

**Table 16 – Sewerage Service Activities (NI Water only)**

## 1. Introduction

Network activities provide a good measure of work achieved, provided that they can be related to associated investment. The investment breakdowns included in these reporting requirements provide this linkage, with the separation of base service expenditure from that related to enhancements on Table 36.

## 2. Key findings

Criteria	RAG	Assessment
Independent review of performance and reporting	Amber	Concern that blockages are considerably higher than industry averages
Methodology	Blue	Methodology may lead to overstatement of time to repair blockages
Assumptions	Blue	Assumptions may lead to overstatement of time to repair blockages
Source data	Green	Source data is clearly identified, complete beyond material concern, well managed through to accurate systems input
Clarity of audit trails	Blue	Improvements required to more clearly identify the WwTW's which have failed each compliance category
Confidence grades	Amber	Confidence grades for lines 13a-c should be reduced from A2 to B4. Lines 24 and 24a should be A2, not C5.
Governance	Green	Responsibilities for integrity of data and commentary clearly defined. Good evidence of engagement and of final sign-off.

- The number of unsatisfactory intermittent discharges has been reduced significantly this year.
- Whilst the number of reported collapses deteriorated slightly for AIR15, the number of blockages are improving year on year, but are still very high when compared to E&W water companies.
- There was a significant increase in the number of blockages occurring on public laterals reported for AIR15, suggesting a change in reporting practice.
- The Company are able to report on the time required to repair a blockage (Lines 13a-13c), although they are unable to distinguish between actual blockages and cancelled/follow on jobs, and as such may have overstated the number of blockages that have required in excess of 6 hours to repair.
- As the methodology for lines 12 to 13 is able to differentiate between failures on the main sewer and failures on laterals, we support a confidence grade of B3. For Lines 13a to 13c, we support a confidence grade of B4, reflecting the fact the Ellipse system doesn't distinguish between actual blockages, follow on jobs, cancelled jobs or repeat calls.
- NI Water's cumulative number of drainage area plans completed (reported in Lines 18) has reduced due to a change in methodology which we consider to provide a more robust assessment of this dataset.
- We audited the reported data and challenged the processes on a sample basis. Except where detailed below, we consider the data reported in the table is robustly prepared using systems and process that are appropriate and in line with the reporting requirements and that are properly implemented with effective quality control and governance arrangements

## 2.1 Key recommendations

- For Sewage Treatment Compliance Measures (Lines 23-24a) we recommend that the data trail be made more robust by clearly communicating the sites that have failed in either category (9<sup>th</sup> percentile or upper tier) or both categories.
- We located no material issues with the data presented by NI Water for Nominated Sewerage Service Outputs (Lines 25-27). We do however recommend that the beneficial use date, which is the underlying basis for the data contained in these lines, be made more robust by utilising a more formal sign-off procedure which could confirm what is being signed off and that it is appropriate for reporting purposes.

## 3. Audit approach

The responsibility for the compilation of previous Table 16a is split between numbers of managers who collate information from a number of contributors, each of whom was audited. The audit consisted of an interview with the line owners to discuss the methodology and data used to generate this table. The systems and methodologies used to gather data were reviewed.

## 4. Company methodology

The Company issued the Reporter with a copy of their updated commentary. A copy of the data table was also provided. The methodologies for collection of data into the table remain unchanged from last year and continue to give generally good data with only minor short comings.

### 4.1 Asset balance (Lines 1 and 2)

The Company methodology is to use the data stated for AIR14 Table 16, lines 14 and 15.

### 4.2 Changes during Report Year (Lines 3 to 11)

For Sewerage Infrastructure changes during the report year, the reporting procedure is based on aggregating the data provided to the system holder.

### 4.3 Sewer collapses and blockages (Lines 12 and 13)

There were 86 collapses per 1000km and 1074 blockages per 1000km reported in 2014/15. Rising main failures account for 0.8% of collapses. The total number of blockages and collapses used to derive the metrics in Lines 12 and 13, are based on checked and paid contractor invoices for the numbers of blockages and collapses resolved.

Although the number of collapses per 1000km has slightly deteriorated during the year, the number of blockages continue to improve year on year. Although significant improvements are being reported, the number of blockages is still very high when compared to water companies in England and Wales.

As highlighted previously, NI Water are able to separately identify blockages occurring on the public main sewer, public laterals and private laterals, and have been reporting on this basis since April 2013. Additionally, NI Water developed a method of estimating the length of lateral sewers, using geospatial technology to create logical lateral sewers from properties to the sewer collection system. On the basis of this an extra 2155km of sewer has been estimated, although this derived length has not been added to the total length of sewer, which is used as the denominator for this metric.

We reviewed the breakdown of blockage and collapse data for 2014/15 and found that 5,245 of the 16,729 blockages (31%) and 60 of the 1336 collapses (4%) occurred on public laterals. When compared to recent years, the number of blockages on public laterals has increased significantly from that reported previously (2% in 2013/14), and now makes up a significant proportion of the total number of blockages. Whilst the overall number of blockages is similar to that reported previously, it appears that the maintenance contractor has improved/changed their reporting of these incidents, by allocating more blockages to public laterals. We had previously suspected that blockages on laterals was a possible explanatory factor for the large number of blockages reported, however, the evidence (until now) didn't support it.

When reported separately, NI Water has reported 737 blockages/1000km on the public main sewer and 2,434 blockages/1000km on the lateral network. Even by separating out blockages on the sewer with those on laterals, NI Water is still an outlier and experiences a significantly higher number of blockages than comparable E&W water companies, who are reporting in the order of 10 collapses/1000km and 200 blockages/1000km.

In order to reduce the gap in performance, the Company has adopted a more proactive response to repeat blockages, whereby a dedicated CCTV crew has been assigned to each area to complete CCTV inspections on all blockage hotspots and carry out cleaning, desilting and repairs, where problems are identified. For AIR15, the Company has reported a further 8% reduction in blockages, which supports their ongoing focus on targeting repeats blockages. Since the introduction of a proactive response to repeat blockages (in 2013/14 following or AIR13 recommendations), the Company has reported a 20% reduction in blockages.

Whilst the above strategy is delivering results in reducing the number of blockages, the number of collapses are increasing, suggesting parts of their sewerage infrastructure are structurally deficient. As recommended previously, we believe that the implementation of a targeted Sewer Mains Rehabilitation Programme (SMRP) would ensure the replacement of poorly performing sewerage infrastructure and help to further reduce the number of collapses (and blockages) experienced each year.

In order to report on the time to repair blockages in Table 16 L13a-13c, NI Water now run a monthly report in 'Ellipse' which confirms the length of time a sewer blockage job took to be completed. We found that the 'Ellipse' system provides details of all work requests raised, relating to blockages, and doesn't distinguish between actual blockages, follow on jobs, cancelled jobs or repeat calls. As such, NI Water is likely to have overstated the number of blockages exceeding 6hrs and 12hrs as reported in lines 13a and 13b. For those blockages exceeding 24hrs, the Company has undertaken a manual review of all incidents to ensure only incidents that exceeded 24hrs were included.

We undertook a detailed review of the Ellipse blockage data for two of the months in 2014/15 (April and November) and were able to confirm a number of the anomalies with the data that required manual adjustment, including;

- Circa 48% of the blockages exceeding 24hrs were cancelled jobs, circa 40% of the blockages exceeding 24hrs were follow on jobs from the original blockage and circa 2% related to non-blockages. Only 10% of blockages exceeding 24hrs on Ellipse actually related to blockages that took in excess of 24hrs to repair.
- A large number of jobs with a negative time entry were apparent, i.e. the job was completed before it was raised. We found that these jobs were raised by the Field Manger in the field and completed before the job was raised on Ellipse. These entries account for <5% of the total monthly work requests, and appear to have been completed within 6 hours.

Conversely, there were also a number of jobs that were raised and then cancelled, but were not closed out in Ellipse, thus recording a large job duration (circa 70m hours). These entries also account for circa 5% of the total monthly work requests.

#### 4.4 Asset balance at March 31 (Lines 14 and 15)

Lines 14 and 15 are taken directly from the Company's GIS system. The queries used to extract the data for line 15 are based on the WRc methodology for critical sewers, where there is a degree of extrapolation and estimation based on the difference between the GIS data available and actual infrastructure.

#### 4.5 Intermittent discharges (Lines 16a, 16a, 17b and 17b)

The methodology for Lines 16a and 16b remains unchanged from that agreed in AIR11 when a baseline number of UIDs was initially determined. This value has been applied as a baseline value since AIR 11, with values for subsequent years being calculated through adjustment of known improvement works only. The actual list of UIDs is subject to ongoing verification by NI Water and NIEA but the baseline remains fixed. Data is compiled and extracted within a single, controlled spreadsheet.

The methodology for Lines 17a and 17b remains unchanged from last year. Information is based on the total number of sewerage system overflows from wastewater pumping stations and treatment works which were initially compiled from Company GIS systems and now monitored and controlled within a live spreadsheet. Information for Lines 17a and 17b is extracted from the Asset Performance Team Data which is updated throughout the year. Changes to the master spreadsheet are initiated through either a change in consent (via NIEA), a correction to an existing consent (via NI Water Environmental Regulation Team), changes resulting from a project (via EP), or site observations made by NI Water Operations. In addition, changes are only made to the database when signed up to by the business unit which allows robust control of the information. Details of the additions and removals are fully documented in Company commentary.

The Regulator guidance on the preparation of Lines 16a and 17a is not explicit but NI Water has continued their methodology from last year. The information for Line 16a and 17a (historic from AIR11) is only based upon combined pumping station overflows. Foul-only pumping station overflows are not included as they do not have a formal NIEA classification. Similarly, overflows within the boundaries of WwTWs are not included in Line 16a as it is expected that they would be classified as improvements to works. The total number of overflows at works are however included in Line 17a. There is a possible discrepancy in information, but year on year reporting is consistent. An estimate of the number of foul-only pumping station UIDs and WwTW UIDs is not known.

For Lines 16a - 17b, the Company carries out a number of cross checks against source data and with relevant internal departments to check and challenge information included in the database. Evidence of quality control was observed in the master spreadsheets which contain cells to highlight when a works consent condition or status has changed. Changes from year to year are generally clear and auditable.

#### 4.6 Drainage area plans (Lines 18 and 22)

For drainage area planning the system holder, who is new for this reporting period, manages the process of procuring the modelling work that NI Water utilise to undertake their DAPs. The records to demonstrate increases in the data is typically provided through letters of appointment and the delivery of the consultants reports.

#### **4.7 Sewerage treatment compliance measures (Lines 23, 24, 24a)**

Data for Lines 23, 24 and 24a are taken directly from listed consent data and collated for all wastewater treatment works. The data is compiled and queried within a single spreadsheet to enable percentages to be calculated. Consent data is updated at the start of the year and based on those defined by NIEA.

For the purposes of the line total, the total number of WwTW with numeric consent is taken as 230 (excluding the 6 PPP sites) and is an identical list to that defined by NIEA. A site is deemed to have failed its consent if it exceeds the number of allowed fails or it exceeds the upper tier limit value (if specified) in accordance with NIEA definitions. The total number of consent failures is based on records of all samples taken and is recorded and extracted from LIMS.

Population equivalents (PE) applied to Lines 24 and 24a are based on those defined in the latest works consent by NIEA and hence differ slightly from those listed by NI Water in other line totals (which are based on current best estimates). In AIR15, the PEs are based the PE data used at AIR13. The line totals hence include those sites with a consented PE of >250, even if that site has subsequently been reduced to <250 actual PE. Non-resident (tourist) populations are included in line with NIEA reporting and in accordance with the reporting guidelines. Sampling periods for consent compliance are based on calendar year.

#### **4.8 Nominated sewerage service outputs (Lines 25 to 27)**

The reporting procedure is based on utilising the PC13 nominated output list and extracting PC13 nominated output scheme data from CPMR which is then analysed to provide the required information. The focus of the data retrieval is to assess those schemes which have recorded beneficial use during the report year.

System data is extracted from the CPMR system and then analysed by the System holder and the associated data assistants. The information extracted from CPMR is maintained and controlled by the capital delivery team. The quality assurance of the extracted data is provided by the NI Water Reporting QA activity.

### **5. Audit findings**

#### **5.1 Asset balance (Lines 1 and 2)**

The total length of sewers at the start of the report year is consistent with the asset balance at the end of the previous year (Lines 14 and 15) and was carried forward correctly.

#### **5.2 Changes during Report Year (Lines 3 to 11a)**

##### **5.2.1 Data provided by Engineering Procurement and Developer Services**

The methodology remains the same as for AIR14 where we undertook a comprehensive review of the way data was compiled for these lines. We have confirmed the data reported by NI Water is aligned with the data we reviewed at audit. No issues were located.

##### **5.2.2 Data provided by Customer Services Directorate's external contractor**

Following on from AIR14 we have not completed a comprehensive audit of the data provided by CSD's external contractor. Although not material to the total changes made to sewerage infrastructure during the report year comprising in total only 0.7% of the total lengths reported in lines 3-11a.

### 5.3 Sewer collapses and blockages (Lines 12 to 13c)

The number of sewer collapses and blockages per 1000km is calculated based on other data as follows:

- line 12 (sewer collapses) = [table 46 line 32 (rising main failures) + table 46 line 33 (gravity sewer collapses)] / [table 16 line 14 (length of sewers at end of year)]
- line 13 (sewer blockages) = [table 46 line 36 (sewer blockages)] / [table 16 line 14 (length of sewers at end of year)]

### 5.4 Asset balance at March 31 (Lines 14 and 15)

The total length of sewers at the end of the reporting period is 15,581.51km, an increase of 1.1% from AIR14. The total length of "critical" sewers is 3,760.85 km at the end of the reporting period which is an increase of 0.75%. The proportion of critical sewers has stayed relatively static at 24.1%.

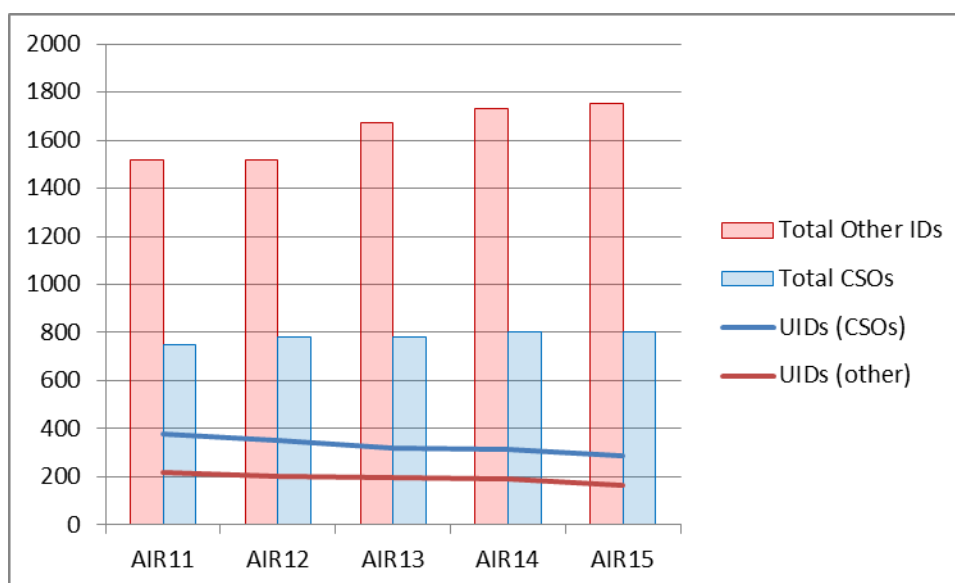
Based on the formulae, Lines 14 & 15 should be the summation of data entries from Lines 1 & 2 and Lines 3 to 11. However, NI Water does not follow this approach, instead opting to adjust Lines 14 and 15 to corrected figures obtained from their GIS database. This approach has allowed them to mitigate any legacy data issues and report a more appropriate value for the total lengths reported in Lines 14 and 15. As such, we consider this is a reasonable approach.

We confirmed the data extracted from the database and located no errors.

### 5.5 Intermittent discharges (Lines 16a, 16b, 17a and 17b)

During 2014/15 the Company has reduce the number of unsatisfactory intermittent discharges at CSOs by 24 (7%) and at other discharges by 31 (16%).

The value reported in line 16a is equal to the number of UIDs (excluding CSOs) reported in AIR11, less the number removed from the network through direct improvement works in AIR15. The net change to the totals in Lines 16a and 16b total are correctly calculated from the recorded changes to CSOs (-24) and other UIDs (-31). The relative change in numbers since AIR11 is presented in the chart below, indicating relatively consistent change over the last 4 years.



The Company provided a full breakdown of the changes to Lines 17a and 17b in their commentary including detailed tables in changes. Checks carried out against the master spreadsheet and for wastewater treatment works confirmed the numbers reported and the net result of the changes to the line totals. During our audit checks we identified a minor typographical error which was corrected by the Company.

There has been no change in the baseline used since last year as NIEA have not classified any additional IDs in this period. Although there has been some further reconciliation of ID numbers in Lines 17a and 17b, this approach appears appropriate.

## 5.6 Drainage area plans (Lines 18 to 22)

There have been no new drainage area plans completed during the report year however the reduction in the cumulative total is due to a methodology change from NI Water which we support. The change, as described in their methodology, has now removed the 13 catchments subject to completed scoping studies (Category B) as they do not include a model build and only form a high level drainage area needs assessment.

Although this has had a slightly negative affect overall we note that the methodology is more robust as a result. This reduction also cascades to Line 21 which has reduced by 4.9%. There has been no movement in the number of DAPs in progress. NI Water expect more progress to occur during the AIR16 period.

We can confirm that Lines 20-22 have been completed accurately and reflect the methodology described in NI Water's commentary for Table 16. Our checks on these lines included confirming the calculations, tracing the population, which is based on the AIR15 Actual PE (as opposed to design), back to the built up spreadsheets and discussions of the methodology with the system holder. We note that with the exception of the methodology change above all other Drainage Area Plan information is consistent with AIR14.

## 5.7 Sewerage treatment compliance measures (Lines 23, 24, 24a)

Checks against source data confirmed consistency with the reporting methods and with figures reported by NIEA. In total, 18 WwTWs failed their consent during AIR15, the majority by exceeding the number of allowed fails, although 4 sites failed against the upper tier limit. Of the 18 listed sites, two size band 5 sites ([ x ]) accounts for the majority of the non-compliant population. A full summary of the sites and their relative impact is listed below:

**Table 16.3 – Breakdown of AIR14 WwTW with consent failures**

Works Name	2014 Consented PE	Percentage of Total Population Equiv
[ x ]	17372	27.1
[ x ]	14006	21.8
[ x ]	7355	11.5
[ x ]	4034	6.3
[ x ]	3801	5.9
[ x ]	3448	5.4
[ x ]	2826	4.4
[ x ]	2669	4.2
[ x ]	2380	3.7
[ x ]	2170	3.4
[ x ]	1054	1.6

Works Name	2014 Consented PE	Percentage of Total Population Equiv
[ x ]	907	1.4
[ x ]	565	0.9
[ x ]	420	0.7
[ x ]	373	0.6
[ x ]	290	0.5
[ x ]	288	0.4
[ x ]	260	0.4

Of the above sites, the majority failed on number of allowed fails. It is noted that the largest site, [ x ], failed on the upper tier limit alone, although it had a number of listed fails within the allowed limit. The total in Line 24a should therefore be representative of the further exclusion of the four UT-only sites.

At audit we reviewed the calculations for Lines 23-24a and noted that our calculations materially agreed with a 0.1 difference showing up for Line 24 as a result of rounding error between our methodologies.

We noted at audit that the calculation for Line 24a can be open to interpretation as a site that fails on both a '95<sup>th</sup> percentile' basis and an 'Upper Tier' failure should not be counted. NI Water's Line Methodology which we reviewed states that the 4 sites that had an UT failure during AIR15 were UT failures only and therefore the calculation is considered to reflect its intended use. However we observed at audit that this was not clear in the data trail and therefore recommend that the data trail be made more robust by clearly communicating the sites that have failed in either category or both.

We noted that in our AIR14 commentary [ x ] was highlighted and a request for a statement was made which confirmed *"The upgrade will be completed during the PC15 Capital Works Programme and, as this work has a priority status of No.3, it is expected that construction will be completed by the end of 2016"*. We note that the works does not appear in the list of failing sites for AIR15.

## 5.8 Nominated sewerage service outputs (Lines 25 to 27)

### 5.8.1 Delivery of improvements to nominated UIDs as part of a defined programme of work (Line 25)

The Company is reporting that 19 of the 84 nominated UID improvement schemes have reached beneficial use during 2014-15. To confirm the data we sampled 5 of the 19 UIDs, all of which were found to be reasonable.

We note the process of data analysis takes the PC13 UID improvement programme and then utilises CPMR to confirm which schemes have a confirmed beneficial use date within the reporting year.

As part of our audit we also reviewed the methodology for the UID program including ORGs role in changes to outputs and the sign-off of completions. The audit queries were responded to comprehensively by NI Water.

### 5.8.2 Delivery of improvements to WwTW through nominated schemes as part of a defined programme of work (Line 26)

We reviewed the evidence presented by NI Water at audit and confirm that of the 38 WwTW improvements nominated at PC13 for the 2-year period. 16 WwTW outputs were correctly



claimed. As noted in NI Water's commentary we confirmed at audit that 18 WwTW nominated outputs were delivered in 2014-15. However only 16 had been claimed as:

- [ x ], which was delivered through Sub-Programme 17 (RWwIP), was stated as a separate nominated output as the upgrade increased the site to over 250 PE
- [ x ], which is part of the [ x ] scheme was a PC15 site which was delivered in PC13.

At audit we sampled 5 of the total 18 records. Initially we located 1 scheme ([ x ]) in CPMR, however from further discussion it was noted that the beneficial use date is the same as the operational date which was present. The error appears to be within the CPMR system itself however we are able to confirm that all 5 schemes sampled are satisfactorily translated from CPMR to the data table.

We therefore located no errors in the reported data.

### 5.8.3 Small WwTWs delivered as part of the rural wastewater investment programme (Line 27)

The small WwTW data has proved more of a challenge for NI Water to compile as the data is an aggregation of all small WwTW activity, which has made the retrieval of data a longer process. Improvements have been made in the tracking of the individual sites within the Small Wastewater Treatment Project, but as this improvement was not implemented until 2014/15. We were unable, therefore to view all the records directly on CPMR at audit. NI Water provided us with their newly instigated tracking spreadsheet for the data at our audit meeting. On review of the tracking spreadsheet we noted an inconsistency between the data presented and the "Actual Comm Date" in the tracking spreadsheet differed showing dates in April 2015. We confirmed that CPMR had appropriate dates for these sites, which were dated in the last few days of March 2015.

This was investigated post-audit and the response is stated below:

*"[ ] BOTH dates are correct. The "Actual Comm Date" stated in the financial tracking sheet is referring to the final commissioning of the site and occurs after the beneficial use has been achieved. The Beneficial use date is drawn from the CPMR system and is populated by the Project Manager of the contract, who has individual knowledge of each site, who updates the date once flows have been diverted through the new works."*

As a result of this response we can confirm that the data provided by NI Water is as described. We are minded however to question whether the blanket approach to all sites which achieve beneficial use needs to be reviewed by NI Water. For example a UID scheme should provide beneficial use on the day that it becomes operational (although there are reasons why it may not) however for treatment works upgrades this process is more complex, particularly for unit processes that require time to prove/commission such as biological processes. We would therefore suggest that the beneficial use date, which is the underlying basis for the data contained in these lines, be made more robust by utilising a more formal sign-off procedure which should confirm what is being signed off and that it is appropriate for reporting purposes. Currently for lines 26 and 27, there is a residual risk that the dates may not be fully robust, although for confirmation we consider it is unlikely to be material.

We located no errors in the reported data.

## 6. Assumptions

For other lines, no material assumptions have been noted. Data is reported based data provided to/held by the system holder.

## **7. Confidence grades**

### **Lines 1 to 2**

The Company has not changed the confidence grade for these lines from those reported at AIR14. We consider the values reported for AIR14 are still appropriate for AIR15.

### **Lines 3 to 11a**

The Company has assigned a C3 grade (5% to 10%) to Lines 3 & 8; a C4 grade (10% to 25%) to Line 4 and a B2 grade (1% to 5%) to Lines 5 to 7 and 9 to 11a. After high level consideration of the data methodology and audit discussions at our three audit meetings, we believe that the assigned confidence grades are appropriate based on the methodology used to produce the data.

### **Lines 12 and 13**

The Company has assigned a confidence grade of B3 to lines 12 and 13, on the basis the data is derived from checked and paid invoices, and relies on the total length of main (L14 CG B3) in its calculation. On this basis we support a B3 confidence grade.

The Company has assigned a confidence grade of A2 for Line 13a, 13b & 13c, as the data is derived directly from Ellipse. As highlighted above, whilst the Ellipse system provides details of all work requests raised, relating to blockages, it doesn't distinguish between actual blockages, follow on jobs, cancelled jobs or repeat calls. As such, NI Water is likely to have overstated the number of blockages exceeding 6hrs and 12hrs and reported in lines 13a and 13b. Whilst the Company has undertaken a manual review of all incidents to ensure only incidents that exceeded 24hrs were included, the sheer volume of incidents responded to in less than 24hrs has prevented the Company from completing a similar analysis. When compared to the total number of blockages reported in Line 13, derived from checked and paid invoices, Ellipse has recorded 25% more blockages. On this basis, you could assume NI Water has potentially overstated the number of blockages in Line 13a-13c by 25%. As such we recommend a B4 for Lines 13a to 13c.

### **Lines 14 and 15**

The Company has not changed the confidence grade for these lines from those reported at AIR14. We consider the values reported for AIR14 are still appropriate for AIR15.

### **Lines 16a and 16b**

The Company has not changed the confidence grade for these lines from those reported at AIR14. We consider the values reported for AIR14 are still appropriate for AIR15.

### **Lines 17a and 17b**

The Company has not changed the confidence grade for these lines from those reported at AIR14. We consider the values reported for AIR14 are still appropriate for AIR15.

### **Lines 18 to 22**

The Company has assigned an A1 grade (0% to 1%) to Lines 18 and 19, an A2 grade (1% to 5%) for Lines 20 to 22 and a B3 grade (5% to 10%) for Line 22. These confidence grades have been derived by NI Water on the basis of the methodology and where other data is used (such as the population data for Line 22) the confidence grade of that data has typically dictated the grade applied to the lines reported. After high level consideration of the data methodology and audit discussions, we believe that the assigned confidence grades are appropriate.

### **Lines 23, 24, 24a**

Confidence grades for Lines 23, 24 and 24a are newly assigned this year. The application of A1 to Line 2 is considered appropriate as the numbers used to calculate the percentage are

theoretically exact counts with no assumptions. As with other tables involving population equivalents, the Company initially proposed confidence grades of C5 to Lines 24 and 24a to reflect their lack of confidence in the accuracy in population estimates. However, the line is reporting a percentage of total consented PE values, the values of which are agreed with NIEA. From the Company's point of view, these values are essentially fixed (there is no data manipulation or estimation done by NI Water in producing the figures) and hence can be considered 'accurate' values. We therefore recommend a much higher confidence grade of B2 is applied to Lines 24 and 24a. The Company responded positively to this suggestion, but have maintained consistency with the population data confidence grades.

#### **Lines 25 to 27**

The Company has assigned an A2 grade (1% to 5%) to Lines 25 to 27. After high level consideration of the data methodology and audit discussions, we believe that the assigned confidence grades are appropriate based on the methodology used which involves a repetitive manual analysis from the CPMR system.

### **8. Consistency checks**

We can confirm that

- Lines 12 and 13 are consistent with Lines 35 and 37 of Table 46 and Line 14 of Table 16.
- The population equivalents used for categorisation of consents in Lines 23-24a do not match those used in Table 17b as they are based on consented populations defined by NIEA.