

# Chapter 17g

## Sewerage service explanatory factors

Covering:  
Sludge treatment and disposal

## Chapter 17g

# Sludge treatment and disposal

### Guidance

One table has been provided for NI Water data only. The PPP data should be reported in Table 42.

The purpose of this table is to collect information about sewage sludge disposal routes, and the costs of sludge treatment and disposal associated with each of those routes.

This information will be used to update our modelling of the sewerage service to enable assessment of the comparative operating efficiency of the company's sewerage services.

Process losses, such as gas lost to the atmosphere, are included in the percentages entering each disposal route and must not be assigned to the 'Other' category.

The routes are classified as:

Farmland – Untreated:	Spreading untreated sewage sludge direct to farmland
Farmland – Conventional:	Spreading conventionally treated sewage sludge to farmland
Farmland – Advanced:	Spreading “advanced” treated sewage sludge to farmland
Incineration:	Sewage sludge disposed of by incineration
To PPP	Sewage sludge disposed of by PPP contractor
Landfill:	Sewage sludge disposed in landfill sites
Composted:	Sewage sludge disposed by means of composting
Land Reclamation:	Sewage sludge disposed of to land reclamation projects
Other:	Any other form of sewage sludge disposal; for example, gasification, forestry, or silviculture.

Disposal to farmland includes sludge spread on non-food crops.

For the purposes of clarity, farmland disposal routes are classified as follows:

- *Untreated* – Untreated sewage will have received no form of treatment designed to reduce its pathogen content. The sludge may be thickened and/or de-watered to facilitate transportation.
- *Conventional* – ‘Conventionally treated’ sewage sludge is that which has undergone processes designed to reduce the numbers of *E. coli* present by no less than 99% (a 2 log reduction).
- *Advanced* – ‘Advanced’ treated sewage is that which has undergone processes designed to reduce the numbers of *E. coli* present by no less than 99.9999% (a 6 log reduction).

**Un-adopted septic tank activities**

For the purposes of this table and the AIR, un-adopted septic tank activities are unregulated and should therefore be excluded. Adopted tank activity (i.e. Housing Executive tanks) should still be accounted for in the tables. Within the table commentary NI Water must provide:

- The total excluded cost associated with this unregulated activity;
- A breakdown of this total figure by collection, treatment and disposal costs;
- A commentary on how these costs were arrived at and any assumption made
- The number of unregulated septic tanks collected from within the reporting year;
- The total load (ttds) collected from unregulated septic tanks

The company must check that the following data are consistent.

- Sludge treatment and disposal: direct costs in table 17g (line 5, column 10) should equal total direct costs for sludge treatment & disposal in table 22 (line 9, column 3);
- Sludge treatment and disposal: power costs in table 17g (line 6, column 10) should equal power costs for sludge treatment & disposal in table 22 (line 2, column 3);
- Sludge treatment and disposal: Service charges in table 17g (line 7, column 10) should equal service charges for sludge treatment & disposal in table 22 (line 7, column 3); and
- Sludge treatment and disposal: general and support expenditure in table 17g (line 8, column 10) should equal general and support expenditure for sludge treatment & disposal in table 22 (line 10, column 3);
- Sludge treatment and disposal: functional expenditure in table 17g (line 9, column 10) should equal functional expenditure for sludge treatment and disposal in table 22 (line 11, column 3).

**Company commentary**

The company should:

- clearly explain any significant changes in sludge disposal routes that have occurred since this information was last collected;
- provide a clear explanation of any sludge disposal methods that are classed as 'Other'. In accordance with RAG4.03, the cost of mechanical sludge de-watering and sludge transfers to sewers and other works must be included in this table;
- comment on the reasons for any significant increases in the costs associated with a particular disposal route. For the purposes of this table, significant changes are those which amount to more than 5% of total sludge treatment and disposal costs, or more than 10% of any individual category; and,
- only report the amount of sludge treated during the report year. This may not be the same as the amount of sludge disposed in the year. The company should explain any large movements between stockpiled and disposed stock.

**Guidance for Reporter**

The Reporter should comment on:

- the accuracy of the reported information;
- the reasonableness of any changes in the company's costs for different disposal routes since this information was last available; and,
- the reasonableness of assumptions made in separating out unregulated septic tank costs.

**Table 17g line definitions**

<b>1</b>	Resident population served	000	1dp
<b>Definition</b>	The resident population contributing to the particular sludge disposal route. Sludge disposal routes are as defined at the beginning of this chapter. The population equivalent must not be used in place of the resident population.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 1 column 1 to column 9 Calculated: line 1 column 10 is the sum of line 1 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>2</b>	Amount of sewage sludge	ttds	1dp
<b>Definition</b>	<p>The amount of sewage sludge (including grit and screenings) in thousand tonnes of dry solids (ttds) which is disposed of through each of the routes listed.</p> <p>The company must submit the amount entering (not leaving) the treatment and disposal process for each of the routes listed. Process losses, such as gas lost to the atmosphere, are therefore included in the amount entering each disposal route and must not be assigned to the 'Other' category.</p>		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 2 column 1 to column 9 Calculated: line 2 column 10 is the sum of line 2 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>3</b>	Sludge treatment: direct costs	£000	3dp
<b>Definition</b>	The direct costs attributable to sludge treatment for each of the disposal routes. Column 10 'total' is the direct cost of sludge treatment for all disposal routes.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 3 column 1 to column 9 Calculated: line 3 column 10 is the sum of line 3 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>4</b>	Sludge disposal: direct costs	£000	3dp
<b>Definition</b>	<p>The total sludge disposal direct costs attributable to each of the disposal routes.</p> <p>Column 10 'total' is the direct cost of sludge disposal for all disposal routes.</p>		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 4 column 1 to column 9 Calculated: line 4 column 10 is the sum of line 1 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>5</b>	Sludge treatment & disposal: direct costs	£000	3dp
<b>Definition</b>	The direct costs attributable to sludge treatment and disposal for each of the disposal routes. Column 10 is the total direct cost of sludge treatment and disposal for all routes. This total should reconcile with table 22 line 9 column 3.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Calculated: for each column line 5 is the sum of line 3 and line 4.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>6</b>	Sludge treatment & disposal: power costs	£000	3dp
<b>Definition</b>	The sludge treatment and disposal power costs for each of the disposal routes. Column 10 is the power cost for sludge treatment and disposal for all disposal routes and should reconcile with table 22 line 2 column 3.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 6 column 1 to column 9 Calculated: line 6 column 10 is the sum of line 6 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>7</b>	Sludge treatment & disposal: service charges	£000	3dp
<b>Definition</b>	The service charges for sludge treatment and disposal for each of the disposal routes including regulation and legal costs. Column 10 is the total service charge for all disposal routes. This total should reconcile with table 22 line 7 column 3.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 7 column 1 to column 9 Calculated: line 7 column 10 is the sum of line 7 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>8</b>	Sludge treatment & disposal: general & support exp.	£000	3dp
<b>Definition</b>	The general and support expenditure for sludge treatment and disposal allocated to each of the disposal routes. Column 10 is the total general and support expenditure for all disposal routes. This total should reconcile with table 22 line 10 column 3.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Input: line 8 column 1 to column 9 Calculated: line 8 column 10 is the sum of line 8 column 1 to 9.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

<b>9</b>	Sludge treatment & disposal: functional expenditure	£000	3dp
<b>Definition</b>	The sum of direct costs and general support expenditure for sludge treatment and disposal. The total for this line should reconcile with table 22 line 11 column 3.		
<b>Primary Purpose</b>	Informing relative performance and efficiency assessments.		
<b>Processing rule</b>	Calculated: for each column line 10 is the sum of line 5 and line 8.		
<b>Responsibility</b>	Comparative Efficiency and Performance Team		

## CHANGE CONTROL SHEET

### CHAPTER 17g

2008/1.0	First issue of chapter for the SBP period.
2009/1.0	Second issue of chapter for the SBP period. <ul style="list-style-type: none"> <li>- processing rule for line 3 amended</li> <li>- Additional table added for PPP and Total data</li> </ul>
2010/1.0	Third issue of chapter for the SBP period. <ul style="list-style-type: none"> <li>- Minor revisions to line guidance</li> <li>- The PPP and Total tables have been removed. The PPP is to be reported in Table 42</li> </ul>
2011/1.0	First issue of chapter for the PC10 period. <ul style="list-style-type: none"> <li>- No changes.</li> </ul>
2012/1.0	Second issue of chapter for the PC10 period. <ul style="list-style-type: none"> <li>- Provision of guidance for what constitutes untreated, conventional and advanced farmland disposal methods.</li> <li>- Removal of sludge disposed consistency check.</li> </ul>
2013/1.0	Third issue of chapter for the PC10 period. <ul style="list-style-type: none"> <li>- No changes.</li> </ul>