# Chapter 3
# Key outputs
# Sewerage service

Covering:
DG5 Annual internal flooding summary
DG5 Properties on the internal "At risk" register

# Chapter 3
# Key outputs
# Sewerage service

This table has 33 lines, (one of which is calculated). It covers:

- **DG5 - Annual flooding summary**

These lines include properties internally flooded as a result of overloaded sewers and other causes.

- **DG5 - Properties on the "at risk" register**

These lines cover properties at risk of flooding more frequently than once in twenty years and once or twice in ten years, problem status of the properties on the register, annual changes to the register.

The information in this table is used to monitor and compare company performance against the DG Indicators. It is published, in summary, in the annual 'report on Levels of service'.

**Common definitions**

**Flooding incidents**: For the purpose of the return, a flooding incident is defined as an event of internal flooding (as defined below) from a public sewer (whether foul, combined or surface water).

**Internal flooding**: For the purposes of DG5, internal flooding is defined as flooding which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes. All incidents should be recorded irrespective of size.

Buildings whose prime purpose is storage or installation of domestic appliances are excluded. This exclusion encompasses both:

- detached garages (whether situated inside the boundary of the property and separated from the main building or outside the boundary but with common access as in a garage block); and
- linked detached garages (i.e. garages which are attached to a property but separated from it by an external passageway).

However, garages forming an integral part of a property are classed as part of the building and are included, even if their prime purpose is storage, etc.

**Overloaded sewers**: A sewer is overloaded when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded. No account should be taken of the severity of the storm causing the incident.

**Properties at risk**: These are defined as properties that have suffered or are likely to suffer internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant period (either once in twenty years or once or twice in ten years).

**Severe weather**: All flooding incidents should be reported irrespective of the severity of the storm. The company may indicate in the commentaries when flooding incidents have been due to severe rainfall and this information will be taken into account when producing the

'Levels of service' report. Severe weather incidents should only include rainfall events having a return period that is greater than once in twenty years.

**Uninhabited cellars**: An uninhabited cellar is defined as an integral part of a building that is at least partially below ground level. It is not used for habitation. Where such a cellar is in regular use as part of the normal living accommodation it is termed a basement and any flooding should be reported as a normal internal flooding incident.

**Lines 1 to 11: DG5 Annual flooding summary**

**Aim**

To measure the frequency of actual flooding of properties from the public sewerage system by foul water, surface water or combined sewage.

**Lines 12 – 33: DG5 Properties on the "At risk" register**

**Aim**

To measure the risk of flooding of properties from the public sewerage system by foul water, surface water or combined sewage.

**Risk assessment**

The definition of properties at risk means that it is unlikely that properties can be removed from risk by operational improvements.

Information on properties at risk is to be reported in the form of a balance sheet, which identifies performance against the three DG5 reference levels at the end of the report year as well as the reasons for changes in the reported DG5 figures during the report year. It distinguishes between those problems that have been solved as a result of action by the company and those which come from better information. (Properties should be reported under either the 1 in 20, 1 in 10 or the 2 in 10 category.)

**Guidance lines 1 to 11**

**Flooding incidents**: All incidents of internal flooding of properties should be reported in the table under the appropriate category. The table requires that the company report flooding by property and the number of incidents.

For the purpose of the return, all flooding incidents caused by the overloading of sewers (which cannot be attributed to other causes, such as blockages or collapse) must be reported under the heading of overloaded sewers. This includes flooding incidents caused by severe storms which may be outside the company's design standard for a particular sewer. Properties affected by a flooding incident should be placed into an appropriate risk category under incidents due to overloaded sewers unless there is positive identification that the flooding was due to blockage, collapse or equipment failure.

**Properties experiencing repeat flooding due to other causes (line 7)**

We are now collecting data on properties which have experienced repeat flooding due to other causes. This is to enable us to gauge the extent of the problem and may help inform investment decisions for the price control in 2010. We expect the company to keep a record of properties which have flooded more than once due to other causes. Initially we will use a ten year period for repeat flooding. This may be revised depending on the data received.

**Internal and external flooding**

Table 3a collects data on external flooding. For lines 1 to 11 of table 3, the following rules should apply:

- All incidents of internal flooding should be recorded regardless of any previous or subsequent external flooding events;
- If a property is flooded both internally and externally during the same event, it should be recorded as an incident on table 3 only;
- If a property has mitigation which prevents an internal flooding incident but the property still floods externally this incident should be reported in table 3a line 1, however the property should still remain on the internal risk register as explained below.

See the guidance for "Properties at risk" for the treatment of properties flooding both externally and internally.

**Guidance lines 12 to 33**

It should be noted that DG5 measures the frequency of flooding incidents in properties and not the return period of the storm that causes the flooding.

Properties at risk of flooding will be identified by a number of methods:

- historical information on actual flooding incidents; or
- a verified hydraulic model. (Verified means that properties indicated as at risk are known to have flooded, or there is good reason to believe that unreported flooding has occurred, or changes in the network or properties draining to the system clearly put the property in the at risk category although insufficient time has elapsed for actual flooding to have arisen).

When a previously unreported property is flooded, it should be entered onto the register under an appropriate risk category. It should normally be considered to be at risk and added to the 1 in 20 category unless:

- investigation clearly shows that it is at risk of flooding more frequently than once in ten years, then it should be added to the once in ten years category, or is at risk of flooding more frequently than twice in ten years, then it should be included in the twice in ten year category;
- the storm was exceptionally severe and investigation shows that it is clearly not at risk of flooding as frequently as once in twenty years and the severity of the storm can be verified (e.g. by the Meteorological Office); or
- the cause was a blockage, etc.

In all cases, the decision as to whether a property is to be reported, as being at risk should be taken in the context of the aim of the indicator, as set out above.

If a problem is identified and resolved during the report year, it should be entered in the balance sheet as a new problem and as a problem resolved during the same year. (This ensures that the company is reporting the number of problems resolved by company action).

Flooding is not always reported. Therefore, when an incident is reported, the company is expected to investigate the extent of the problem and the number of surrounding properties that were affected. These should then be reported in the relevant categories (at risk and incidents). Where the cause of flooding at a property is still unknown at the time of compilation of the return, then that property must be categorised as affected by internal flooding due to overloaded sewers, and placed in the appropriate risk category.

All properties which have flooded must be entered in the DG5 register, although those meeting the defined exclusion criteria are not reported as being at risk for the DG5 indicator. Properties that have not flooded for the last 10 years should be reported in line 16 and the company should take action to confirm if the property is still at risk. This should include

examination of the cause of the property initially being put on the register, and could include interviews with residents and hydraulic modelling.

A flooded property should appear on either the internal risk register or the external risk register, but not both. For example:

- A property that has flooded internally and subsequently floods externally should not be added to the external register but kept on the internal register. However, this property should be recorded in the annual flooding summary part of table 3a if it has flooded externally during the report year;
- A property that has only flooded externally and then floods internally should be removed from the external "at risk" register and placed on the internal "at risk" register; or
- A property should not move from the internal to the external register even if it floods internally once and all subsequent flooding events are external, unless action is taken to remove the risk of internal flooding.

**Restricted toilet use (RTU):** A property suffering from RTU should not be automatically deemed at risk of internal flooding and placed on the register. There may be circumstances where the property is genuinely at risk of flooding for example, if proved to be so by hydraulic modelling or if it is associated with a group of other properties which have flooded internally. We expect the company to be able to justify the addition of any property experiencing only RTU to the at risk register. We are collecting this data to help us gauge the extent of the problem and may be helpful in informing future investment. A property that is suffering from restricted toilet use because of a mitigation measure e.g. a flap valve should not be included in the return. This property should already be included on one of the at risk registers to warrant the mitigation measure.

**Mitigation**: Mitigation is a temporary solution which lowers but does not eliminate the risk of a property flooding due to hydraulic overload. The company should only install mitigation measures if the flooding is not moved to cause further problems elsewhere. If mitigation measures have to be installed to neighbouring properties to prevent them flooding as part of the overall mitigation solution and the neighbouring properties have never flooded then only the properties that have flooded should be counted in the total number of properties mitigated. A property that is on the 1 in 10 risk register should **not** be moved off the 1 in 10 register or to the lower risk category of 1 in 20 as a result of not flooding due to mitigation measures.

Where such a property is flooded as a result of failure of the mitigation, it should be reported as an overloaded sewer incident.

Properties protected by mitigation measures, reported in lines 18, 19, 26 and 27, should include those where mitigation was installed in earlier years and still reduces the risk of flooding at that property.

**Movements between registers**

Some companies move properties between the risk registers if they have not flooded for a certain period. We do not expect to see properties that have ‘timed out’ being added back on to the register due to reflooding. The company should use its commentary to inform us if ‘timed out’ properties are being added back on to the register.

**Lower risk**

We are collecting data on lower risk internal flooding (for properties at risk of flooding more frequently than once in twenty years but less than once in ten years). Lower risk flooding should not be included in lines 22 - 25 of table 3 to allow for comparison with previous years data. Lines 30 to 33 should be used to record movements on and off the 1 in 20 register.

**Problem status of properties on register**

In the final determination we stated that by March 2007 all schemes to solve new arisals of sewer flooding should be subject to cost benefit analysis. Where a scheme has been deemed not cost beneficial we expect the company to try to mitigate the flooding. We expect the company to provide details to the reporter showing which of your known problems are not cost beneficial, which are awaiting a solution, and which have received mitigation measures. The data should be in priority order. New additions to the information, which have not yet been appraised, should also be clearly marked.

**Cost calculations**

We will require cost information for sewer flooding schemes to be submitted in the company's business plan for the next review. The company should therefore ensure that they keep a record of their outturn costs for SBP schemes.

**Methodology statements**

The company is expected to include their methodology statements with each Annual information return. The statement should include

- How a property is added to the at risk register from the initial flooding incident, for example what investigation is carried out immediately after the incident, which register it goes on to;
- How properties are moved between the 1 in 10, 2 in 10 and 1 in 20 risk registers;
- Mitigation – how a company approaches mitigation, how a mitigated property is treated on the at risk register;
- Restricted toilet use – how properties affected are substantiated;
- Definition of severe weather – how the company determines whether a property was flooded due to severe weather; and
- If the methodology for external flooding is the same as internal flooding the company should state this. However a definition of what is counted in the 'curtilage', 'highway' and 'other' categories should be included.
- How cost benefit analysis is applied to properties on the registers.

**Records**

The company must maintain verifiable records for DG5. The aim of the records is to provide an auditable method for identifying the specific, properties which are affected by flooding or are at risk of experiencing flooding.

**The DG5 Register**: As part of these records the company must maintain a DG5 register which should form a database of all properties which are at risk of experiencing sewer flooding more than once in twenty years. It will enable the identification by address of individual properties which are below the reference level and should also contain information on (for example) complaints and the results of their investigation, problems which are attributable to customers apparatus and properties which experience sewer flooding but are covered by one of the allowable exclusions.

The register must clearly identify those properties below the reference level, distinguish them from those which have flooded but are not below the reference level and provide a verifiable reason for the exclusion (e.g. flooding was a result of a blockage).

The records should include:

- date of incident;
- properties affected identified by address;
- cause of flooding (including source and reason, where known);

- action taken;
- name of the persons completing the records;
- the 'at risk' category for reporting under DG5;
- if a property on the register is not reported as being at risk under DG5, the reason should be stated; and
- if the internal and external registers are held in the same database then the problem needs to be identified as either an internal or external flooding problem.

**Company commentary**

The company should:

- comment on significant year on year changes in reported figures;
- comment on the number of properties reported under internal flooding due to overloaded sewers because no other cause has been positively identified for flooding incidents at those properties;
- state whether any allowance has been made for problems as yet undiscovered;
- include the return periods of severe weather incidents reported in line 4 and the number of properties flooded in each incident;
- include a table in the commentary showing the number of properties that have experienced repeat hydraulic flooding in the report year and the number of times they have flooded;
- state any assumptions made in reporting the figures in the balance sheets;
- comment on the reason why, and number of, individual properties, which are added and then removed from the at-risk register during the report year. For example, this might include: properties added to but subsequently removed from the at risk register in the report year due to the rainfall event associated with the flooding incident being assessed as 'severe weather' or; properties which are added to but subsequently removed due to company action during the report year;
- comment on the company's policy on provision of mitigation measures and state:
  - the number of internal or external problems where mitigation measures were installed during the report year and separately identify how many were installed where a full capital solution may not be cost beneficial;
  - the total number of properties which are benefiting from mitigation at the end of the year;
- report on the number of internal and external outputs delivered from the sewer flooding early start programme, and whether any outputs or schemes remain outstanding at the end of the year;
- comment on its policy on determining which schemes are cost beneficial;
- comment on progress of the programme relative to the profile of internal problems solved shown in the determination. State any reasons behind any significant variances from the assumed profile of outputs in the report year;
- comment on any significant changes to the number of net additions to the register from those estimated in the final business plan;
- state the number of 'unknown cause' properties affected by flooding incidents which have been placed in the overloaded sewer category; and
- provide commentary on the number of properties added to the once in twenty years "at risk" register which have not been positively identified as being at risk of flooding less frequently than once in ten years but more frequently than once in twenty years.

**Guidance to Reporters**

Reporters should comment on:

- whether data collection methods used are appropriate to meet NIAUR's reporting requirements and are clearly set out in the methodology statement;
- whether all assumptions have been disclosed and their materiality;

- the appropriateness of the confidence grades assigned;
- the efficacy of the methodologies used and the quality of data employed by the company to identify severe weather events;
- the quality of the data supplied for internal and external flooding and the methodologies used to collect it;
- the numbers reported in the additions/removals lines in the balance including minimum design storm return periods for properties removed by company action;
- the accuracy of reporting with respect to non cost beneficial problems.Please detail the number of schemes on the list that have been checked;
- whether the prioritisation process has changed; and
- if the company 'times out' properties from the register reporters should check how many of these are being added back on to the register and comment on the reasons for this;
- whether the approach to cost benefit analysis is appropriate.

# Table 3 line definitions

## A ANNUAL FLOODING SUMMARY

| | | | |
|---|---|---|---|
| **1** | Number of domestic properties connected to sewerage system | 000 | 4sf |
| **Definition** | The number of domestic connected properties connected to the sewerage system within the company's area at the end of the year. The number should include any property connected for surface water drainage only and is billed. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

### (i) OVERLOADED SEWERS

| | | | |
|---|---|---|---|
| **2** | Properties flooded in the year (overloaded sewers) | nr | 0dp |
| **Definition** | The number of properties affected by internal flooding incidents due to overloaded sewers. This should include properties where an uninhabited cellar is the only part affected by the flooding. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **3** | Flooding incidents in the year (overloaded sewers) | nr | 0dp |
| **Definition** | The number of incidents of internal flooding caused by overloaded sewers. This should include properties where an uninhabited cellar is the only part affected by the flooding. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **4** | Flooding incidents (overloaded sewers attributed to severe weather) | nr | 0dp |
| **Definition** | The number of incidents of internal flooding caused by overloaded sewers in properties which are known to be not at risk of flooding more frequently than once in ten years. Accordingly, this line's enumeration includes flooding incidents caused by severe storms which affect properties that are not at risk of flooding more frequently than once in ten years.<br><br>The company should use the commentary to report the number of flooding incidents caused by severe weather at properties that are already known to be at risk of flooding from sewers more frequently than once in ten years.<br><br>The company should include the rainfall return periods for the incidents reported in the commentary<br><br>Incidents of flooding via the sewers caused by overflowing watercourses should be excluded. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **5** | Props. where flooding limited to uninhabited cellars only (o/loaded sewers) | nr | 0dp |
| **Definition** | The number of properties where only uninhabited cellars were affected by internal flooding incidents due to overloaded sewers. In these instances the flooding must have entered the uninhabited cellar directly (i.e. not from another part of the property).<br><br>A property affected by more than one incident under this definition is reported as one property in this line. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

**(ii) OTHER CAUSES**

| | | | |
|---|---|---|---|
| **6** | Properties flooded in the year (other causes) | nr | 0dp |
| **Definition** | The number of properties affected by flooding incidents from equipment failures, blockages or collapses (collectively grouped as other causes). This should include properties where an uninhabited cellar is the only part affected by the flooding.<br><br>A property affected by more than one incident under this definition is reported as one property in this line. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **7** | Properties which have flooded more than once in the last 10 years (other causes) | nr | 0dp |
| **Definition** | The number of properties which have experienced multiple incidents of internal flooding in the last 10 years caused by blockages, collapses and equipment failure. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **8** | Flooding incidents (other causes – equipment failure) | nr | 0dp |
| **Definition** | The number of incidents of internal flooding caused by the failure or incorrect operation of company apparatus (e.g. non-return (flap) valves, pumping stations, maintenance equipment, penstocks, combined sewer overflows, or real time control systems). | | |
| **Primary Purpose** | Confirming delivery of key outputs and service | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **9** | Flooding incidents (other causes – blockages) | nr | 0dp |
| **Definition** | The number of incidents of internal flooding caused by a complete or partial blockage of the sewer (including siltation) where the sewer itself is still intact. If the blockage is the result of a fracture or deformation of the pipe, it should be included in the 'other causes – collapses' category. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **10** | Flooding incidents (other causes – collapses) | nr | 0dp |
| **Definition** | The number of incidents of internal flooding caused by the collapse of a sewer. This line's enumerator should also include incidents due to fracture or deformation. (This does not affect the definition of collapse for reporting in table 16). | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **11** | Props. where flooding limited to uninhabited cellars only (other causes) | nr | 0dp |
| **Definition** | The number of properties where only uninhabited cellars were affected by flooding incidents due to equipment failures, blockages or collapses (collectively grouped as other causes). In these instances the flooding must have entered the uninhabited cellar directly (i.e. not from another part of the building).<br><br>A property affected by more than one incident under this definition is reported as one property in this line. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

## B PROPERTIES ON THE AT RISK REGISTER
### (i) AT RISK SUMMARY

| | | | |
|---|---|---|---|
| **12** | 2 in 10 risk at end of year | nr | 0dp |
| **Definition** | The number of properties at risk of flooding twice or more in ten years at the end of the year. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **13** | 1 in 10 risk at end of year | nr | 0dp |
| **Definition** | The number of properties at risk of flooding more than once in ten years (but less than 2 in 10) at the end of the year. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **14** | Total 1 in 10 and 2 in 10 properties at risk at end of year | nr | 0dp |
| **Definition** | The total number of properties at risk of flooding more than once in ten years and twice in ten years at the end of the year.<br><br>Validation check: The sum of lines 18,19,20 and 21 should total line 14 (the total number of properties at risk at least once in ten years).<br><br>Validation check: line 14 previous year – (current year line 22 + line 23) + (current year line 24 + line 25) = line 14 current year. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Calculated: the sum of lines 12 and 13 | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **15** | 1 in 20 risk at end of year | nr | 0dp |
| **Definition** | The number of properties at risk of flooding more than once in twenty years (but less than 1 in 10) at the end of the year.<br><br>validation check that lines 26 to 29 add up to line 15<br>validation check line 15 previous return - (line 30 + line 31) +( line 32 + line 33) = line 15 current year) | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **16** | Props. at risk but not flooded in the past 10 yrs (excl. severe weather) | nr | 0dp |
| **Definition** | The total number of properties at risk of flooding more than once in ten years but which have not flooded in the last ten years (excluding severe weather). | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **17** | Properties not at risk of flooding internally but suffering restricted toilet use (RTU) | nr | 0dp |
| **Definition** | The total number of properties not at risk of flooding internally but who suffer from restricted toilet use due to the sewers being hydraulically overloaded more than once in twenty years (excluding severe weather).<br><br>Restricted toilet use is defined as the inability of the customer to flush their toilet without the risk of the toilet backing up and flooding the property. Properties that have received mitigation measures that cause RTU such as flap valves should NOT be included in this line. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

### (ii) PROBLEM STATUS OF PROPERTIES ON THE REGISTERS

| | | | |
|---|---|---|---|
| **18** | Cost beneficial problems where risk is reduced temporary measures (mitigation) | nr | 0dp |
| **Definition** | The total number of properties registered as being at risk at least once in ten years (lines 12 and 13) which have received a temporary solution to reduce risk of flooding and where the company has assessed that a permanent solution would be cost beneficial. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **19** | Non cost beneficial problems where risk is reduced by temporary measures (mitigation) | nr | 0dp |
| **Definition** | The number of properties registered as being at risk at least once in ten years (lines 12, and 13) where the company has assessed that it is not cost beneficial at the present time to provide a permanent solution but which have received a temporary solution (mitigation) to reduce the risk of flooding. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **20** | Cost beneficial problems without mitigation awaiting solution and those which have not been appraised | nr | 0dp |
| **Definition** | The number of properties registered as being at risk at least once in ten years (in lines 12 and 13) where the company has assessed that a permanent solution is cost beneficial but have not yet received a permanent solution and do not have mitigation plus those properties which have not yet been appraised and therefore it is not known whether they are cost beneficial or if mitigation is suitable.<br><br>Note this line includes properties where mitigation is not appropriate or where a customer had refused mitigation but a full capital solution is assessed to be cost beneficial. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **21** | Non cost beneficial problems without mitigation | nr | 0dp |
| **Definition** | The number of properties registered as being at risk at least once in ten years (in lines 12 and 13 which do not have temporary protection to reduce risk and where the company has assessed that a permanent solution is not cost beneficial.<br><br>Note: these may be properties where mitigation measures are not appropriate or where a customer has refused mitigation. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

### (iii) ANNUAL CHANGES TO 2 IN 10 & 1 IN 10 REGISTERS

| | | | |
|---|---|---|---|
| **22** | Removed by company action | nr | 0dp |
| **Definition** | The number of properties removed from the 1 in 10 and 2 in 10 "at risk" register by company action. These are properties removed from being at risk of flooding due to company action such as sewer enhancement which is linked to capital investment (for capital maintenance, ESL or SDB purposes) in the sewerage system.<br><br>The company should use the commentary to explain the reasons why and the number of individual properties added to and subsequently removed from the "at risk" register during the report year.<br><br>There must be clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **23** | Removed because of better information | nr | 0dp |
| **Definition** | The number of properties removed from the 1 in 10 and 2 in 10 "at risk" register because of better information. This category is defined as changes resulting from better quality information such as improved knowledge of the sewerage system (e.g. extended modelling, better estimates of figures). This number will include properties previously thought to have been at risk but where investigation has subsequently shown the problem to have been, caused by reasons other than overloading (e.g. a blockage or collapse). The line should also include properties, which were incorrectly identified as being at risk in previous years.<br><br>The company should use the commentary to explain the reasons why and the number of individual properties added to and subsequently removed from the "at risk" register during the report year.<br>There must be clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |

| | |
|---|---|
| **Processing rule** | Input |
| **Responsibility** | Comparative Efficiency & Performance Team |

| | | | |
|---|---|---|---|
| **24** | Added because of better information | nr | 0dp |
| **Definition** | The number of properties added to the 1 in 10 and 2 in 10 "at risk" register as a result of better quality information such as improved knowledge of the sewerage system (extended modelling, better estimates of figures, etc). Properties identified in this category will have been below the reference level in the previous year but not identified.<br><br>There must be a clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **25** | Added because of increased demand | nr | 0dp |
| **Definition** | The number of properties added to the 1 in 10 and 2 in 10 "at risk" register as a result of increased demand for wastewater disposal. For additions to this line it must be possible to demonstrate that in the past the relevant assets were adequate and the affected properties were not at risk of flooding more frequently than the reference level. Thus the additions will have arisen as a result of new connections to the network or where the operation of the system has changed since the last technical assessment (i.e. the load on the system has been increased by new development or a change in the aggregation of flows has resulted in inadequate capacity).<br><br>There must be a clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

### (iv) PROBLEM STATUS OF PROPERTIES ON THE 1 IN 20 REGISTER

| | | | |
|---|---|---|---|
| **26** | Cost beneficial problems where risk is reduced temporary measures (mitigation) (1 in 20) | nr | 0dp |
| **Definition** | The total number of properties registered as being at risk at least once in twenty years (line 15) which have received a temporary solution to reduce risk of flooding and where the company has assessed that a permanent solution would be cost beneficial. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **27** | Non cost beneficial problems where risk is reduced by temporary measures (mitigation) (1 in 20) | nr | 0dp |
| **Definition** | The number of properties registered as being at risk at least once in twenty years (line 15) where the company has assessed that it is not cost beneficial at the present time to provide a permanent solution but which have received a temporary solution (mitigation) to reduce the risk of flooding. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **28** | Cost beneficial problems without mitigation awaiting solution and those which have not been appraised (1 in 20) | nr | 0dp |
| **Definition** | The number of properties registered as being at risk at least once in twenty years (in line 15) where the company has assessed that they are cost beneficial but have not yet received a permanent solution and do not have mitigation plus those properties which have not yet been appraised and therefore it is not known whether they are cost beneficial or if mitigation is suitable.<br><br>Note this line includes properties where mitigation is not appropriate or where a customer had refused mitigation but a full capital solution is cost beneficial. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **29** | Non cost beneficial problems without mitigation (1 in 20) | nr | 0dp |
| **Definition** | The number of properties registered as being at risk at least once in twenty years (in line 15) which do not have temporary protection to reduce risk and where the company has assessed that a permanent solution is not cost beneficial.<br><br>Note: these may be properties where mitigation measures are not appropriate or where a customer has refused mitigation. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

### (iii) ANNUAL CHANGES TO 1 in 20 REGISTER

| | | | |
|---|---|---|---|
| **30** | Removed by company action (1 in 20) | nr | 0dp |
| **Definition** | The number of properties removed from the 1 in 20 "at risk" register by company action. These are properties removed from being at risk of flooding due to company action such as sewer enhancement which is linked to capital investment (for capital maintenance, ESL or SDB purposes) in the sewerage system.<br><br>The company should use the commentary to explain the reasons why and the number of individual properties added to and subsequently removed from the "at risk" register during the report year.<br><br>There must be clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **31** | Removed because of better information (1 in 20) | nr | 0dp |
| **Definition** | The number of properties removed from the 1 in 20 "at risk" register because of better information. This category is defined as changes resulting from better quality information such as improved knowledge of the sewerage system (e.g. extended modelling, better estimates of figures). This number will include properties previously thought to have been at risk but where investigation has subsequently shown the problem to have been, caused by reasons other than overloading (e.g. a blockage or collapse). The line should also include properties, which were incorrectly identified as being at risk in previous years.<br><br>The company should use the commentary to explain the reasons why and the number of individual properties added to and subsequently removed from the "at risk" register during the report year.<br><br>There must be clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **32** | Added because of better information (1 in 20) | nr | 0dp |
| **Definition** | The number of properties added to the 1 in 20 "at risk" register as a result of better quality information such as improved knowledge of the sewerage system (extended modelling, better estimates of figures, etc). Properties identified in this category will have been below the reference level in the previous year but not identified.<br><br>There must be a clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

| | | | |
|---|---|---|---|
| **33** | Added because of increased demand (1 in 20) | nr | 0dp |
| **Definition** | The number of properties added to the 1 in 20 "at risk" register as a result of increased demand for wastewater disposal. For additions to this line it must be possible to demonstrate that in the past the relevant assets were adequate and the affected properties were not at risk of flooding more frequently than the reference level. Thus the additions will have arisen as a result of new connections to the network or where the operation of the system has changed since the last technical assessment (i.e. the load on the system has been increased by new development or a change in the aggregation of flows has resulted in inadequate capacity).<br><br>There must be a clear and auditable links between the company's registers and the DG5 balance sheet. | | |
| **Primary Purpose** | Confirming delivery of key outputs and service. | | |
| **Processing rule** | Input | | |
| **Responsibility** | Comparative Efficiency & Performance Team | | |

# CHANGE CONTROL SHEET
# CHAPTER 3

| | |
|---|---|
| 2008/1.0 | First issue of chapter for the SBP period |
| | |
| | |