4.7 Short & Long Sea Outfalls

Asset Data

The total number of Sea outfalls has decreased from 1535 in 2005 to a total of 1534 in 2006, a decrease of 1.

Asset Valuation

The asset valuation for 2006 has increased by 6% on last year, from £348.2 million in 2005 to £370.3 million in 2006.

Methodology

The submission is based on the AR05 inventory where the number of short and long sea outfalls remains the same at 1,504 and 31 respectively. This inventory was derived from gravity sewers breaking the Mean High Water Level. A desk study of this inventory on GIS classified the inventory for future survey, adding location data.

The condition and performance assessments have been based on asset age. PVC outfalls have been assigned grades 1 to 4, concrete outfalls grades 1 to 3, brick outfalls grades 3 to 5 and vitrified clay outfalls grades 1 to 5.

Strengths of submission

The use of the AR05 dataset and assessment methodology provides a stable inventory, on which little movement is reported.

Issues with data

No corporate inventory exists for Sea Outfalls. The SWGIS has no classification of gravity sewer types for Sea Outfalls. Only 800 SWGIS outfalls lie on the MHWL margin. Of the inventory reviewed, reclassification of 32 outfalls may be necessary.

Table H5 Wastewater Non-Infrastructure

Changes to Confidence Grades
Scottish Water has made some significant changes to its confidence grades for H5 for this year's Annual Return. This is to reflect the shortfalls in the asset valuation process.

There are various points Scottish Water took into consideration when selecting the appropriate confidence grades for Table H5, they are as follows:

Section 0

1. Scottish Water implemented a rule set to distinguish between the selection of a "B" and "C" grade. The rule was based on the amount of extrapolation involved on the X factor used for banding. If a section had less than 20% extrapolated, then a "B" grade was stated. If a section had more than 20% extrapolated, then a "C" grade was stated.

Section 1 & 2

2. Some Asset data at site level is incomplete and has been extended by extrapolation
3. Some cost functions rely on old data
4. Valuation process relies on limited samples of assets
5. The valuation process for non-infrastructure assets is modelled at site level and then prorated to unit level

Section 5 & 6

6. All of the points identified for section 1 & 2 on valuation are related to these confidence grades. This means that none of the confidence grades stated in sections 5 & 6 can be higher than the confidence grades stated in sections 1 & 2.
7. Asset data for condition and performance is incomplete and has been extended by extrapolation
8. The analysis process for allocation of EARC values between replacement periods produces unrealistic figures.

Scottish Water took all the above reasons into consideration and decided to adjust the confidence grades accordingly.

H5.1-H5.2 Sewage Pumping Stations Overview

Asset Stock

The total number of Water pumping stations has decreased from 1850 in 2005 to a total of 1867 in 2006, an increase of 17 sites. There have been 39 new sites commissioned, 54 added because of data cleansing and additional 7 have transferred to Scottish water from private ownership. 80 sites have been removed because of a data cleansing exercise.

The operational sites make up 98% of the total, a count of 1829 sites. Out of Service sites make up 0.1%, a count of 2 sites, while there is only one Decommissioned site. The Redundant sites make up 1.9% of the total, a count of 35 sites.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of changes
Change in WIC grade	DATA CLEANSING	42
Change in WIC grade	SITE UPGRADED	2
Changes to Status	DATA CLEANSING	10
Changes to X Factor	CHANGE OF	233
Changes to X Factor	DATA IMPROVEMENT	37
In AR05 not AR06	DATA CLEANSING	-83
New to AR06	CHANGE OF OWNERSHIP	+7
New to AR06	DATA CLEANSING	+54
New to AR06	NEW SITE COMMISSIONED	+39
Variance		+17

Comparison of Site status

Status	2003/04	2004/05	2005/06	Dif +/-
Operational	1834	1818	1828	10
Out of service	5	2	0	-2
Emergency	0	0	0	0
Work In Progress	0	0	2	2
Total	1839	1820	1830	10
Redundant	20	29	36	7
Decomissioned	1	1	1	0
Total	1860	1850	1867	17

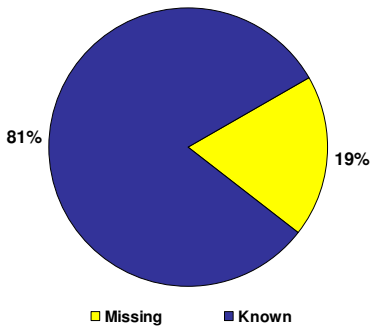
Differences in X factor from 2005 to 2006

Summary of X factors 2005

WIC Grade	Total Design capacity
29	65749.307
30	10091.4
Total	75840.707

Summary of X Factors 2006

WIC Grade	Total Design capacity	Dif
29	66054.085	304.778
30	10719.6	628.2
Total	76773.685	932.978



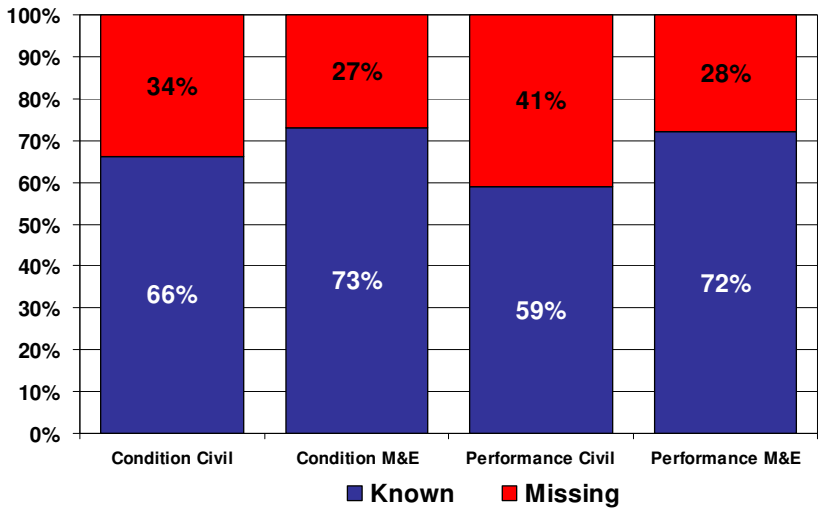
The above chart shows that the asset valuation was based on having X factors for 81% of Sewage Pumping Stations. The Missing 19% was based on an extrapolation of the 81% known Sewage Pumping stations. The methodology for the extrapolation was to group the sites by their WIC grade, then group by the sites Region and categorise it into the WIC s size

band based on the known Kilowatt rating. This data is then converted into a percentage in each of the above areas, which gives the basis for the extrapolation across the whole asset stock.

Asset Valuation

The asset valuation for 2006 has increased by 9% on last year, from £264.7 million in 2005 to £289.8 million in 2006.

Condition and Performance Assessment



The above graph shows that a high proportion of the data is present on the condition of sub assets and the mechanical & electrical performance of sub assets at Sewage pumping stations. The performance civil element is only 65% captured.

H5.3-H5.7 Sewage Treatment Works

Asset Stock

The total number of Sewage Treatment Works has increased from 1986 in 2005 to a total of 2011 in 2006, an increase of 25 sites. 49 new sites have been commissioned and an additional 29 have been added as part of data cleansing. Another 3 sites have been transferred from private to Scottish water ownership. There have been 21 sites demolished, 33 sites removed because of data cleansing and a further 2 sites removed because of transfer to private ownership.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of changes
Change in WIC grade	DATA CLEANSING	11
Change in WIC grade	SITE UPGRADED	12
Changes to Status	DATA CLEANSING	28
Changes to Status	SITE CLOSED	2
Changes to X Factor	DATA IMPROVEMENT	135
In AR05 not AR06	CHANGE OF OWNERSHIP	-2
In AR05 not AR06	DATA CLEANSING	-33
In AR05 not AR06	SITE DEMOLISHED	-21
New to AR06	CHANGE OF OWNERSHIP	+3
New to AR06	DATA CLEANSING	+29
New to AR06	NEW SITE COMMISSIONED	+49
Variance		+25

Comparison of Site status

Status	2003/04	2004/05	2005/6	Dif +/-
Operational	1859	1848	1860	12
Out of service	0	0	0	0
Emergency	0	0	0	0
Total	1859	1848	1860	12
Redundant	96	125	141	16
Decomissioned	17	13	10	-3
Total	1972	1986	2011	25

Differences in X factor from 2005 to 2006

Summary of X factors 2005 (kg/bod)

WIC Grade	Total Design capacity
31	8174.2092
32	40674.36
33	8055.84
34	200960.34
35	32569.32
Total	290434.069

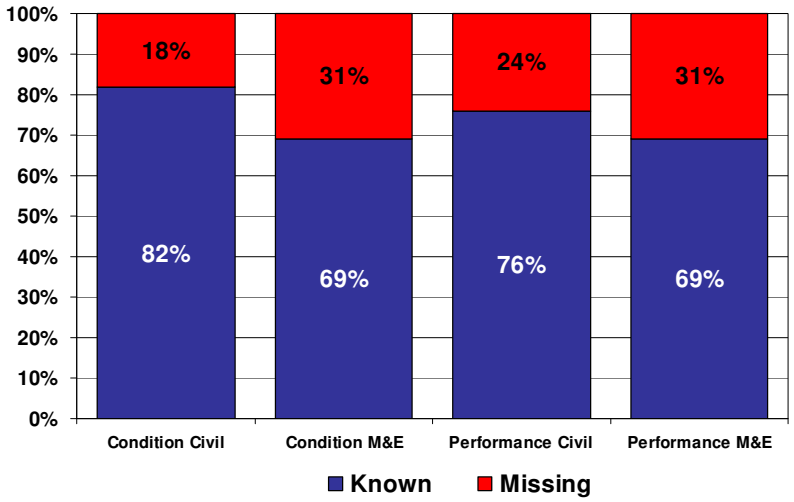
Summary of X Factors 2006 (kg/bod)

WIC Grade	Total Design capacity	Dif
31	8376.91122	202.702
32	36007.005	-4667.36
33	100968.006	92912.17
34	195062.658	-5897.68
35	34317.336	1748.016
Total	374731.916	84297.85

Asset Valuation

The asset valuation for 2006 has increased by 9% on last year, from £1048.4 million in 2005 to £1142.7 million in 2006.

Condition and Performance Assessment



The above graph shows that a high proportion of data is present for the condition and performance of sub assets at Sewage Treatment works.

H5.8-H5.13 Sludge Treatment Facilities

Asset Stock

The total number of Sludge Treatment Works has decreased from 23 in 2005 to a total of 21 in 2006, a decrease of 2 sites. All 21 of the sites are operational and none are redundant.

Summary of changes

Below is a high level summary of the changes to sites within table H.

Change Type	Reason for change	Num of
Change in WIC grade	DATA CLEANSING	2
Changes to Status	DATA CLEANSING	1
Changes to X Factor	DATA	9
In AR05 not AR06	DATA CLEANSING	-4
New to AR06	DATA CLEANSING	+1
New to AR06	NEW SITE	+1
Variance		-2

Comparison of Site status

Status	2003/04	2004/05	2005/06	Dif +/-
Operational	30	22	21	-1
Out of service	0	0	0	0
Emergency	0	0	0	0
Work In Progress	0	0	0	0
Total	30	22	21	-1
Redundant	7	1	0	-1
Decomissioned	0	0	0	0
Total	37	23	21	-2

Differences in X factor from 2005 to 2006

Summary of X factors 2005

WIC Grade	Total Design capacity
36	4825
37	26244.475
Total	31069.475

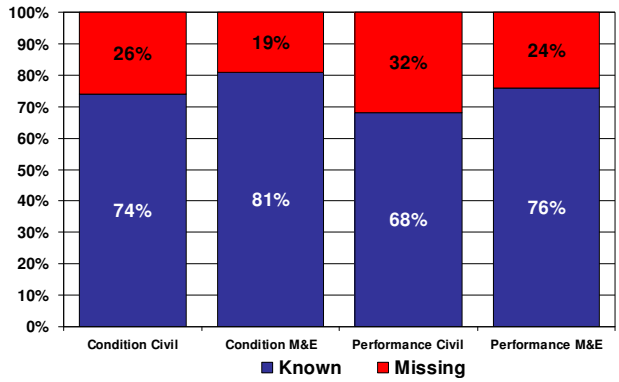
Summary of X Factors 2006

WIC Grade	Total Design capacity	Dif
36	626	-4199
37	35659.775	9415.3
Total	36285.775	5216.3

Asset Valuation

The asset valuation for 2006 has increased by 33% on last year, from £125.7 million in 2005 to £166.8 million in 2006.

Condition and Performance Assessment



The above graph shows that a reasonable proportion of data is present for the condition and performance of sub assets at Sludge Treatment works.

Table H6 Support services

Changes to Confidence Grades

There are various reasons for the changes to the confidence grades in Table H6, the main reasons are as follow:

1. Asset data is either old or incomplete and has been extended by extrapolation and assumptions
2. Valuations of assets are old and have some assumptions
3. The analysis process for allocation of EARC value between replacement periods produces unrealistic figures.

Scottish Water took all of the above reasons into consideration and decided to adjust the confidence grades accordingly.

H6.1 & 6.2 Offices/Laboratories and Depots/Workshops

There have been no new Offices or Laboratories commissioned or decommissioned this year, so there is no change in the reported numbers.

There has been one depot sold and 5 depots decommissioned this year.

There are no Workshops in Scottish Water.

H6.3 Control Centres

The central Control centre at Balmore road has now become operational. The centres at Fairmilehead and Dundee have now been shut down and all operations is centralised through Balmore road.

Balmore road site now has both water and waste water centres, due to the upgrading of this site to become the only centre in Scotland. Previously this was only a water control centre.

H6.4 Vehicles and Plant

The reported value for vehicles has increased from £7 Million to £10 million. This is due to new vehicles being purchased by Scottish water, plus a more realistic valuation of vehicle replacement costs.

The reported value for Plant has fallen from £20 Million to £15 Million. This is due to Plant being sold.

H6.5 Telemetry Systems

The numbers for telemetry have fallen this year. This is due to a revised methodology of how the figures are obtained. Scottish Water now has a single telemetry system that records all telemetry readings.

The total % coverage of telemetry has fallen from 41% to 26%. This is due to the fact the method is different for producing each figure. This year's method takes account of all the sites that have telemetry from the main telemetry system against a count of all operation sites within the Asset inventory.

The total number of telemetry outstations has fallen from 3579 to 3121. This is due to the fact the method is different for producing each figure. This year's method takes account of all the outstations from the main telemetry system.

H6.6 Information Systems

There was an error in the numbers that where reported last year due to a misinterpretation of the classifications of Mainframes, Workstations and PCs. This was due to reporting servers as Mainframes and desktop computers as workstations.

This year Scottish Water have reported only 4 main frames, 435 work stations and 3992 PCs.

H6.7 Other Non-Operational Assets, Land and Forestry

The numbers reported this year for Non-Operational has not changed from last year's reported figures. This is due to the fact that there has been no new data on these assets. The Gross and Net figures for valuation have been inflated with the new COPI index for this year.

Appendix a

All Costing is at the Base Date of Q3 2005 (Copi 151)

Area	2006 Costings	2005 Costings (Base Date 1/9/2004) (Copi 142)		Costing Error in 2005 Costings (Copi 142)		Pipe Length				Average Size (mm)			Differences in Banding, Surface Cat, etc		Costing Checks
	2006 Reported Costs	2005 Reported costs	2005 Amended Costs	Error in 2005 Costs	%age Error in Costs	2006 Pipe Lengths (m)	2005 Pipe Lengths (m)	Difference in Pipe Lengths (m)	%age Diff	2006 Average Size (mm)	2005 Average Size (mm)	%age Diff in Average Size	Costing Changes compared to 2005	%age Variance	Add Costing Changes to 2005 costs to confirm 2006 Costs
	(A)	(B)	(C)	(D) (C) - (B)	(E) % (D) / (B)	(F)	(G)	(H) (F) - (G)	(I) (H) / (G)	(I)	(J)	(K)% ((I)/(J))-1	(L)	(M) (L)/(B)	(N) (L) + (C)
22NE	£ 902,772,219.28	£ 877,931,825.51	£ 831,945,381.65	-45,986,443.86	-5.24%	2,557,340.80	2,513,308.78	44,032.02	1.75%	578.59	578.06	0.09%	£18,097,904.99	2.06%	£902,772,219.28
22NW	£ 264,998,643.66	£ 252,369,548.88	£ 243,188,120.21	-9,181,428.67	-3.64%	1,110,464.21	1,090,004.74	20,459.47	1.88%	577.23	576.81	0.07%	£6,397,191.89	2.53%	£264,998,643.66
22SE	£ 957,610,033.24	£ 995,828,788.73	£ 881,266,326.93	-114,562,461.80	-11.50%	2,312,989.31	2,259,296.54	53,692.77	2.38%	594.44	593.93	0.09%	£20,488,798.27	2.06%	£957,610,033.24
22SW	£ 2,045,027,267.19	£ 2,323,763,899.21	£ 1,883,989,089.63	-439,774,809.58	-18.93%	4,840,172.18	4,732,735.60	107,436.57	2.27%	587.96	587.78	0.03%	£41,630,418.36	1.79%	£2,045,027,267.19
23NE	£ 1,508,384,450.80	£ 1,510,042,239.16	£ 1,510,042,239.16	0.00	0.00%	8,496,362.45	8,595,496.53	-99,134.08	-1.15%	350.93	270.04	29.95%	-£97,364,690.84	-6.45%	£1,508,384,450.80
23NW	£ 504,799,598.58	£ 497,415,633.79	£ 497,415,633.79	0.00	0.00%	3,273,883.82	3,306,928.93	-33,045.11	-1.00%	280.84	266.22	5.49%	-£24,142,378.20	-4.85%	£504,799,598.58
23SE	£ 1,308,595,217.16	£ 1,288,216,374.26	£ 1,288,216,374.26	0.00	0.00%	7,812,146.05	7,793,247.97	18,898.08	0.24%	332.03	275.28	20.61%	-£61,268,673.77	-4.76%	£1,308,595,217.16
23SW	£ 3,002,032,607.58	£ 3,006,244,052.14	£ 3,006,244,052.14	0.00	0.00%	17,070,129.78	17,215,433.55	-145,303.77	-0.84%	364.11	276.03	31.91%	-£194,748,039.41	-6.48%	£3,002,032,607.58
	£ 10,494,220,037.49	£ 10,751,812,361.68	£ 10,142,307,217.77	-609,505,143.91	-5.67%	47,473,488.59	47,506,452.64	-32,964.05	-0.07%	458.27	428.02	7.07%	-£290,909,468.73	-2.71%	£10,494,220,037.49
		-2.40%		5.96%	-8.37%	-2.41%									

In Summary

Error Caused by Equation	**234 + 0.0000629 * Desc ^ 2.2947**	**-5.67%**	**i.e Overestimated in 2005**
Cost Difference due to Re Banding, etc		**-2.71%**	**i.e reduction in 2005 Costs**
Total Reduction on 2005		**-8.37%**	
Allowance for Inflation	**(151-142)/151**	**5.96%**	
Thus difference in the 2005 figure (at their respective Base Dates)		**-2.41%**	
	Check	**£ 10,492,234,247.42**	

Section K - Commentary

General Comments

Table K was compiled in accordance with the WIC 53 guidance for Table C. The price base is average 03/04 and all costs were converted to this base using the COPI inflation factors in the Final Determination. The data set used for the draft Delivery Plan as sent to the Scottish Executive, SEPA, DWQR and the Commission for comment on 4 May 06 was based on investment data uploaded to the IP database in early April. The data set for Table K contains subsequent changes e.g. individual project totals have been amended since the preparation of the Delivery Plan to reflect the "deliverability" view of our Delivery Partners (Scottish Water Solutions). These changes affect the cost of individual projects but do not affect the investment at Sub-Programme level. Table 3 demonstrates how the Q+S3 plan meets the Ministerial Objectives.

Q&SII overhang projects are excluded. This gives a total of £2,148.7M - £252.6M = £1,896.1M as per the Final Determination. This included a reduction of the Part 2/3 Reasonable Contribution costs by netting off the Infrastructure Charge (£29.6M). However, in Table K the Infrastructure Charge is included in Grants and Capital Contributions. This results in an increase of the Total Investment Expenditure in K1 and K2 from £1,896.1M to £1,925.7M.

Audit Trail

The audit trail for WIC autocodes added/deleted, driver/output change, etc. since Revised Table C is included in Appendix A. The audit trail for all quality projects has been submitted to and endorsed by, both SEPA and DWQR.

Early Start

The "early start" investment in the Delivery Plan was based on actuals and forecasts at period 10 in the Scottish Water accounts. All "early start" spend was amended at project level to reflect the actual spend in the year end accounts. An appropriate adjustment was made to future spend to ensure that the project totals are unaltered. All "Early Start" actual spend was converted to 03/04 prices using the FD inflation factors from 03/04 to 05/06.

Q&SII Completion Projects

The investment in Table K for these projects reflects the FD funding. All investment for 06/07 and beyond has been included in Table K. Part of the 05/06 funding for these projects has been included in Table K to reach the FD funding, the remaining investment is included in the Table G Return for Q&SII.

The environmental drivers for Q&SII have been mapped to corresponding Q&SIII drivers (table 1) to ensure that all the investment is mapped through to Table K2

Table 1

		Drivers as per Ver 3.5 of the WIC 18 Programme			WIC 18 Drivers mapped to Q&SIII Drivers		
	Project	DRIVER 1	DRIVER 2	DRIVER 3	DRIVER 1	DRIVER 2	DRIVER 3
30195	DENNY STW - Completion	WQ2/1	EC6	Ww11	EC10	EC6	SG2
30222	DRYMEN STW EXTENSION - Completion	WQ1/1	WQ3/2		WQ01	EC10	
30444	LINLITHGOW STW - Completion	WQ2/1	Ww3		EC10	WWNI	
30732	ROSEWELL STW - Completion	WQ2/1	Ww11		EC10	SG2	
31096	TOWN YELTHOLM STW - Completion	WQ2/1			EC10		

The outputs for the completion projects were based on Ml/day at start of Q&SII. These outputs have been retained rather than "population compliant with Ministers' objectives".

Q&SIII Development Costs

A new project was added to hold the Q&SIII Development costs. The development costs are based on the actual outturn figures from the accounts for 2003-2006 plus the forecast for 2006/07. These figures were converted to average 03/04 using the FD inflation factors. Appropriate percentage reductions were made elsewhere in the programme to allow for these costs. No reductions were made to Reasonable Cost Contributions, Infrastructure Connection Charges (actual costs must be used for these) or Q&SII Completion Projects (the development costs of these projects were recovered in Q&SII).

Q&SIII Risk Management Fund

A project for risk management was also added to the Investment Programme. Appropriate percentage reductions were made elsewhere in the programme to allow for these costs. No reductions were made to the following:

- Reasonable Cost Contributions, Infrastructure Connection Charges Part 4 costs – actual costs must be used for these
- Growth investment - should not be vired from as additional funding may be sought in the future
- Lead pipe replaced – FD stated that viring would not be allowed
- Odour abatement – FD stated that viring would not be allowed
- UIDs – treat all as Notified Items
- Water Resources – treat WR1 and DW7 as Notified Items
- Q&SIII development costs
- Q&SII completion projects

The risk management money has been mapped into Tables K1 and K2 as per the original investment line from which it was taken.

Allocation of Capital Maintenance within B Tables

The principles of mapping to infrastructure and non-infrastructure in K1 and K2 are similar to those used when submitting the B Tables in the second draft Business Plan i.e. each M&G line was split water/wastewater and infra/non-infra as appropriate and the allocation of assets was consistent with the depreciation policy of Scottish Water e.g. a CSO is 85/15 infra/non-infra and a water treatment works is 98/2 non-infra/infra.

Breakdown of Management and General

As requested by the Commission CM has been used as the driver for the base element of M&G and quality drivers have been shown where appropriate.

Project Classification 2

As in the previous versions of Table C, Gen has been used for M&G items. Q&SIII Devt. Costs and Q&SIII Risk Management Fund are also tagged as Gen.

Disaggregation of DW3 Driver

As agreed with the Commission the old driver DW3 has now been broken down to DW3A (colour) through to DW3K (final pH) and DW4 has been split between DW4 (cryptosporidium) and DW4A (cryptosporidium washwater recovery). This additional detail will facilitate checks with previous and future Investment Plans to confirm that there is no duplication of investment needs across investment periods. DW3 has been retained for block item lines where the disaggregation is not possible.

Mains Rehab

The following mains rehab projects 30066, 30500-3, 30557, 31830-2 were previously under water quality as DW5 which has an output of Ml/day. The FD moved these projects to capital maintenance but we have retained the original output.

Outputs – Telemetry Quality

The autocodes for Water Quality – Telemetry (31031, 31033, 31035, 31037,31072-75) have a mixture of quality drivers (DW1, DW2, DW3, DW4 and DW13) which would normally have "Population compliant with Ministers' objectives" as the output. This cannot be readily identified at this stage. As an alternative, "Number of sites made compliant has been used".

Outputs – Growth

Growth (WG1/SG1) – It has been assumed that there is no FD funding for this

First Time Sewerage (SG3) – the output has been entered as per the guidance. However there are concerns over the use of this: desktop survey used to count potential connections; catchment boundary subject to review by SEPA; multiple occupancy connections such as hotels / youth hostels has an impact on scope / costs. The FD fundamentally identifies allowed for investment on the basis of the number of connections (£50k per connection). If SW are able to either i) show that the number of connections ends up being different than we identified at a desk top level and ii) show that the cost per connection is significantly higher than allowed for, then costs beyond the unit rate value in the FD should be logged-up.

New Development (WG2/SG2) – Number of new connections has been taken as 60,000 (as assumed in the FD). However, this is not linked to our Ministerial Objective. Our Ministerial Direction states that we must increase strategic capacity at WTW (16,500PE) and at WWTW (40,000PE) to support estimated levels of development.

If Scottish Water is required to support G at a level in excess of the estimated level of G or at areas where a greater degree of constraint exists thus generating additional strategic capacity beyond the Directions, then we would intend to log this up

Technical Expression

The K Tables and the Technical Expression were completed using the same data set from the Q&SIII database.

Mapping to Tables K1 and K2

The projects are mapped from the database to these tables using combinations of workstream, driver, asset ID, etc. They are mapped prior to the removal of the development cost and the outperformance money.

New outputs/obligations since the final determination

No new obligations/outputs have been included. The issues of odour management plans and whether the Infrastructure Connection Charge should be netted off (as per the FD) are currently being assessed.

Checks on Table K

Confirm that K56 total = £2,148.7M - £252.6M – (-£29.6M) = £1,925.7M as per the Final Determination.

Confirm that K1 total equals the water sub-total from K56 and K2 equals the wastewater sub-total from K56.

Confirm that the allocation of Base, Quality, Growth and Enhanced Service Levels are consistent with the Delivery Plan. NB The sub-totals will not match exactly as although the project changes are cash neutral at programme level they may not be at Investment Purpose level e.g. Project A moves from £1M to £1.2M and project B moves from £1.5M to £1.3M but project A is 10% capital maintenance whereas project B is 20% capital maintenance. See Table 2 below.

Table 2 - Comparison of K1 and K2 with Delivery Plan Investment Summary

Investment Purpose	DP	**Tables K1 + K2**	**Notes**
Development constraints and growth	167.5	197.1	K1 + K2 includes netting of infrastructure connection charge. (167.5 prior to netting of ICC)
Service improvements:	110.2	121.7	K1 + K2 includes Introduction of Competition. Equivalent DP total =122.3. Difference due to changes at project level to reflect SWS costs (cash neutral at programme level)
Malodour abatement	*14.8*		
Sewer flooding reductions	*46.5*		
Reduced interruptions in supply	*35.3*		
Water pressure improvements	*4.4*		
Business metering	*9.3*		
Drinking water quality and resource enhancements	604.4	609.2	Difference due to changes at project level to reflect SWS costs (cash neutral at programme level)
Environmental quality enhancements	224.2	220.3	Difference due to changes at project level to reflect SWS costs (cash neutral at programme level)
Maintaining current water and waste water services	777.6	777.4	
Introduction of competition	12.1		
Total Q&S III investment	**1896.1**	**1925.7**	**K1 + K2 = DP total prior to netting off the £29.6M for ICC**
Q&S II conclusion	252.6		
TOTAL investment	**2148.7**		

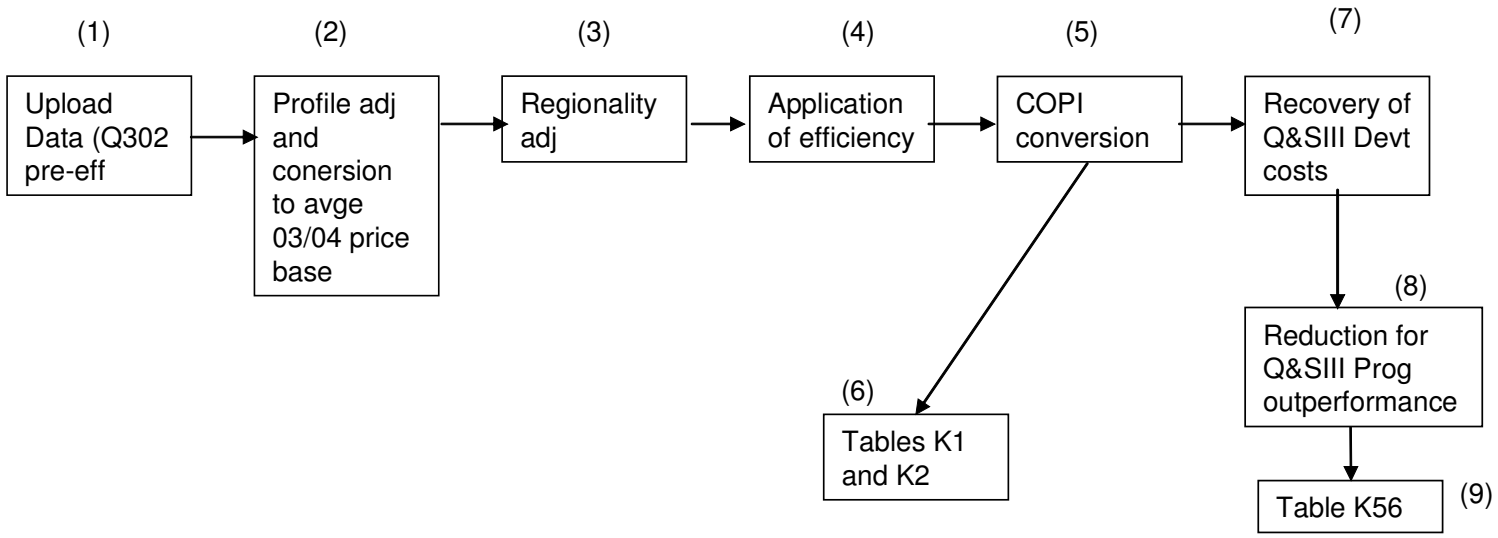
Table 3

Scottish Water Directions 2005	Table K autocode	Table K output	Comments
The Quality of the Water Environment			
(1) Reduce the bacterial load from SW discharges to 64Km of designated Bathing waters (2) Protect 17Km of waters designated as important UK sites for the Habitats and Birds Directives (3) Improve the quality of discharges to 50Km of designated waters in line with the environmental standards of the Freshwater Fish Directive (4) Improve the quality of discharges that affect 18Km of designated shellfish Harvesting and production areas to meet the guideline standard (5) Improve both water and aesthetic quality of 131Km (83 Ess+48Des) of surface waters currently affected by sewage and debris discharges from sewer networks to meet the Urban Waste Water Treatment Directive requirements (6) Reduce nutrients in sewage discharges affecting 51Km (39 Ess+12 Des) of waters to meet Urban Waste Water Treatment Directive requirements (7) Improve 23 Km of surface water to meet the requirements of the Dangerous Substances and Water Framework Directives	Various		The Directions relate to kilometres of water bodies to meet the environmental objectives. The outputs in Table K relate to the PE of the upgraded works as per WIC 53 Guidance and are consistent with the Technical Expression. SEPA has endorsed the Technical Expression as being capable of satisfying the Ministerial Objectives and we are reliant on this endorsement to demonstrate compliance with Ministerial Objectives.
Improve capacity at 18 unsatisfactory sewage works to comply with existing consent conditions under the Water Environment & Water services Act 2003	30108, 30156, 30164, 30173, 30179, 30183, 30187, 30222, 30240, 30320, 30418, 30432, 30513, 30540, 30548, 30549, 30895, 31106	18	

Waste Management			
Deliver the requirements of the landfill Directive to contain, monitor and decommission 9 landfill sites	30435	9	
Deliver management and monitoring systems at 16 landfill sites, 10 sludge treatment centres and 35 WTW's to comply with PPC regulations	30395	61	
Drinking Water Quality			
(1) Comply with the crypto (SW) directions 2003 and upgrade water supplies serving 1.5m people to minimise the risk of non-compliance with the standards set in the water supply (water quality) (Scotland) regulations 2001 for THM's and all other regulatory parameters	Various	4,261,932	Output for (1)
(2) Improve disinfection control on water supplies serving 4m people to improve taste reduce customer water quality complaints.		4,312,387	Output for (2)
Replace 35,000 lead comms pipes as the result of customer driven requests	30174	35,000	
Management of Water Resources			
Carry out 20 flood studies on reservoirs following statutory dam inspections and undertake remedial works as necessary	31755	40	The Table K output is for the full 8 years. The correct output for 2006-10 is 20. This will be corrected in the next update of the Technical Expression.
Support SEPA in determining the protection measures required for 574 drinking water sources .	31758	574	
Provide flow metering and recording at 574 drinking water sources .	31759	574	
Reduce abstraction and provide increased compensation flows at all drinking water sources in 78 water resource zones. This will include all sources potentially affecting Natura 2000 designated sites .	31756	78	
Water Quality Protection			
Develop WHO water safety plans for public drinking water supplies covering 50% of the population	31764	2,500,000	
Reduce risk of contamination of water supplies by removing 5,500 cross connections	30724	5,500	

Install backflow prevention devices at 235 Waste Water treatment works to ensure works comply with the water byelaws	30753	235	
Comply with incident report recommendations	30151	150	Output not quantified in Directions or Ministerial Objectives.
Security of Supply			
Not identified in the Directions but the Ministerial objectives state "Provide for increased physical security to agreed Security Service standards and improved provision in the event of an emergency. Details to be provided separately".	30252, 30257, 30258, 30259, 30260	various	Output not quantified in Directions or Ministerial objectives.
Strategic Capacity for New Development			
Deliver strategic capacity in support of new housing development and the domestic requirements of commercial and industrial developments: up to 40,000 Pe at wastewater treatment works and up to 16,500 Pe at water treatment works.	30202, 30203	60,000	The output for the drivers WG2 and SG2 is the number of properties connected. This has been shown against the Table K autocodes for Part 4 costs. Further work is required to convert the Table K output to that of the Directions. This will be included in a future iteration of the Technical Expression.
Enhanced Level of Service			
Low pressure register to be reduced by 2,250 properties	30494	5,625	The Table K output is for the full 8 years. The correct output for 2006-10 is 2,250. This was corrected in the Technical Expression.
Measures to be implemented to minimise odour nuisance at a minimum of 14 WWTW	30555	34	The Table K output is for the full 8 years. The correct output for 2006-10 is 14. This was corrected in the Technical Expression.
Business metering is not identified in the Directions but the Ministerial objectives state "Move towards full business metering".	30521	40,000	Output not quantified in Directions or Ministerial objectives. The Table K output reflects that allowed for in the Final Determination.
Net reduction of 456 properties at risk from sewer flooding at a frequency of once or more than once over a period of 10 yrs	30385		Output omitted in Table K. It is included in the Technical Expression as 456 no.
Net reduction of 425 properties affected by unplanned interruptions	31619		Output omitted in Table K. It is included in the Technical Expression as 425 no.

Database – Cost Calculation



(1) All prices are uploaded to the database at Q302 prices as per the original SE/WIC guidance.
(2) Profile adjustments were made at asset level in April 06 to meet the spend target set by the business
(3) This adjustment was added to the database in March 05
(4) The efficiencies which have been applied are based on those stated in the FD (Enhanced 20.5%, Base – typically 10.3%). Further efficiencies have been added to recover the unsubstantiated ESWA efficiency relating to Q&SII resulting in enhanced 22.8% and Base typically 12.93%.
(5) The database holds the FD COPI actuals/forecasts. These are used to convert the prices to nominal.
(6) Tables K1 and K2 are calculated prior to the recovery of the Development costs and outperformance fund
(7) Approx 0.5% is taken from projects to fund the Q&SIII Devt costs.
(6) Approx 2.5% to 5% is taken from projects to fund a Scottish Water Programme Outperformance/Risk line.
(9) Table K56 is created with water/wastewater project lines for development costs and outperformance fund.

Section P - Base Information

General Comments

Table P1 Water Service – Unmeasured Domestic

The data for unmetered households in Annual Return tables A & P is sourced from last years Annual Return, based on WIC4 reports for 2004, and updated with new household growth from the Council Tax Base for September 2005. New households are taken as connected to the water and waste water network.

The figures for 2005/06 are then adjusted to reflect the potential one year benefit to Scottish Water due to councils using their discretionary powers to reduce second home discounts to a minimum of 10%. The results are as follows.

A	Domestic Properties - billed unmeasured	Units	Report Year	
P1.1	Number of Band "A*" properties, paying full charge	nr	619	A2
P1.1a	Band "A*" properties, with 10% discount	nr	6	A2
P1.2	Band "A*" properties, with 25% discount	nr	459	A2
P1.3	Band "A*" properties, with 50% discount	nr	2	A2
P1.4	Number of Band "A" properties, paying full charge	nr	195,984	A2
P1.4a	Band "A" properties, with 10% discount	nr	11,161	A2
P1.5	Band "A" properties, with 25% discount	nr	306,391	A2
P1.6	Band "A" properties, with 50% discount	nr	4,535	A2
P1.7	Number of Band "B" properties, paying full charge	nr	282,739	A2
P1.7a	Band "B" properties, with 10% discount	nr	6,718	A2
P1.8	Band "B" properties, with 25% discount	nr	253,111	A2
P1.9	Band "B" properties, with 50% discount	nr	2,730	A2
P1.10	Number of Band "C" properties, paying full charge	nr	203,093	A2
P1.10a	Band "C" properties, with 10% discount	nr	4,868	A2
P1.11	Band "C" properties, with 25% discount	nr	136,250	A2
P1.12	Band "C" properties, with 50% discount	nr	1,978	A2
P1.13	Number of Band "D" properties, paying full charge	nr	179,091	A2
P1.13a	Band "D" properties, with 10% discount	nr	4,095	A2
P1.14	Band "D" properties, with 25% discount	nr	85,022	A2
P1.15	Band "D" properties, with 50% discount	nr	1,664	A2
P1.16	Number of Band "E" properties, paying full charge	nr	205,597	A2
P1.16a	Band "E" properties, with 10% discount	nr	3,791	A2
P1.17	Band "E" properties, with 25% discount	nr	65,406	A2
P1.18	Band "E" properties, with 50% discount	nr	1,541	A2
P1.19	Number of Band "F" properties, paying full charge	nr	115,678	A2
P1.19a	Band "F" properties, with 10% discount	nr	2,130	A2
P1.20	Band "F" properties, with 25% discount	nr	26,942	A2
P1.21	Band "F" properties, with 50% discount	nr	866	A2
P1.22	Number of Band "G" properties, paying full charge	nr	77,535	A2
P1.22a	Band "G" properties, with 10% discount	nr	1,410	A2
P1.23	Band "G" properties, with 25% discount	nr	14,015	A2
P1.24	Band "G" properties, with 50% discount	nr	573	A2
P1.25	Number of Band "H" properties, paying full charge	nr	7,953	A2
P1.25a	Band "H" properties, with 10% discount	nr	252	A2
P1.26	Band "H" properties, with 25% discount	nr	1,011	A2
P1.27	Band "H" properties, with 50% discount	nr	103	A2
P1.28	Total number of billed properties	nr	2,205,319	
P1.29	Number of Band "D" equivalent properties	nr	1,872,769	

Annual Return tables do not include a line for reporting 10% discounts. To reflect the 10% adjustment the number of band D equivalents is noted and the final 2005/06 figures reported are re-profiled to meet this number of band D equivalents whilst preserving the overall number of households within each band.

Table P2 Water Service - Unmeasured Non-Domestic

P2.1 – 2.4 Unmeasured Non-Domestic - Properties

These fields within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of September 2005. P2.3 shows a reduction of 13,140 (22.5%) compared to the previous year, which is due to the two major factors, as described in the A Table commentary. Firstly, there are properties whose water service has changed from an unmeasured to a measured basis and secondly a review was carried out of the services being charged within the unmeasured service as part of the major data cleansing project.

P2.4 shows that the number of reported void (vacant) properties has reduced by 13,482 (63.5%) compared to prior year. This reflects a business decision on the flagging applied to vacant properties. As part of the data cleansing project carried out in 2004/05, a review of a batch of properties with no customers assigned was carried out and flagged appropriately. This process is continuing and it is likely that an increase in 2006/07 will be reported.

P2.5 – 2.6 Rateable Value Base

These fields within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of March 2006. The reduction in the total RV base is as a result of data cleansing and other business activities described above.

Table P3 Service - Measured Domestic

P3.1 – 3.5 Domestic Properties - billed on measured basis: tariff meters

The number of measured domestic properties has increased in 2005/06 to 481, which is up 41 from the previous year. This small upward trend reflects the increased flagging that was carried out in the data cleansing project in the latter part of 2004/05.

P3.7 – 3.10 Volumes - Measured Domestic Properties

These fields within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of March 2006. It is worth noting that the volumes reported in these fields are not directly associated with the properties reported in lines P3.1 to P3.5. Indeed, towards the end of the 2005/06 financial year, a data cleansing project was undertaken to accurately identify and classify domestic properties. This resulted in a rise in the numbers from the mid-year position. As a result, the reported volume increase of 32,812m^3 (45%) is largely due to an increase in domestic property numbers, rather than a significant increase in customer consumption.

Table P4 Water Service - Measured Non-Domestic

P4.1– 4.17 Non-domestic Tariff Meters

These lines within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of September 2005. The reduction of 2,344 (2.8%) tariff meters reflects the amount of data cleansing through 2004/05 and the meter right sizing project. The overall profile has not changed significantly from the previous year.

Below is a breakdown of the electro-mechanical meters, as also reported in the A Tables commentary.

Size	Number
15mm or smaller	1
20mm	1
25mm	3
40mm	2
50mm	7
80mm	5
100mm	10
150mm	6
200mm	3
250mm	1
300mm	2
450mm	0
Total	**41**

P4.18– 4.28 Volumes - Measured Non-domestic Properties

These lines within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of March 2006. Only volumes associated with non-domestic potable water supplies are included in this section. The total volume of water supplied has not changed in any significant way, however the consumption profile has. Compared to the previous year there has been a reduction in non-standard water volume consumption (P4.25 – P4.27) and an equivalent but opposite increase in LUVA water volume consumption (P4.23 – P4.24). The transfer of a number of customer accounts from non-standard to LUVA tariffs explains this shift.

P4.50– 4.52 Tariffs - Volumetric Charges: Measured Non-domestic Properties, average non-standard rates

The mean rates calculated in these fields are calculated by dividing the total revenue billed to customers whose total annual consumption is within the prescribed range, by the total annual consumption within the prescribed range. Only volumes associated with a non-domestic potable supply are included.

e.g. P4.50 = $\frac{R_{B100}}{V_{B100}}$

Where:

R_{B100} = Total revenue associated with measured non-domestic potable water volumetric charges billed to non-standard tariff customers whose total annual consumption is less than 100Ml per annum.

V_{B100} = Total measured non-domestic potable water volume billed to non-standard tariff customers whose total annual consumption is less than 100Ml per annum.

Table P5 Wastewater Service – Unmeasured Domestic

The data for unmetered households in Annual Return tables A & P is sourced from last years Annual Return, based on WIC4 reports for 2004, and updated with new household growth from the Council Tax Base for September 2005. New households are taken as connected to the water and waste water network.

The figures for 2005/06 are then adjusted to reflect the potential one year benefit to Scottish Water due to councils using their discretionary powers to reduce second home discounts to a minimum of 10%. The results are as follows.

A	Domestic Properties - billed unmeasured	Units	Report Year	
P5.1	Number of Band "A*" properties, paying full charge	nr	616	A2
P5.1a	Band "A*" properties, with 10% discount	nr	6	A2
P5.2	Band "A*" properties, with 25% discount	nr	455	A2
P5.3	Band "A*" properties, with 50% discount	nr	2	A2
P5.4	Number of Band "A" properties, paying full charge	nr	193,580	A2
P5.4a	Band "A" properties, with 10% discount	nr	10,172	A2
P5.5	Band "A" properties, with 25% discount	nr	305,200	A2
P5.6	Band "A" properties, with 50% discount	nr	4,133	A2
P5.7	Number of Band "B" properties, paying full charge	nr	278,350	A2
P5.7a	Band "B" properties, with 10% discount	nr	5,957	A2
P5.8	Band "B" properties, with 25% discount	nr	250,385	A2
P5.9	Band "B" properties, with 50% discount	nr	2,421	A2
P5.10	Number of Band "C" properties, paying full charge	nr	195,693	A2
P5.10a	Band "C" properties, with 10% discount	nr	3,983	A2
P5.11	Band "C" properties, with 25% discount	nr	132,848	A2
P5.12	Band "C" properties, with 50% discount	nr	1,618	A2
P5.13	Number of Band "D" properties, paying full charge	nr	169,331	A2
P5.13a	Band "D" properties, with 10% discount	nr	3,436	A2
P5.14	Band "D" properties, with 25% discount	nr	81,805	A2
P5.15	Band "D" properties, with 50% discount	nr	1,396	A2
P5.16	Number of Band "E" properties, paying full charge	nr	192,359	A2
P5.16a	Band "E" properties, with 10% discount	nr	3,181	A2
P5.17	Band "E" properties, with 25% discount	nr	62,176	A2
P5.18	Band "E" properties, with 50% discount	nr	1,292	A2
P5.19	Number of Band "F" properties, paying full charge	nr	106,805	A2
P5.19a	Band "F" properties, with 10% discount	nr	1,815	A2
P5.20	Band "F" properties, with 25% discount	nr	25,352	A2
P5.21	Band "F" properties, with 50% discount	nr	738	A2
P5.22	Number of Band "G" properties, paying full charge	nr	69,825	A2
P5.22a	Band "G" properties, with 10% discount	nr	1,166	A2
P5.23	Band "G" properties, with 25% discount	nr	12,912	A2
P5.24	Band "G" properties, with 50% discount	nr	474	A2
P5.25	Number of Band "H" properties, paying full charge	nr	6,843	A2
P5.25a	Band "H" properties, with 10% discount	nr	168	A2
P5.26	Band "H" properties, with 25% discount	nr	875	A2
P5.27	Band "H" properties, with 50% discount	nr	68	A2
P5.28	Total number of billed properties	nr	2,127,436	
P5.29	Number of Band "D" equivalent properties	nr	1,789,276	

Annual Return tables do not include a line for reporting 10% discounts. To reflect the 10% adjustment the number of band D equivalents is noted and the final 2005/06 figures reported are re-profiled to meet this number of band D equivalents whilst preserving the overall number of households within each band.

Table P6 Wastewater Service - Unmeasured Non-Domestic

P6.1– 6.4 Non-domestic Properties - billed on unmeasured basis

These lines within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of September 2005. P6.1 shows a reduction of 13,619 (24.7%) properties compared to previous year. The major reasons for this significant decrease can be broken down into three distinct areas.

A: Customers previously charged for a wastewater service that through data cleansing activity have been identified as not receiving the service.
B: Customers who are no longer billable due to the property being vacant or classified now as “Gone away”.
C: Customers who have moved from unmeasured to measured services.

P6.5 – 6.6 Rateable Value Base

These fields within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of March 2006. The reduction in the total RV base is as a result of data cleansing and other business activities described above.

Table P7 Wastewater Service - Measured Domestic

P7.1 – 7.5 Domestic Properties - billed on measured basis: tariff meters

The number of measured domestic properties has increased in 2005/06 to 213, which is up 83 from the previous year. This small upward trend reflects the increased flagging that was carried out in the data cleansing project in the latter part of 2004/05.

P7.7 – 7.10 Volumes - Measured Domestic Properties

These lines within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of March 2006. It is worth noting that the volumes reported in these fields are not directly associated with the properties reported in lines P7.1 to P7.5. Indeed, towards the end of the 2005/06 financial year, a data cleansing project was undertaken to accurately identify and classify domestic properties. This resulted in a rise in the numbers from the mid-year position. As a result, the reported volume increase of 12,358m^3 (77.7%) is largely due to an increase in domestic property numbers, rather than a significant increase in customer consumption.

Table P8 Wastewater Service - Measured Non-Domestic

P8.1– 8.17 Non-domestic Tariff Meters

These lines within the P Tables have been populated from a regulatory return data base with a cut of the Hi-Affinity billing system as at the end of September 2005. The reduction of 235 (0.4%) tariff meters reflects the amount of data cleansing through 2004/05, and the meter right sizing project. The overall profile has not changed significantly from the previous year.

Below is a breakdown of the electro-mechanical meters, as also reported in the A Tables commentary.

Size	Number
15mm or smaller	0
20mm	0
25mm	0
40mm	1
50mm	5
80mm	3
100mm	5
150mm	1
200mm	1
250mm	0
300mm	0
450mm	0
Total	**16**

P8.40 Tariffs - Volumetric Charges: Measured Non-domestic Properties, average non-standard rate.

This figure is calculated in a similar way to fields P4.50 to 4.52, except there is no volumetric consumption condition.

i.e. P8.40 = $\frac{R_B}{V_B}$

Where:

R_B = Total revenue associated with measured non-domestic wastewater volumetric charges billed to non-standard tariff customers.

V_B = Total measured non-domestic wastewater volume billed to non-standard tariff customers.

Table P9 Wastewater Service - Measured Domestic: Drainage Charges

Improved reporting techniques have allowed the reporting of domestic council tax bands. The slight increase in the number of Band D equivalent properties (P9.29 and P9.63) is as a result of the data cleansing activity as described in the commentary for Tables P3 and P7.

Table P10 Wastewater Service - Unmeasured and Measured Non Domestic: Surface Water Drainage

P10.1 – 10.3 Non-domestic Properties - billed on unmeasured basis – area-based charges

A full review of area-based charging was carried out as part of the data cleansing project. As a result it has been identified that all area based customers are being charged on standard tariffs.

P10.4 – 10.10 Non-domestic Properties - billed on unmeasured basis – RV based charges

The total number of surface water drainage services has reduced by 5.63% from the previous year due to data cleansing activity, as described in the commentary for Table P6.

P10.12 – 10.17 Rateable Value Base – RV based drainage charges

These fields represent the RV for surface water drainage properties as at financial year end. This shows a year on year increase. This is due to new customers being added to the billing system, and also new RV values being added as a result of the data cleansing project. Note that these RVs do not directly correlate with the property numbers in lines P10.4 to P10.10.

P10.18 – 10.20 Rateable Value Base – Area based drainage charges

A full review of area-based charging was carried out as part of the data cleansing project, allowing the reporting of RVs associated with these properties.

P10.21 – 10.23 Surface area for area based drainage charges

A full review of area-based charging was carried out as part of the data cleansing project, highlighting a 68.6% decrease in the reported area used to generate area-based property drainage charges.

Table P11

P11.1

The increase of 411 (57%) compared to the previous year is a result of customers ceasing their capped agreements and moving to standard changes.

11.5 – 11.10

The availability charging parameters shape has altered compared to the previous year as a result of customers coming off capped agreements and moving to standard changes.

Table P12

12.1 – 12.4

Customers on harmonisation cap and treatment cap have reduced as a result of agreements coming to and end during the reported year.

12.5 -12.10

Availability charging parameters shape has altered compared to the previous year as a result of customers coming off capped agreements and moving to standard charges.

12.3 -12.18

Availability charging parameters shape has altered compared to the previous year as a result of customers coming off capped agreements and moving to standard charges.

Commentary for Report Year plus 1 & Report Year plus 2

Customer base growth assumptions used in the Annual Return A tables and reflected in the P tables for 2005/06 to 2006/07 and 2006/07 to 2007/08 are based on the growth adopted in the Final Determination. Growth assumptions differ from those evident in the Final Determination in only three respects:

- Growth in households;
- Unmetered non-households moving to metered tariffs; and
- Trade effluent customers paying full and "capped" published charges.

Household Growth

As explained in the commentary for tables A1 & 3 and P1 & 5, the number of unmetered households for 2005/06 in Annual Return tables A & P is based September 2004 WIC4 with growth from the councils' Ctaxbase return (04/05 to 05/06). Growth assumptions from the final determination are then added. As explained in the commentary for tables A1 & 3 and P1 & 5 the 2005/06 blend of households has then been adjusted to reflect the one year benefit to Scottish Water due to councils using their discretionary powers to reduce second home discounts to a minimum of 10%.

The number of unmetered properties moving to metered tariffs.

The Final Determination assumed that metered tariffs would apply from the time that meters were installed. The Scottish Executive has indicated that metered tariffs should not apply at currently unmetered properties unless a customer has paid for a meter to be installed. The Commission has proposed other circumstances when metered charges should apply such as existing properties coming into charge for the first time.

This return therefore assumes that 2,000 unmetered properties will move onto metered tariffs in report year +1 and a further 2,000 in report year +2.

The average metered water use and rateable value assumed for these properties is consistent with the Final Determination assumptions of 304m^3 and £8,822 rateable value.

The number of trade effluent customers with capped charges moving on to full charges

The Final Determination assumed that increases in trade effluent bills for those trade effluent customers on published rates but not being billed at the full rate should be capped at 15%. Against an overall price cap of 0.99% a number of "capped" customers were assumed to move to full charges. Under the 2006/07 Scheme of Charges the cap on bills was set at 0.99%. As a consequence no customers would move onto full charge