

# Chapter 17c

## Sewerage service explanatory factors

Covering:  
Sewage treatment works: numbers

## Chapter 17c

# Sewage treatment works: numbers

### Guidance

Three tables have been provided. One for NI Water data only, a second for PPP data only and a third which will be the sum of the first two. The three table format has been retained to enable easy completion of small treatment works efficiency modelling.

The purpose of these tables is to classify each company's sewage treatment works (STW) by size and by method of treatment.

For this table (and for tables 17d, and 17f), the size bands are defined as:

#### Small works

- size band 1  $\leq 15\text{kg BOD}_5/\text{day}$  (population equivalent: 0 – 250)
- size band 2  $>15$  but  $\leq 30\text{kg BOD}_5/\text{day}$  (population equivalent: 250 – 500)
- size band 3  $>30$  but  $\leq 120\text{kg BOD}_5/\text{day}$  (population equivalent: 500 – 2,000)
- size band 4  $>120$  but  $\leq 600\text{kg BOD}_5/\text{day}$  (population equivalent: 2,000 – 10,000)
- size band 5  $>600$  but  $\leq 1500\text{kg BOD}_5/\text{day}$  (population equivalent: 10,000 – 25,000)

#### Large works

- size band 6  $> 1500\text{kg BOD}_5/\text{day}$ .

These bands may be abbreviated to 15 – 30kg BOD<sub>5</sub>/day (etc.).

In calculating the size of each STW for this table (and for tables 17d and 17f), the company must assume a load of 60g/head/day arising from the resident connected population and add any trade effluent load (converted from settled to total (unsettled) COD), using a factor of 2:1 for converting COD:BOD. No allowance should be made for non-resident population (tourists, commuters), but the company may wish to comment if this is significant and would affect the banding of a works.

The company must check that the following data are consistent:

- Total number of STWs in table 17c (line 7, sum of column 1-10) should be consistent with number of sewage treatment works in table 15 (line 8). If they are not equal please provide an explanation in your commentary; and,
- Number of **large** STWs in each treatment category in table 17c (line 6, columns 1-10) should equal corresponding total number of **large** STWs reported in table 17b (line 8).

The company must also check that:

- Where works have been reported in table 17c, corresponding costs are reported in table 17f; and,
- Where works have been reported in table 17c, corresponding loads are reported in table 17d.

The company should also provide data relating to services provided by its PPP wastewater contractor operated works. This data should be included in the separate PPP table as indicated, with the total for NIW and PPP assets in the third table.

**Company commentary**

The company should:

- comment on any works (inc. PPP) where there is doubt about which band or treatment type applies;
- check that the total number of STWs in table 17c (line 7, sum of column 1-10) should be consistent with number of sewage treatment works in table 15 (line 8); if they are not equal provide an explanation; and,
- provide separate detail on the works in size band one. This should include a split by number of works of population equivalent 0-100 and 100-250. Any relevant information on septic tank treatment should also be provided

**Guidance for Reporters**

Reporters should highlight any works (inc. PPP) where there is doubt about its classification, comment on the reasonableness of the company's decision and outline any alternative classification. This is particularly important where there is any doubt over whether a works should be classed as a large sewage treatment works or if there is doubt over the classification of the treatment process.

## Table 17c line definitions

### A SMALL WORKS

<b>1</b>	Number of STWs in size band 1	nr	0dp
<b>Definition</b>	The number of treatment works in each category should be entered in the appropriate column. Sea outfalls should be classified in the relevant column according to whether preliminary treatment or simple screening is provided.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 1 column 1 to 10 Calculated: line 1 column 11 is the sum of line 1 column 1 to 10		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

<b>2</b>	Number of STWs in size band 2	nr	0dp
<b>Definition</b>	The number of treatment works in each category should be entered in the appropriate column. Sea outfalls should be classified in the relevant column according to whether preliminary treatment or simple screening is provided.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 2 column 1 to 10 Calculated: line 2 column 11 is the sum of line 2 column 1 to 10		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

<b>3</b>	Number of STWs in size band 3	nr	0dp
<b>Definition</b>	The number of treatment works in each category should be entered in the appropriate column. Sea outfalls should be classified in the relevant column according to whether preliminary treatment or simple screening is provided.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 3 column 1 to 10 Calculated: line 3 column 11 is the sum of line 3 column 1 to 10		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

<b>4</b>	Number of STWs in size band 4	nr	0dp
<b>Definition</b>	The number of treatment works in each category should be entered in the appropriate column. Sea outfalls should be classified in the relevant column according to whether preliminary treatment or simple screening is provided.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 4 column 1 to 10 Calculated: line 4 column 11 is the sum of line 4 column 1 to 10		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

<b>5</b>	Number of STWs in size band 5	nr	0dp
<b>Definition</b>	The number of treatment works in each category should be entered in the appropriate column. Sea outfalls should be classified in the relevant column according to whether preliminary treatment or simple screening is provided.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 5 column 1 to 10 Calculated: line 5 column 11 is the sum of line 5 column 1 to 10		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

## B LARGE WORKS

<b>6</b>	Number of STWs in size band 6	nr	0dp
<b>Definition</b>	The number of treatment works in each category should be entered in the relevant column. Sea outfalls should be classified in the relevant column according to whether preliminary treatment or simple screening is provided. Where a works load is split into two treatment streams in table 17b, the works should be reported consistently with the classification in table 17b, line 8.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 6 column 1 to 10 Calculated: line 6 column 11 is the sum of line 6 column 1 to 10		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

<b>7</b>	Total number of STWs	nr	0dp
<b>Definition</b>	Total numbers of sewage treatment works and sea outfalls (all sizes) providing each category of treatment.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Calculated field: each column in line 7 is the sum of lines 1 to 6.		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

## C SMALL WORKS WITH AMMONIA CONSENTS

<b>8</b>	Nr of small STWs with NH <sub>3</sub> consents (5 - 10 mg/l)	nr	0dp
<b>Definition</b>	The number of small sewage treatment works with ammonia consents of between 5 and 10mg/l (including 10 mg/l). Note that these works must also be included in the appropriate categories in lines 1-5 above, to ensure that the total numbers of works are correct.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

<b>9</b>	Nr of small STWs with NH <sub>3</sub> consents (<= 5mg/l)	nr	0dp
<b>Definition</b>	The number of small sewage treatment works with ammonia consents of 5mg/l or less. Note that these works must also be included in the appropriate categories in lines 1-5 above, to ensure that the total numbers of works are correct.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input		
<b>Responsibility</b>	Comparative Efficiency & Performance Team		

## CHANGE CONTROL SHEET

### CHAPTER 17c

2008/1.0	First issue of chapter for the SBP period.
2009/1.0	Second issue of chapter for the SBP period. - Two tables added. PPP reporting requirements and Total (NIW + PPP).
2010/1.0	Third issue of chapter for the SBP period. - No changes.
2011/1.0	First issue of chapter for the PC10 period. - Additional commentary required for the size band 1 works.
2012/1.0	Second issue of chapter for the PC10 period. - No changes.
2013/1.0	Third issue of chapter for the PC10 period - Minor changes.