

## Appendix E - Capital Maintenance Econometric Return

### Introduction

#### ***Purpose of the Capital maintenance econometric return (CMER)***

The purpose of the Capital maintenance econometric return is to collect explanatory data necessary for assessing Scottish Water's relative capital maintenance efficiency.

The content of the Capital maintenance econometric return consists of:

- A fully completed set of data tables 1 to 11.
- A commentary for each table.
- Reporter commentary on each table.

#### ***Submission***

Scottish Water is required to submit data in accordance with the definitions. Where the data definitions are different to those in previous Business plan submissions or Annual Return submissions, it is requested to state in the commentary details of any changes to the data that are considered necessary.

Scottish Water is also asked to provide in its commentary a discursive examination of the methodology it has used to obtain data for earlier years when data was not submitted to WICS. It should also comment on the degree of confidence it has in the data presented for these years.

#### ***Gross modern equivalent asset valuations (MEAVs)***

The gross modern equivalent asset valuation lines in the tables should be derived on a current cost accounting (CCA) basis as set out in Regulatory Accounting Rule (RAR) 1.

Table A: Water Service Asset Size Bands

Description		Units	Summary of asset stock							
			Band 1	Band 2	Band 3	Band 4	Band 5			
<b>A Group 1 - Water resources</b>										
1	Dams and impounding reservoirs (yield)	nr	Not required by band							
2	Raw water aqueducts (nominal bore)	km	Not required by band							
<b>B Group 2 - Water treatment works</b>										
3	SW1 treatment works	nr	< 5.0 MI/day	5.0 - 24.9 MI/day	25.0 - 49.9 MI/day	50.0- 99.9 MI/day	> = 100 MI/day			
4	SW2 treatment works	nr	< 5.0 MI/day	5.0 - 24.9 MI/day	25.0 - 49.9 MI/day	50.0- 99.9 MI/day	> = 100 MI/day			
5	SW3 treatment works	nr	< 5.0 MI/day	5.0 - 24.9 MI/day	25.0 - 49.9 MI/day	50.0- 99.9 MI/day	> = 100 MI/day			
6	SW4 treatment works	nr	< 5.0 MI/day	5.0 - 24.9 MI/day	25.0 - 49.9 MI/day	50.0- 99.9 MI/day	> = 100 MI/day			
7	GW1 treatment works	nr	< 1.0 MI/day	1.0 - 4.9 MI/day	5.0 - 9.9 MI/day	10.0- 24.9 MI/day	> = 25 MI/day			
8	GW2 treatment works	nr	< 1.0 MI/day	1.0 - 4.9 MI/day	5.0 - 9.9 MI/day	10.0- 24.9 MI/day	> = 25 MI/day			
9	GW3 treatment works	nr	< 1.0 MI/day	1.0 - 4.9 MI/day	5.0 - 9.9 MI/day	10.0- 24.9 MI/day	> = 25 MI/day			
10	GW4 treatment works	nr	< 1.0 MI/day	1.0 - 4.9 MI/day	5.0 - 9.9 MI/day	10.0- 24.9 MI/day	> = 25 MI/day			
<b>C Group 3 - Water Storage</b>										
11	Service reservoirs	nr	< = 1.0 MI	1.1 - 5.0 MI	5.1 - 10.0 MI	10.1 - 25.0 MI	> 25.0 MI			
12	Water towers	nr	< = 0.5 MI	0.6 - 1.1 MI	1.1 - 2.5 MI	> 2.5 MI				
<b>D Group 4 Pumping stations</b>										
13	Intake (installed pump capacity including standby)	nr	Not required by band							
14	Source (installed pump capacity including standby)	nr	Not required by band							
15	Booster (installed pump capacity including standby)	nr	< = 5 kW	6 - 20 kW	21 - 100 kW	101 - 500 kW	> 500 kW			
<b>E Group 5 - Water mains</b>										
16	Potable (nominal bore)	km	< = 165 mm	166 - 320 mm	321 - 625 mm	> 625 mm				
17	Other (nominal bore)	km	< = 165 mm	166 - 320 mm	321 - 625 mm	> 625 mm				
18	Ancillaries - customer	nr	Comms. Lead	Comms. Galv iron	Comms. Other mats	Non-hhold meters	Household meters			

Table B: Sewerage Service Asset Bands

Description		Units	Summary of asset stock						
			Band 1	Band 2	Band 3	Band 4	Band 5		
<b>A Group 1 - Sewers</b>									
1	Critical sewers (nominal bore)	km	Not collected by band						
2	Non-critical sewers (nominal bore)	km	Not collected						
3	Sewage pumping mains	km	Not collected						
<b>B Group 2 - Sewer structures</b>									
4	Combines sewer & emergency overflows	nr	Not collected						
5	Other sewer structures (volume m <sup>3</sup> )	nr	Not collected						
<b>C Group 3 - Sewage pumping stations</b>									
6	Pumping stations (pump capacity including standby)	nr	<= 5 kW	6 -20 kW	21 - 100 kW	101 - 500 kW	> 500 kW		
<b>D Group 4 - Sewage treatment works</b>									
7	Preliminary treatment only	nr	<= 15kg/day	15.1 - 120 kg/day	120.1 - 600 kg/day	600.1 - 6,000 kg/day	> 6,000 kg /day		
8	Primary treatment only	nr	<= 15kg/day	15.1 - 120 kg/day	120.1 - 600 kg/day	600.1 - 6,000 kg/day	> 6,000 kg /day		
9	Secondary activated treatment only	nr	<= 15kg/day	15.1 - 120 kg/day	120.1 - 600 kg/day	600.1 - 6,000 kg/day	> 6,000 kg /day		
10	Secondary biological treatment only	nr	<= 15kg/day	15.1 - 120 kg/day	120.1 - 600 kg/day	600.1 - 6,000 kg/day	> 6,000 kg /day		
11	Tertiary activated treatment only	nr	<= 15kg/day	15.1 - 120 kg/day	120.1 - 600 kg/day	600.1 - 6,000 kg/day	> 6,000 kg /day		
12	Tertiary biological treatment only	nr	<= 15kg/day	15.1 - 120 kg/day	120.1 - 600 kg/day	600.1 - 6,000 kg/day	> 6,000 kg /day		
<b>E Group 5 - Sea outfalls</b>									
13	Short outfalls (nominal bore)	nr	Not collected in this way						
14	Long outfalls (nominal bore)	nr	Not collected						
<b>F Group 6 - Sludge treatment facilities</b>									
15	Liquid disposal	nr	Not collected in this way						
16	Cake disposal	nr	Not collected in this way						
17	Compost disposal	nr	Not collected in this way						
18	Ash disposal	nr	Not collected in this way						
19	Other disposal	nr	Not collected in this way						

**Table C: Asset Life Categories**

The table below illustrates how the Capital maintenance econometric return asset lives map to the SR06 Business plan asset lives.

Capital maintenance econometric return 2008	Short 0 to 15 years		Medium 15 to 50 years		Long > 50 years
SR06 Final business plan	Very short <5 years	Short 6 to 15 years	Medium 16 to 30 years	Medium/long 31 to 50 years	Long >50 years

**Water Service Tables**

**Table E1 – Water resources & treatment**

Guidance on the size bands of treatment works is included in 'Table A: Water service asset size bands' included in the Introduction.

The weighted average size of works is to be calculated using the mid-point of each works band. For example, a band 2 surface water works (5.0MI/d – 24.9MI/d) will have an average size of 14.95MI/d. If Scottish Water considers that the numbers in the average cells are significantly different from actual average sizes, it should provide an alternative number in the commentary. This should include a full explanation of the differences and method of calculation.

**Table E2 – Water distribution infrastructure**

Additional guidance for this table is included in 'Table A: Water service asset size bands'.

**Table E3 – Water distribution non-infrastructure**

Guidance on the size bands for this table are included in 'Table A: Water service asset size bands'.

The average size is to be a weighted calculation based on the total installed capacity figures reported and numbers reported in the table.

**Table E4 – Water management and general**

No specific guidance for this table.

**Sewerage Service Tables**

**Sub regional sewerage service information**

For the sewerage service explanatory factors tables E5 to 8 and E11, Scottish Water is required to submit information at a sub regional level for a number of areas (according to size) following the criteria set out below:

- areas must be based on the operating units by which the region is managed;
- the connected (resident) population of each area should be between 150,000 and 1,500,000;
- each area should form a single geographical unit with a contiguous boundary (i.e. geographically separated areas should not be combined for reporting purposes); and
- the areas must cover the whole of the region.

It is anticipated that Scottish Water will continue to report on the same number of sewerage sub areas as contained in table D7 of the 2007 Annual Return. If Scottish Water has altered its sewerage areas please provide details of the change and the alternative numbers in the table commentary.

**Table E5 – Sewerage infrastructure**

Size bands for sewage pumping stations are included in 'Table B: Sewerage service asset size bands' in the Introduction to this Guidance.

**Table E6 – Sewerage non-infrastructure**

No specific guidance for this table.

**Table E7 – Sewage treatment**

Size bands for sewage treatment works are included in 'Table B: Sewerage service asset size bands'.

*Calculation of load*

This table requires the input of average daily loads received in kg BOD<sub>5</sub> per day by treatment work, size band and sewerage area. The average daily load for each sewage treatment works should be calculated as the total annual load received in kg BOD<sub>5</sub> by the works divided by 365. The figures reported in these lines is the sum of the loads received by each works in each area.

**Table E8 – Sludge treatment and disposal**

*Sludge disposal route classifications*

Farmland:	This includes spreading both conventionally treated and advanced treated sludge directly to farmland
Incineration:	This includes disposal of both conventionally treated and advanced treated sludge
Landfill:	This includes disposal of both conventionally treated and advanced treated sludge.
Land reclamation:	This includes disposal of raw, conventionally treated and advanced treated sludge.
Other:	If Scottish Water disposes of sludge using any other disposal route then include the amount in the 'Other' category and provide a description of the disposal route(s) together with a breakdown of the amount of sludge disposed.

*Sludge treatment processes*

Sludge volumes should not include the volume of grit and screenings. When assigning volumes of sludge to a treatment process, no consideration should be given to the ultimate disposal route of the sludge after it leaves the treatment process.

'Other' treatment category - Please provide a description of the treatment(s) together with a breakdown of the amount of sludge treated by each 'other' treatment route.

**Table E9 – Sewerage management & general**

No specific guidance for this table.

**Table E10 and E11**

WICS annually collect expenditure data by asset type in table D8 of the Annual Return and the breakdown of sewerage expenditure by area in table D7. Available data from these Annual Return tables should be input into these tables

If there are any inconsistencies in this data or Scottish Water has changed its sewerage areas please provide details in the table commentary. Changes to the sewerage reporting areas require new areas expenditure to be reported for the period 2003-04 to 2006-07. These areas should be consistent with the areas reported in tables E5 to E8.

**Reporter Guidance**

The Reporter shall:

- Confirm whether or not the submission has been prepared in accordance with the guidance issued by WICS.
- Disclose, (if not fully exposed in the submission) the material assumptions that underpin the explanatory factors and related expenditure for each area or sub-area and the scope and extent to which these have been challenged by the Reporter.
- Give expert opinion on the material assumptions.
- Note significant areas where the Reporter's opinion is different from that of Scottish Water.
- Assess the quality assurance procedures used in relation to the production of the submission.
- Disclose (if not fully exposed in the submission) and assess the reasons for changes in information submitted previously, particularly;
  - 2006-10 final business plan
  - Annual Returns.
- Give an opinion of Scottish Water's assessment of the accuracy and reliability of expenditure data and explanatory factors reported for each area or sub-area.
- Detail any modifications to or omissions from these requirements in respect of the Reporter's role and responsibilities.

If Scottish Water has changed the number of sewerage reporting areas, the Reporter shall:

- Confirm or otherwise that the procedure for allocating expenditure is consistent with that used in the past.
- Confirm or otherwise that the reasons for variations in overall totals of the sewerage areas compared to Annual Returns/2006-10 Final Business Plan (e.g. total length of sewers in E5) are acceptable.

- Confirm or otherwise that the figures in table E5 line 3 conform with section 24 of the 1935 Public Health Act.