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# Northern Ireland Water Ltd Annual Information Return 2013

**Part 2 of 9 containing:  
Key Outputs - commentaries for tables 1 – 5a**

Public Domain Submission  
23 October 2013

Table 1 – Water Service – 1

**Commentary by REPORTER****1. Background**

The information and data collected in this table describes and quantifies the activities carried out by the Company in promoting water efficiency.

**2. Key Findings**

- We believe that the Company methodology and its application are appropriate to meet the Reporting Requirements.
- During the report year the Company identified that in previous submissions the number of supply pipe repairs (line 1) has included both household and non-household properties. The entry for AIR13 includes only household properties. The Company has also calculated the impact on previous returns, which suggest an over-reporting of ca. 12-15%.
- As the Company does not offer a free supply-pipe repair or replacement service it is unable to distinguish between external supply pipe leakage repairs and internal plumbing losses. Analysis by consultants has determined that offering a free supply pipe repair/replacement policy is not cost beneficial.
- The number of water efficiency devices distributed is based on actuals, with appropriate assessments of savings that are likely to be achieved, based on Ofwat report (Water Supply and Demand Policy, Ofwat, November 2008).
- The Company's Water Efficiency policies are in-line with those employed by water companies in England & Wales. NI Water makes more use of soft measures, so would be expected to achieve a higher installation rate and therefore be more efficient. However, the lack of domestic metering (customer have less incentives to save water) and not being funded to provide a free/subsidised supply-pipe repair/replacement policy limit the success of some of the measures.

**2.1 Recommendations**

As recognised by the Company it needs to code properties as either household or non-household when the leak notices are issued. Water companies in England and Wales, which offer a free/subsidised supply pipe repair/replacement to household (but not non-household) properties have a financial incentive to ensure the non-household properties are identified. Northern Ireland Water does not have the same financial incentive, but we recommend that properties are identified as either household or non-household at the time the leak notice is issued.

A longer term issue for NI Water is that customers are not charged for water to their usage. Unless charging becomes enforced, we could not see any significant savings from NI Water's activities being derived as there currently is no financial incentive.

We explained that in E&W the company's water saving target on BSWE is calculated as 1 litre per day per property. The total number of billed property is calculated from Table 7 Lines 6 and 10. If the target was calculated, it would be 0.76 MI/d for NI Water. It might be useful if the Company focuses on NHH customers which the target would be 0.08 MI/d. We added a couple of examples in E&W who focuses on NHH customers.

### **3. Audit Approach**

The audit comprised of an interview with the NI Water's system holders, a review of the Company methodology and a review of the table entries. We also undertook a consistency check between the table entries, commentary and the NIAUR Reporting Requirements.

### **4. Audit Findings**

#### **4.1 General**

##### **4.1.1 Leakage**

The number of supply pipe repairs has now fallen to a level consistent with that experienced before the freeze-thaw event in 2010-11.

The Company has identified that in previous submissions the number of supply pipe repairs (line 1) has included both household and non-household properties. All leak notices are recorded in a single database which did not distinguish between household and non-household properties. This database now includes a field to identify if properties are household or non-household. The entry for AIR13 includes only household properties, and the company has calculated the impact on previous returns, which suggest an over-reporting of ca. 12-15%.

##### **4.1.2 Water efficiency**

The Company also explained its water efficiency strategy. We discussed the range of activities the Company has promoted and it outlined several initiatives which have taken place during the year. These activities have focussed on education (working both with the children and the schools themselves) and on face-to-face methods to distribute water efficiency measures via school and at shows and through community talks. These initiatives are detailed below in 'Section 4 – Audit Findings and 5 – Company Methodology'.

#### **4.2 Household Leakage**

Unlike water companies in England & Wales, NI Water is not funded to offer a free/subsidised repair or replacement of domestic supply pipes. This policy has remained unchanged since AIR08. We were advised that the customer is liable for the entire cost of the repair. When a leak in a supply pipe is identified NI Water sends a Leakage Notice to customers which require the customers to repair the leakage within 28 days. After 28 days upon issue of final notice NI Water may undertake a repair and recover the cost from the customer. The policy is only applicable to domestic customers and

does not apply to properties that are used wholly for commercial purposes. The policy applies to the point of entry to the household, except for common supplies, and does not include the customer's plumbing losses.

The number of household supply pipes repaired reported in line 1 (1,360) is significantly reduced from the values reported in AIR12 (2,286) and AIR11 (2,392) and is now closer to the values reported in previous years of 1,114 in AIR10 and 975 in AIR09. The Company explained that the number of repairs in AIR12 and AIR11 was high due to a number of the notices and repairs in which were caused by the freeze-thaw incident of 2010-11.

The Company has identified that in previous submissions the number of supply pipe repairs includes both household and non-household properties. All leak notices are recorded in a single database which did not distinguish between household and non-household properties. This database now includes a field to identify if properties are household or non-household; this has now been populated manually using the address and addressee columns, so that if a business name appears in the address, or the addressee is "the Manager" or similar, then the property is assumed to be non-household.

The entry for AIR13 includes only household properties, and the company has calculated the impact on previous returns, which suggest an over-reporting of 100 to 300 properties which is equivalent to 12-15%. This discrepancy is consistent with the proportion of non-domestic properties (11%), but may indicate a slightly higher identification of leaks on non-domestic supply pipes, possibly due to higher flow-rates.

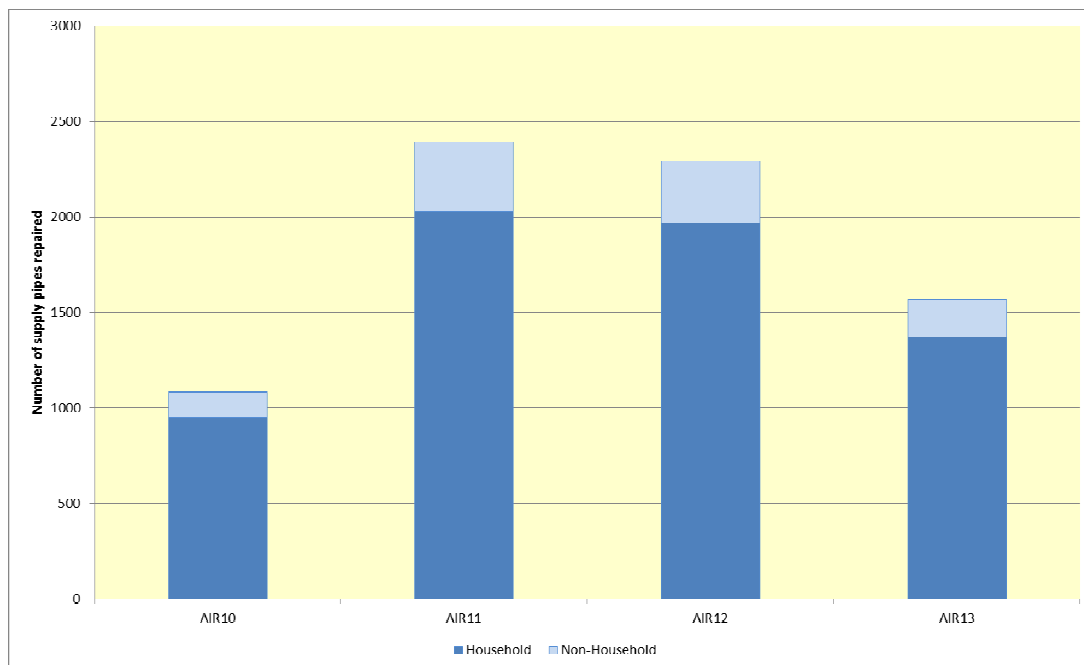
We reviewed the Company's database via an exported spreadsheet and identified possible duplicates, where leak notices are issued to all properties on a shared supply. For AIR 13 we identified nine examples of neighbouring properties being issued with waste notices at the same time. Whilst it is possible that leaks have been identified on two supply pipes during active leakage control, we considered that it was also possible the leak were on a common supply pipe and the leak notice was issued to both/all properties connected to it. The company reviewed each leak notice we identified and removed 7 sites which were confirmed to be a single repair on a supply to neighbouring properties.

During our review we also identified an additional four possible non-household properties (Skip Hire, Hotel, Shop and an Estate Agency). The company reviewed each property and removed 3 sites from the number of domestic supply pipe repairs (the Estate Agency was an address of the landlord of a rented property).

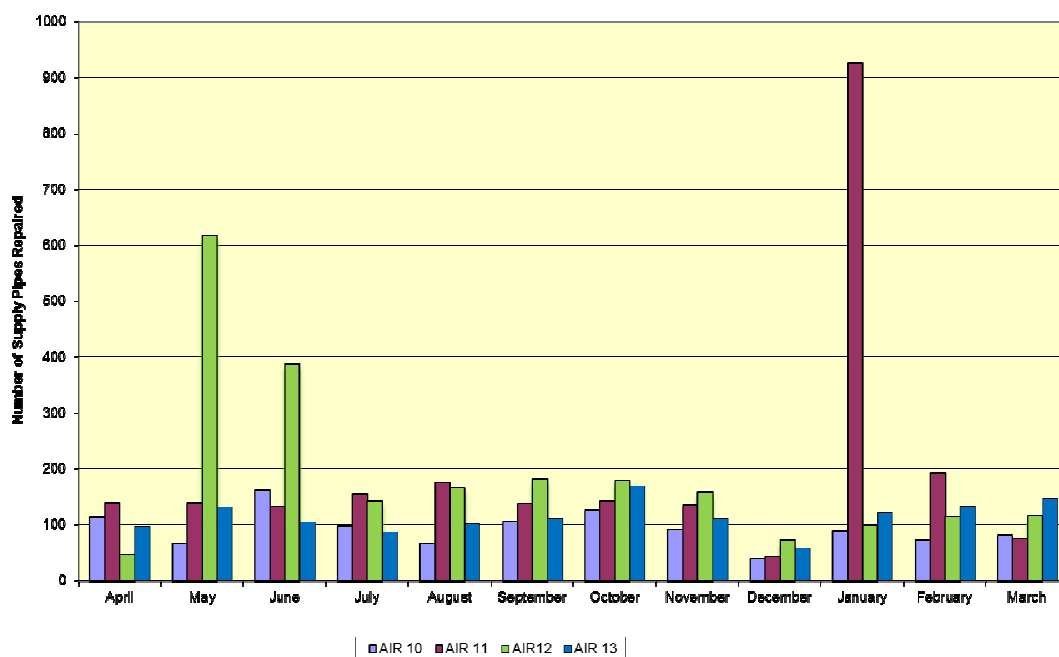
We also identified two repairs that had been classified non-domestic due to being in fields, and therefore assumed to be farm related but appeared to be domestic properties. The company reviewed these each property and confirmed both repairs related to animal drinking troughs and so had been correctly coded.

We consider the uncertainty is inherent within the process, is recognised within the B2 confidence grading and is well within the accuracy band of 5%.

The impact of removing the non-household supply pipe repairs is shown in the follow graph.



The monthly profile for the last four years can be seen in the following graph, which shows that AIR13 has been consistent with previous years that were not impacted by the freeze-thaw event:



The Company does not offer its customers free or subsidised repairs or replacements of supply pipes, so lines 2-8 are entered as zero.

There is a marked difference in supply pipe repair policies between those in England and Wales and in Northern Ireland. In England and Wales companies offer free/subsidised supply pipe repairs/replacements to its customers. As such the savings reported in England and Wales are larger than those reported by NI Water. Due to this constraint there is little more NI Water can do to manage/reduce supply pipe leakage from current levels.

During our AIR12 audit the Company provided us with a copy of a study that examined the economics of offering free supply-pipe repairs; this concluded that this option would allow leakage to be reduced but was not economic when compared with other options to balance supply and demand.

### 4.3 Household Water Efficiency Methods

#### **Cistern devices (Lines 9 to 12)**

The number of cistern devices distributed by the Company has decreased slightly from last year by 11%. In total 2,616 devices were distributed in the Report Year.

The Company policy is to distribute cistern devices to customers who request a device. Customers can order cistern devices through the Company's Customer Relations Centre (CRC), however the number of cistern devices requested through CRC is a small proportion every year. As the Company does not issue bills directly to domestic customers there is less opportunity to facilitate awareness of water efficiency in this way. NI Water prefers to use face-to-face distribution of devices to ensure they are only given to customers with appropriate cisterns. The Company has continued to promote water efficiency, including cistern device distribution, through schools and community visits and shows with a number of promotional days throughout the year.

For Line 10 - "number of cistern devices installed by household customers" the Company has assumed a fit installation rate of 20% for those distributed at shows and 70% for those requested through schools and community visits and CRC. These assumptions are from the Ofwat report 'Water efficiency targets 2010-11 to 2014-15'.

The Company has made several other assumptions relating to the savings assumed and these are described below:

- percentages of devices installed (shows) – 20%
- percentage of devices installed (customer request) – 70%
- occupancy rate – 2.5
- numbers of flushes per person per day – 5
- saving per toilet flush – 2.5 litres

To align with other parts of the Annual Information Return the average occupancy rate has been assumed to be 2.5.

During the audit, the Company illustrated how they had calculated the costs for this

initiative. We found a clear audit trail was evident and confirm the Company has only included unit costs of production. We have not undertaken a detailed check on the derivation of these unit costs but these appear reasonable. We confirm the Company's calculation is as stated in its methodology.

**Water Butts (Lines 13 to 16)**

The Company has promoted the use of water butts through the distribution of advice leaflets. For AIR13, NI Water provided 60 water butts for a public competition. Please note that in their commentary, they missed 2 water butts from Dec 12 and 3 water butts in Feb 13 from monthly total. We believe and the Company confirmed that this was a genuine mistake.

The Company has made several assumptions relating to the savings assumed and these are described below:

- percentages of water butts installed – 100%
- saving volume of water butts – 190l
- numbers of fills per year – 6

During the audit, the Company illustrated how they had calculated the costs for this initiative. We found a clear audit trail was evident and confirm the Company has only included unit costs of production. We have not undertaken a detailed check on the derivation of these unit costs but these appear reasonable. We confirm the Company's calculation is as stated in its methodology.

**Self Water Audit Packs (Lines 17 to 19)**

The Company has reported 1,685 packs as being distributed during the Report Year. This is a significant decrease (by circa 62%) over the number distributed in 2011/12. Although the NI Water's focus has always been on face to face approach such as schools and shows, the Company renewed their self water audit website. There were 535 hits on the site.

The Company has made several assumptions relating to the savings assumed and these are described below:

- installation rate (schools) – 70%
- installation rate (website) – 10%
- saving per day – 10 litres

We confirm that the amount of water saved a day is in line with the assumption within Ofwat's 'Water efficiency targets 2010-11 to 2014-15' report.

We confirm the costs reported in Line 19 relate to production of the self audit packs and prizes to schools who returned the audit packs. We have checked the audit trail and confirm the number reported is consistent with that reviewed during the audit.

**Water Audits carried out by the Company (Lines 20 to 22)**

The Company has not carried out water audits during the Report Year, as the focus has been on distributing self-audit packs to schools and at shows. Lines 20 to 22 are

therefore reported as zero.

#### 4.4 Non household Water Efficiency Methods

##### **Self Water Audit Packs (Lines 23 to 25)**

The Company explained that they have developed a website for large user customers to promote water efficiency. During 2012/13 there was a self-audit form for non-household customers available for download from within their existing “Commercial leaflet” which was on the NI Water website. This audit was removed in June 2012 to allow it to be updated.

As described above, NI Water prefers to use face-to-face distribution of devices and to educate pupils. As part of non household programmes, the Company has reported 323 packs as being distributed to schools during the Report Year. NI Water made various assumptions to calculate the assumed savings which are consistent with the values presented in “Water efficiency targets 2010-11 to 2014-15” published by Ofwat.

In summary, the assumptions used are as follows:

- installation rate – 20%
- saving per day – 10 litres

We confirm the costs presented in Line 25 relate to production of the self audit packs. We have checked to audit trial and confirm the number reported is consistent with that reviewed at audit.

##### **Water audits at commercial premises (Lines 26 to 28)**

The Company outline that they did not undertake any non-household water audits during the Report Year. Lines 26 to 28 are therefore reported as zero.

#### 4.5 Other water saving initiatives

During the audit we discussed both the details of the activities and the outcome of these schemes with the Company. The details are described in their commentary. Our additional comments are detailed below.

**Winter Preparation Campaign** – This campaign to provide information on insulating outside water taps, and finding stop tap locations. This was not directly affected to Table 1 figures, however this makes customers aware in case of freeze/thaw and bursts incidents.

**Water Bus** – The Company advised NI Water’s Water Education Team has visited schools with the ‘Water Bus’. It was explained that the bus is in great demand with a long waiting list.

**Shower Timer** – The Company has reported 4,475 shower timers being distributed during the Report Year. NI Water has made the following assumptions according to the Ofwat’s ‘Water efficiency targets 2011- to 2014-15’ which are:



- saving per property per day from shower timer – 5 litres
- installation rate of shower timer – 23%

The Company has outlined other water efficiency actions directed at households and non-households which includes leaflets, bookmarkers, pencils, games, fridge magnets, shower timers, and its 'Water Bus' exhibition. The Company has presented the costs of each of the measures and estimated the assumed water savings achieved from these activities.

Total costs of these initiatives include costs of production, the Water Bus exhibition, and NI Water staff costs. The Company explained that this is consistent with AIR12 and we confirm that this appears reasonable.

NI Water also added that they are currently working with TidyNI, Marie Cure Cancer Research and Health Board (NHS).

We consider that the water savings associated with these water efficiency actions are reasonable given the inherent difficulties in calculating water savings from such activities. During the audits we discussed the Company's focus, which is on education, and some of the more "softer" measures that should bring long-term benefits. We consider an approach that provides incentives for implementing the "softer" measures is appropriate for NI Water. We were also asked by the Company what would be the most appropriate water efficiency activities for NI Water. Our suggestions and recommendations are summarised in Section 8.

#### **4.6 Discussion held on other water saving initiatives in AIR12**

During AIR12 audit, we discussed various possible activities that NI Water could consider to undertake during the period to PC15. The progresses of these activities are described below.

- Cooperation with CCNI on producing and distributing an advisory leaflet is undertaken. We will investigate this in future returns.
- NI Water updated their water saving/efficiency website. A number of hits on this site increased.
- NIHE does not manage any properties but NI Housing Association does. The Company explained that they introduced water efficiency leaflets to a New Developer pack to support water efficiency
- Energy saving support with InvestNI is undertaken, having a website link between InvestNI and the Company.
- Use of water efficiency partners is not viable due to the procurement rules.
- Working with internal DSCT team is not feasible. However various leaflets including domestic water audit will be provided to developers.

NI Water added that they are currently working with the Energy Saving Trust to promote water and other energy efficiency promotional works.

## **5. Company Methodology**

We have reviewed the Company's methodology for reporting Table 1 in order to confirm that it is appropriate and meets the Reporting Requirements issued by NIAUR for AIR13.

### **5.1 Household Leakage**

The Company methodologies are satisfactory and described in their commentary. The Company recorded actual numbers of leakage notice issued and repairs completed monthly and provided annual figures for AIR13.

We also note that, unlike water companies in England and Wales the Company is unable to distinguish between external supply pipe leakage and internal plumbing losses within the numbers presented in this table.

### **5.2 Water efficiency**

Spreadsheets held by the system holder are used to obtain the information for Blocks B, C and E. This spreadsheet collects all data on cistern devices, self water audit packs distributed, other promotional materials (such as magnets and shower timers) dispatched.

We asked the Company how they count the number of devices handed out to the customer at shows. We also asked whether the customers who receive or take water efficiency products sign for it. They explained that they count the number of devices before and after the shows to derive the numbers distributed but do not ask for the customers' signature. Some water companies in England & Wales ask for customers' details (e.g. name and post code) to use for demand and operational purposes. For example, from the postcode information, NI Water could help target demand management or water efficiency promotion in a particular zone is reducing. However, given the relatively small level of savings achieved this is a longer term recommendation when customer base is fully incentivised to consider water efficiency.

We have reviewed the Company methodology and believe that the practice adopted is consistent with the stated methodologies and in line with the Reporting Requirements.

## **6. Company Assumptions**

In relation to water savings devices the Company has made several assumptions relating to the savings assumed. These are not changed from AIR12 and are as follows:

- percentages of devices installed (shows) – 20%
- percentages of devices installed (customer requested) – 70%
- occupancy rate – 2.5
- numbers of flushes per person per day – 5
- saving per toilet flush – 2.5 litres

For household and non-household Self Audit Packs, the Company has made several assumptions relating to the savings assumed. These are as follows:

- implementation rate (schools) – 70%
- implementation rate (shows) – 20%
- implementation rate (website) – 10%
- saving per day – 10 litres

For savings associated with the shower timer initiative, the assumptions used are:

- saving per property per day from shower timer – 5 litres
- installation rate of shower timer – 23%

## 7. Confidence Grades

The confidence grades assigned by the Company are consistent with those used for AIR12. The company has assigned the following confidence grades:

- Number of supply pipes repaired: B2
- Lines 2-8 are all zero: A1

The number of supply pipes is derived from an extract from the company's works management system with a manual validation. Therefore the confidence grade of B2 is appropriate.

Lines 2 – 8 are all recorded as zero as the company does not offer free or subsidised supply pipe repairs or replacements, therefore a confidence grade of A1 is appropriate.

- numbers of items distributed: B3, except water butts: B2
- installation rate: B4
- water savings achieved: B4
- cost: B3

The number of items distributed (water notices issued, cistern devices, water butts, self water audits, leaflets and shower timers) are recorded by the Company on a monthly basis, with annual values entered in Lines 1, 9, 13, 17, 23, 31a, 31b, 31c, 31d and 31e. Therefore the confidence grade of B3 is appropriate.

Total savings assumed in Lines 11, 15, 18 and 29 were calculated according to Ofwat guidance. Therefore the confidence grade of B4 is appropriate as the actual numbers distributed are B3.

The costs of the efficiency programmes reported in Lines 12, 16, 19, 25, 30 and 33 have been assigned a B3 confidence grade. As these rely on cost estimation we believe a B3 grade is reasonable.

**Date:** 29 July 2013  
**Prepared by:** HMS

**Table 2 – Key Outputs - Water Service – 2****Block A – DG2 Properties receiving pressure/flow below reference level****Commentary by REPORTER****1. Background**

The information included in this table is used to monitor and compare Company performance against the DG indicators.

**2. Key Findings**

- A total of 328 properties were removed from the register, due to a combination of mains rehabilitation (297) and better information (31).
- The DG2 Register contains full documentary evidence for properties that remain, are added or are removed from the register.
- NI Water has investigated properties on the register with pressure below 7.5m, and this number has increased slightly to 138 properties from 133 at AIR12.
- The Company has exceeded its PC10 target of removing 800 properties from the DG2 register by 42 (5%) and have a number of schemes in place which it expects will enable it to meet the 2013-14 target.
- NI Water has estimated the cost of removing properties by considering the costs of components related to hydraulic issues. This remains an approximation as the cost is derived from schemes that have a range of different investment drivers. To improve the robustness of this calculation we recommend a top-down approach is developed, possibly making use of the scheme approval analysis that presents the contribution from each of the investment drivers (structural improvements, water quality, operational issues (leakage) and hydraulic drivers (DG2)). The Company stated it will reviewed options, including a top-down approach in advance of AIR14.
- NI Water has calculated the average cost of removing properties from the DG2 register as £818.6/property. This should have been recorded in line 4c as 0.8 (£000/prop), however NI Water has incorrectly entered the cost as £818.6 (£/property).

**3. Audit Approach**

The audit consisted of interviews with the NI Water system holders which included a discussion on the Company methodology for data collection and collation, a review of the estimated cost of removing properties from the register and a demonstration of the DG2 Register and supporting documents.

## 4. Audit Findings

### 4.1 Properties connected at year end (Line 1)

This line contains the total number of properties (domestic and non-domestic) connected to the distribution system at the end of the report year. We note an increase of 7,600 (0.9%) properties connected to water supply only from AIR12. The number of properties is derived from NI Water's billing system (RAPID).

The methodologies adopted to calculate this Line are not changed from AIR12.

	<b>AIR12</b>	<b>AIR13</b>
Extant Property Total	838,042	845,107
<i>less</i>		
Domestic no water / well water	8,049	8,016
Domestic sewerage only	6	6
Non-domestic no water / well water	3,566	3,905
Non-domestic sewerage only	19	19
Non-domestic measured – not charged (test meters)	2,087	1,024
Non-domestic site meters	13,254	13,475
Non-domestic trade effluent	92	92
Non-domestic unmeasured – not charged	587	595
Invalid Classification	15	15
<b>Total Connected Properties at Year End</b>	<b>810,367</b>	<b>817,960</b>

We confirm that the total property number quoted in this table is in-line with the sum of Lines 6 and 7 of Table 4.

### 4.2 DG2 - Properties receiving pressure/flow below reference level (Lines 2-4c)

#### 4.2.1 Line 2 – Properties below reference level at start of year

The total number of properties at the end of AIR13 Report Year was 1,748.

#### 4.2.2 Line 3 – Properties below reference level at end of year

In order to confirm the validity of the DG2 Register we reviewed the results of the South Downs renewal scheme. This scheme has led to the removal of 190 properties from the DG2 register; 168 as a result of Company action plus 22 as a result of better information. The Company provided details of the scheme including the Pre & Post Rehabilitation Assessment (PPRA) Report, maps showing the location of the renewed mains and details of the properties removed from the DG2 register.

We confirm that the Company has an audit trail to confirm the removal of the 168 properties as a result of the scheme.

Overall, we found that for AIR13:

- 297 properties were removed from the DG2 Register as a result of mains rehabilitation schemes.
- 31 properties were removed due to better information.

We note that the logging exercises were undertaken over a 7-day period generally during the autumn/winter months. With water companies in England & Wales we would have concerns that this period would have lower demands, and hence higher pressures which may lead to an under-reporting of properties on the DG2 Register. This is not the case for NI Water; we have been shown historic distribution input values which demonstrate that the autumn/winter months typically have higher demands than the summer months.

#### **4.2.3 Line 4 – Properties receiving low pressure but excluded from DG2**

For AIR10 NI Water excluded 94 properties from the DG2 Register on the basis that they are located within 15m elevation of the service reservoir. Following guidance from the Regulator these do not form allowable exclusions, so these properties are included within the DG2 Register and zero is reported for this line.

NI Water advised that they do not currently have the infrastructure in place to validate other allowable exclusions, such as: abnormal demand, planned outages, one-off incidents and short-duration low pressure incidents.

#### **4.2.4 Line 4a – DG2 properties with a pressure below a surrogate level of 7.5m**

The DG2 Register was interrogated to identify those properties below a surrogate level of 7.5m; this identified 138 properties (an increase of 5 properties from AIR12).

#### **4.2.5 Line 4b – DG2 properties at risk of low pressure removed from the register by Company action**

A total of 297 properties were removed from the register following Company action. The 31 properties removed due to better information have not been included in the line 4b entry.

#### **4.2.6 Line 4c – Average cost of permanent solutions to DG2 problems**

As discussed above, the removal of properties from the DG2 register through Company action is as a result of either mains rehabilitation or infrastructure improvement. The majority of the main rehabilitation schemes have multiple drivers for investment (such as structural improvements, water quality and operational issues (leakage) in addition to hydraulic drivers (DG2)).

The Company has calculated the average overall cost of removing a DG2 property from the register. This was calculated by combining the total cost of the hydraulic driven components of the mains rehabilitation schemes (£243,130.35) and dividing by the total number of properties removed by Company action i.e. 297. This gives the average cost per DG2 removal of £818.6 (£0.8k). The table entry is specified as £000/property, so should be 0.8 and not the value of 818.6 as entered.

The Company explained that the relatively small number of properties removed from the DG2 register each year will lead to large variability in the estimated cost of removal. In our opinion, the wide variation in estimates is also due to the removal of properties from the DG2 register being only one of a number of drivers for mains rehabilitation.

We recommend that the Company should develop a top-down assessment, which allocates all costs within a work package to one of the four investment drivers. This analysis is already undertaken for scheme approval, and may provide a more consistent approach and result in more robust estimates of the cost of DG2 removals. The Company explained that it will consider a top-down when it reviews the cost estimates for AIR14 and beyond.

The significant fall in the average cost, from £13.7k/property in AIR11 to £3.0k/property in AIR12 and to £0.8k/property in AIR13 does not imply a change in efficiency but a different set of network layouts being worked in.

## **5. Company Methodology**

Please refer to our Table 7 commentary for the methodology of the property numbers in Table 2. It is not changed from AIR12.

NI Water has collected DG2 information using a representative network of critical pressure monitoring points and details which have been converted into numbers of properties at risk of receiving low pressure, by using its GIS system.

We found that the DG2 Register contains hyperlinks to all available information to support each property within the DG2 Register. This includes reports, logging traces, GIS plots and details of pressure analysis. This information is also retained for any properties originally on the DG2 Register and subsequently removed due to better information.

In terms of allowable exclusions, NI Water is aware of the various low pressure events that can be excluded from the DG2 Register. However, in the absence of comprehensive monitoring systems it has not reported any allowable exclusions. Since 2010/11 NI Water no-longer excludes properties that are located within 15m elevation of the service reservoir.

## **6. Confidence Grades**

The Company has revised the confidence grade for Line 1 from C2 to A2 in AIR12; this is to be consistent with Tables 4 and 7. We believe that the confidence grades should remain C2. Please see our detailed comments on the confidence grades in Table 7.

The Company has not changed the confidence grade for any of the remaining lines in this table; we consider the values reported for AIR12 are still appropriate for AIR13.

**7. Consistency Checks**

We confirm that the Table 2 Line 1 is consistent with the sum of Lines 6 and 7 of Table 4.

**Date:** 29 July 2013  
**Prepared by:** HMS



**Table 2 – Key Outputs - Water Service – 2****Block B – DG3 Supply Interruptions, Lines 5 to 19****Commentary by REPORTER****1. Background**

The aim of this indicator is to identify the number of properties affected by planned and unplanned supply interruptions lasting longer than 3 hours, 6 hours, 12 hours and 24 hours.

**2. Key Findings**

- Except in the greater than 3 hours category, NI Water report an increase in the number of properties experiencing a supply interruption. The Company explained that a proportion of this increase is due to the bad weather in March 13 which resulted in a number of power outages and loss of supplies.

**2.1 Key Recommendations**

- Continuation of initiatives to develop root cause analysis.
- Consideration if asset information needs to be collected as part of the interruption recording process.
- Continuation of quality assurance checks on unplanned and planned interruption data to assist in ensuring reported data is reliable, accurate and complete.

**3. Audit Approach**

To verify the data reported by the Company, our audit consisted of an interview with the NI Water system holder, a review of the current Company methodology for data collation and an audit of the data from the Company's systems to the final table. This year's data has been compared with last year's table entries to identify significant areas of change.

**4. Audit Findings****4.1 Reporting System**

As we have found in previous years, OMIS is used as the main tool for recording supply interruptions. We found the system is used only by Customer Service Delivery Directorate as the contractors working for Engineering and Procurement Directorate (EP) and Customer Field Services do not currently have direct access. However, interruption data is provided by representatives of these functions on a monthly basis via spreadsheet templates. Interruption details are transferred to the Composite Interruption Data File along with information extracted from OMIS for Networks Water and Leakage Services.

## 4.2 Unplanned Interruptions (lines 5 to 8)

### 4.2.1 DG3 Performance

Except in the greater than 3 hours category, NI Water reported an increase in the number of properties experiencing a supply interruption. The Company explained that a proportion of this increase is due to the bad weather in March 13 which resulted in a number of power outages and loss of supplies. However, despite these interruptions, the underlying performance in the in the greater than 6, 12 and 24 hour duration categories has deteriorated from that reported in 11/12. This could be explained by 11/12 being a relatively benign year in terms of weather but the reported 12/13 performance still exceeds the PC10 targets which are illustrated below.

	PC10 12/13 target	12/13 reported outturn
Composite Score	1.16	1.98
% properties > 12 hours	0.205	0.319

PC10 - Interruptions to supply targets

### 4.2.2 Unplanned Interruptions

During the audit we reviewed the nature of a number of the largest unplanned events affecting customers. The audit checks carried out for each incident are detailed below. We were able to follow an audit trail to verify the details of each incident. Where possible these incidents were reconciled to 'Upward Reports' produced at the time of the interruption.

A summary of our findings are detailed below.

Incident	Unplanned Categorisation	Duration	Comment
Inisclan South SR  <i>Int. numbers (21067, 21068, 21069, 21070)</i>	✓	>3hrs (<6hrs)  &  >12hrs (<24hrs)	<ul style="list-style-type: none"> <li>• SR 'ran dry'</li> <li>• Interruptions in 4 DMA's</li> <li>• 111 properties affected by interruption greater than 12 hours (but less than 24 hours)</li> <li>• 546 properties greater than 3 hours (but less than 6 hours)</li> <li>• Event recorded in DG3 register.</li> </ul>
Greenhill Gauge Tank  (Int. Numbers 21283, 21284 & 21285)	✓	various	<ul style="list-style-type: none"> <li>• Burst occurred in location which made excavation difficult</li> <li>• Properties affected in 3 DMA's in Ballymena.</li> <li>• Property numbers reconciled to DG3 register and evidence supplied by the field (including upward report)</li> </ul>

We also queried the Company's recording methodology for recording interruptions where rezoning has taken place to minimise disruption to customers. The Company representative outlined that, as with other interruptions, field operatives are responsible for recording the incident details. Accurately recording interruptions which have a common start time but different end times as a result of rezoning is an important aspect of the reporting methodology as it demonstrates the efforts to minimise the impact on customers and facilitates accurate and reliable reporting. To facilitate this NI Water highlighted a recent practice to record 'split' interruptions has been to record the impact of a large incident on several different incident records. We reviewed several records and found these records were aligned to each of the DMA's affected. Each of these records had a common start time but different end times as a result of rezoning. This gives a greater granularity of reporting and would encourage the Company to continue striving to record times of split interruptions robustly.

During the audit we also discussed other initiatives to reduce supply interruptions. NI Water outlined that they have recently commenced collating root cause analysis information of the reasons why certain bursts take longer to repair than others. We reviewed examples of these and NI Water explained the next stage of this process is to analyse these and develop an improvement strategy aimed at reducing interruption durations. We believe this is a worthwhile initiative and would urge the Company to continue developing this initiative as this should prove to be a useful tool by which solutions to commonly experienced issues can be shared.

We also discussed initiatives we had seen elsewhere to help minimise the impact of supply interruptions on customers. These include carrying out 'live' repairs, temporary overland flows, use of Alternative Supply Vehicles (ASV's) to help ensure continuous supplies. We recommend NI Water considers if any of these initiatives would be viable to implement within their operating environment.

Similarly, we have reviewed practices elsewhere where as part of the supply interruption recording process asset failure information is collected. Typically for bursts this would be detail on pipe material, size, location etc. Information is then fed into asset maintenance strategies and would recommend that, if similar information is not collected elsewhere in NI Water then some form of data collection system is introduced.

We noted during our analysis that a number of incidents from the Leakage function were categorised as 'planned-unwarned'. Whilst these incidents were correctly classified as unplanned events, we queried why these events would not be planned and warned like other scheduled interruptions; especially where the interruption duration is in excess of 3 hours. NI Water outlined that whilst planned to last less than 3 hours (and therefore not reportable), occasionally these work types overrun. Where this does occur they need to be reported and therefore they are categorised as planned-unwarned.

#### **4.3 Planned and Warned Interruptions**

For lines 9 to 12 – “Planned and warned interruptions” there has been a decrease in the number of properties affected by scheduled interruptions. NI Water noted this was associated with a decline in activity associated with their mains rehabilitation programme. Corroborative evidence of this is seen in Table 11 where the reported mains activity has reduced.

During the audit the Company representative demonstrated how data is collated from the various directorates and input in to OMIS. During the process interruption data is checked to ensure adequate warning has been provided and if not then the interruption is re-categorised as unplanned or an planned overrun. On the basis of the checks carried out we are content that the Company’s reporting process is sound.

Following last year’s audit findings where we identified some discrepancies in the audit trail NI Water commenced a routine audit exercise to check the accuracy of the data presented. We briefly reviewed the checks carried out (including checks to the carding notice) and believe them to be reasonably based. We recommend these checks are continued as they should assist in maintaining confidence in the data reported.

In our AIR12 commentaries we made the recommendation that the warning times given to customers were reviewed as we found a number of incidents where supplies were restored well within the warned interruption envelope duration. We are pleased to report that as a result of this finding, the Company has amended their approach to notifying and warning customers which has the consequence of decreasing the average duration between warned end times and actual shut down times by circa 50%. From a customer perspective this reduces the warned duration window, improves service predictability and should therefore be of benefit to customers.

#### **4.4 Interruptions caused by Third Parties (lines 13 to 16)**

We checked three incidents from the small number of incidents classed as third party and confirm each was correctly reported as third party (caused by contractors or persons not acting on behalf of NI Water). On the basis of the checks carried out we are content the Company’s methodology in this area is in accordance with the reporting guidance.

#### **4.5 Overruns of Planned Interruptions (lines 17 to 19)**

As in previous years, the Company has reported a small number of overruns of planned interruptions. These are generally identified by the line owner as part of the data collation process and during the audit we discussed the methodology and checks used to identify overruns and believe these to be satisfactory. We have not reviewed any specific incidents reported by NI Water.

## 5. Company Methodology

### 5.1 General

As reported above, the Company issued the Reporter with a copy of their updated methodology to derive data reported in for supply interruptions. This document contains several definitions which are replicated below for clarity. We believe the definitions used are in line with the Reporting Requirements.

- **Interruption** - An interruption to supply is defined as the actual loss of water supply to a property, whether planned or unplanned, warned or unwarned.
- **Start Time** - For a planned interruption the start time is the time at which water is unavailable at the first cold tap in a property; for an unplanned interruption it is when customers first notice the loss of supply or if this is not available the time a 'no water' complaint is logged by the Customer Relation Centre. In practice the start time is the point at which activity (such as a valve turn) is recorded by field staff.
- **Duration** - The duration is the length of time for which customers are without a continuous supply of water. An interruption starts when water is unavailable from the first cold tap in a property and finishes when the supply is restored.

#### *Interruption end time*

During the audit the Company demonstrated the checks they undertake to verify the end time of unplanned interruptions of 5 hours or more by comparing customer contacts relating to 'no water' incidents and times input onto OMIS by field staff. If the call logs show a 'no water' complaint after the noted restored time than a query is raised by the line owner with the field staff and if the field representative approves the interruption duration for that particular contact (s) the duration is amended.

In AIR12 we recommended the cross referencing to customer contacts on Rapid could be included in the post incident analysis of the interruption as this could improve the efficiency of the reporting process. NI Water has trailed this suggestion by delegating this responsibility to the Field Manager. However, during the audit the Company outlined that this was too resource intensive and responsibility for undertaking these checks rests again with the line owner.

#### *Interruption classification*

We also reviewed how the Company classify interruption and believe these are in line with the Reporting Requirements. Again, the definitions used have been replicated below for clarity.

- **Planned and warned** - This is where notice of an interruption (more than 3 hours) is provided to properties affected at least 48 hours in advance of the beginning of the interruption.
- **Unplanned/unwarned interruption** - This is when an unplanned, or a planned and

unwarned, interruption to supply occurs. Properties receiving less than 48hrs notice of a planned interruption (more than 3 hours) are to be counted as 'unplanned' and reported under this category.

- Overruns of planned interruptions - When a planned interruption and warned interruption continues beyond the end of the warned time, for whatever reason and whether or not a customer has been advised during the shutdown that an overrun is going to occur, the interruption is described as an overrun and is reported separately.
- Third party interruptions - A third party is defined as anyone who does not act for, or on behalf of NI Water. This category is intended to cover damages to NI Water's mains or other equipment which directly or indirectly results in an unplanned loss of supply to enable the damage to be repaired.

#### *Property estimates*

We discussed with the Company their approach to counting the number of properties affected by an interruption and they advise properties are identified from either a manual count from network maps and in other cases are estimated using a GIS polygon. We have not reviewed the accuracy of the property counts made by the Company confirm the property types extracted from the Company's GIS system are detailed within their methodology.

#### *DG3 Register*

We also questioned the Company on the structure and content of the DG3 Register and we believe it contains the information demanded by the Reporting Requirements. We noted that the Company does not detail each property affected by an interruption but tends to group the listing by particular house numbers in a street or cluster.

## **5.2 Reporting Procedures**

OMIS is used as the main tool for recording supply interruptions. We found the system is used only by Customer Service Delivery Directorate as the contractors working for Engineering and Procurement Directorate (EP) and Customer Field Services do not currently have access. However, any interruption data is provided by representatives of these functions on a monthly basis via spreadsheet templates. Information from the two EP regions and Customer Field Services is provided for input each month on spreadsheets and transferred to the Composite Interruption Data File by the DG3 line owner.

NI Water's reporting procedures require field engineers to record events on standard proforma. The data collected on these sheets is subsequently uploaded on OMIS via the defined input screens on a monthly basis. The DG3 system holder extracts data from OMIS each month and transfers it into a worksheet entitled the 'Composite Interruption Data' file, which is the DG3 Register. This data is combined with data from other work streams to form a complete listing.

We also questioned NI Water on several aspects of their reporting protocol and specifically how they ensure interruption which may been uploaded into OMIS late or remained open (and therefore editable) on the system when the data is extracted. The Company representative advised that controls are in place to track late returns and the previous months report is re-run at the end of the following month to ensure that any late entries are picked up.

We noted the start and end times reported on OMIS are rounded to the nearest 15 minutes. The Company advised that this is a limitation of OMIS but that discussions are ongoing regarding a replacement system. We recommend that consideration is given to the facility to record more precise times in the design of a new process as currently there is a potential for a +/- 30 minute error due to rounding on each interruption.

### **5.3 Quality Assurance**

We note that the Company's methodology demands that each monthly return of DG3 data is signed off by senior management.

The Company demonstrated the quality assurance controls they have in place to ensure the data collation process are robust. Over the course of our audits we saw evidence of data challenge and the correction of interruption details received from field operatives. We therefore believe that interruption data is being appropriately administered.

During the audit we also discussed some specific checks the Company undertakes to assure itself the start time of an unplanned interruption is correct. The Company advised they had continued to undertake analysis of when the time of no water calls into their customer contact centre and compared these to the start time reported by field managers within OMIS. Whilst the Company have only carried out a limited number of checks, we saw evidence of the start time of an interruption (and duration being) being amended. We believe these are useful check to verify and challenge the recording of interruption recording on OMIS.

## **6. Company Assumptions**

The Company assumptions relating to the classification and duration of incidents have been discussed above.

**7. Confidence Grades**

The Company has assigned a B3 (5% to 10%) grade to each of the lines relating to supply interruptions. NI Water provides a detailed overview of their justification for this within their commentaries. After high level consideration of these and other factors, we believe that a B3 grade is reasonable. In brief, it is difficult to assess the level of accuracy/inaccuracy inherent but we believe it is appropriate to retain the grades which relate to NI Water's underlying methodologies. We have however not undertaken any specific statistical analysis to fully verify this.

**Date:** 29 July 2013  
**Prepared by:** HMS



**Table 2 - Water Service – 2****Block C - Population – Winter (Line 20)****1. Audit Findings**

The estimate of winter population is based on NI *Department of Enterprise, Trade and Investment (DETNI)* data.

The Company provide a detailed explanation of the approach adopted to derive winter population in their commentary for Table 2. We have followed the methodology laid out by the Company in their commentaries and believe the approach taken is reasonable but note it is reliant upon a number of external data sources and assumptions.

In terms of overall population reported in this line, NI Water estimate there has been a small increase of 0.6%.

**2. Methodology**

The configuration and availability of the source data means that the Company has had to rely on interpolating several figures to derive their estimate of winter population. The methodology to undertake this estimate is detailed in NI Water's commentary and we confirm that we have, where possible, traced data back to a published source e.g. DETNI data. The Company's calculated figure is dependent upon the resident population reported in Table 7 and we confirm the estimate used in the calculation is consistent with that reported within this table.

Acknowledging weaknesses in the methodology, other options were suggested by the Company including a simple % increase/decrease simple estimate on tourist figures which could be prorated each year. We suggested that whilst the methodology is not ideal, basing the population estimate on DETNI data is preferred, as consistency to a source will be maintained rather than an assumption which may result in divergence of estimates over time. We are aware that English and Welsh companies use a range of methodologies to report on this line. Some rely on ONS census data and modelling of tourism data whilst others, like NI Water rely on tourism surveys. Before enacting any change in approach we recommend the Company consult with the Regulator to ascertain what significance this estimate has within their econometric models.

**3. Confidence Grades**

The Company have assigned a confidence grade of C2 to this line, which we consider to be appropriate. This is based on the Company's reliance on a third party data sources and acknowledges weaknesses in the approach to derive the estimate.

**Date:** 29 July 2013

**Prepared by:** HMS

**Table 2 - Water Service – 2****Block D - DG4 - Restrictions on use of water (Lines 21-23)****1. Audit Findings**

There have been no DG4 restrictions on the use of water during the report year. As such the entries for lines 21, 22 and 23 are correctly recorded as zero.

**2. Assumptions**

There are no assumptions to disclose.

**3. Confidence Grades**

The Company have assigned a confidence grade of A1 to this line. We consider this confidence grade to be appropriate.

**Date:** 29 July 2013

**Prepared by:** HMS

**Table 3 – Sewerage Service – Internal Flooding****Commentary by REPORTER****1. Background**

The information included in this table is used to monitor and compare company performance against the DG indicators.

The DG5 – Annual Flooding Summary includes properties internally flooded as a result of overloaded sewers and other causes

The DG5 – Properties on the “at risk” register 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 and annual changes to the register.

**2. Key Findings and Recommendations**

- Whilst 2012/13 has been a period of consolidation, with minimal refinement made to the overall sewer flooding process during the year, we consider the Company has made considerable progress over the PC10 period and introduced a relatively high level of rigour to the overall flooding process.
- Over the years we have made a number of recommendations for improvements to the DG5 process, and are pleased to note that NI Water is continuing to respond to a number of these suggestions, particularly concerning issues within the Customer Response Centre. This continues to have had a positive effect on performance.
- We found that a Customer Field Manager (CFM) is still being used to periodically ‘floor walk’ the CRC and provide technical support as calls are responded to. Additionally, NI Water has taken CRC staff into the field to witness actual flooding incidents. We consider this to be a good initiative that will improve the CRC staff understanding of internal flooding, thus improving their ability to assess incidents over the phone.
- During the year, NI Water received 656 internal flooding contacts. Whilst this represents a 57% increase on the 419 contacts reported in AIR12, the Company quite correctly pointed out that a high proportion of the contacts related to the severe weather event experienced on 27th June 2012. Analysis of the monthly contacts data suggests that circa 310 of the 656 contacts related to the June event. On this basis, 346 other contacts were received during the year, which is 17% lower than AIR12.
- For AIR13, NI Water initially reported that 12 incidents of internal flooding had occurred during the year, however, our subsequent review of the details for each incident, identified that four of the properties were added as a result of further investigations carried out during the year, and the properties had not actually flooded during the year. We advised that the four properties should be included as *‘Better Information Additions’* and *T3 L2&3 should be reduced from 12 to 8.*

We confirm that the table was subsequently amended post audit, and the Company are now correctly reporting 8 incidents of internal flooding in T3 L2.

- We note that the FIR is still not being consistently completed and it was apparent that the Maintenance Contractor was not always completing an FIR for incidents that did not require a clean-up. For the process to be effective, it is important that sufficient levels of detailed information are collected at the time of the incident and on site, to ensure appropriate categorisation and to ensure all affected properties are identified.
- The heavy rainfall experienced during the year, highlighted the vagaries of the Met Office rainfall reports and highlighted the benefits (if cost effective) of the Company undertaking their own rainfall radar analysis to assess storm return periods.
- As performance has been relatively consistent over the past four years of AIR DG5 reporting, and we have a better understanding of the nature of the excluded DG5 contacts, we are increasingly of the view that the overall sewerage design and network configuration may be the main explanatory factor for low levels of internal flooding reported in Northern Ireland.
- NI Water is an outlier in terms of FOC (blockage) performance, and despite experiencing circa 3-4 times more blockages/km than Scotland and E&W, continues to experience a very low number of FOC incidents.
- During our review of [ x ], Portadown, we noticed that [ x ] had been subject to repeated blockages (circa 50), suggesting there are possibly structural issues with the sewer. We also note that NI Water only has a small Sewer Main Rehabilitation Programme (SMRP) for PC10 (63km). We consider that the lack of a targeted and focussed SMRP has contributed to the disproportionately large number of blockages reported in the year (circa 21,000).
- We identified that a number of the capital schemes reviewed were actually delivered in 2011/12, but were not claimed until 2012/13. It appears that NI Water's Engineering Procurement was not informing the DG5 Panel when schemes were completed. We were advised that systems have now been improved to ensure the DG5 Panel are automatically notified of the beneficial use dates of DG5 schemes, to ensure outputs are claimed in the year they're delivered.
- NI Water has reported a relatively low average capex cost for the 1in20 outputs in AIR13, due to the impact of the Omagh scheme that delivered 51 outputs at a capital cost of £2.2m (£43k/output). Whilst high output, low unit cost schemes are indicative of a large DG5 programme, the small number of properties currently on the NI Water DG5 Register suggests that similar large schemes are unlikely to occur very frequently, meaning an average unit cost is likely to be higher in future years.
- We reviewed the full evidence pack for [ x ] and note that the resident has self-fitted a number of flood mitigation devices to prevent internal flooding to his property. We note that companies in E&W are funded to provide flooding mitigation, free of charge to flooders in advance of a permanent solution. We consider this to be a good, low cost initiative that both reduces the risk of internal

flooding and ensures good customer relations, and recommend that the Company considers offering mitigation in the future, over and above NRVs.

- NI Water have now delivered 84 removals by Company action over the PC10 period, which is circa 59 outputs lower than was initially forecast. However, as the Company are experiencing fewer than 10 DG5 incidents per year, we do not consider a large DG5 capital programme going forward to be justified. For PC15, we consider it would be prudent for the Company to develop solutions for all properties on the Flooding Registers and then prioritise delivery of these on a cost beneficial/highest impact basis, delivering a modest programme for PC15.
- The Company has assigned a confidence grade of B2 to Lines 2 to 11, 12 to 14 and 22 to 24. We acknowledge the additional layer of investigation undertaken in order to verify each incident, and understand the logic behind the Company's decision. However, we are still of the view that a B3 is appropriate for these lines, based on the small numbers reported and scope for variance.

### **3. Audit Approach**

Our review of the Company's AIR13 Table 3 submission consisted of a meeting with the key NI Water system holders, including representatives from Wastewater Operations and Asset Management.

In order to assess the effectiveness of the Company's DG5 processes and appropriateness of the allocation of properties to the various Flooding registers we reviewed a large selection of properties that were:

- Initially reported as internal flooding, but subsequently deemed to have not flooded internally
- Confirmed as internal flooding due to overloaded sewers
- Confirmed as internal flooding due to severe weather
- Confirmed as internal flooding due to other causes
- DG5 Register additions, removals and movements.

Detailed summaries of our findings and resultant conclusions are contained within the body of our commentary below.

### **4. Audit Findings**

#### **4.1 Properties connected at year end (Line 1)**

This line contains the total number of domestic properties connected to the sewerage system at the end of the Report Year. The number of properties is derived from NI Water's billing system (Rapid).

We note an increase of 4,800 properties (or 0.8%) connected from that reported in 2011/12, while an increase in household properties connected to water services is 7,600 (or 0.9%).

## 4.2 DG5 Annual Flooding Summary

### 4.2.1 General

The 2012/13 report year has been a period of consolidation for NI Water with minimal refinement to the overall sewer flooding process during the year. However, reducing the number of 'false' internal flooding contacts referred to the Maintenance Contractor by the Customer Response Centre (CRC) is still a primary area of focus for the Company. In response to a recommendation we made in our AIR11 commentary to improve the CRC's understanding of the internal flooding mechanism, the Company introduced a number of initiatives to ensure flooding contacts are appropriately assessed and responded to at the initial point of contact. We found that a Customer Field Manager (CFM) is still being used to 'floor walk' the CRC and provide technical support as calls are responded to. Additionally, NI Water has taken CRC staff into the field to witness actual flooding incidents. We consider this to be a good initiative that will improve the CRC staff understanding of internal flooding, thus improving their ability to assess incidents over the phone.

During the year, NI Water received 656 internal flooding contacts. Whilst this represents a 57% increase on the 419 contacts reported in AIR12, the Company quite correctly pointed out that a high proportion of the contacts related to the severe weather event experienced on 27th June 2012 (see Section 4.2.3 below). Analysis of the monthly contacts data suggests that circa 310 of the 656 contacts related to the June event. On this basis, 346 other contacts were received during the year, 17% lower than AIR12.

The Company has continued to review and assess every internal flooding related contact received during the year in order to establish the cause of all 'false' internal flooding contacts. We found, that for every contact, investigations were carried out using information from the Maintenance Contractor, Flood Incident Report (FIR) Forms, Field Manager reports, Customer Field Manager reports and modelling provided by Drainage Area Plan consultants. In addition, Wastewater Operations also contacted the customer to establish the nature of the contact and to obtain evidence of flooding. We reviewed the analysis undertaken during the year and found the following.

Of the 656 internal flooding contacts received, we note that:

- 253 related to external flooding
- 54 related to cancelled jobs
- 50 related to incidents on private sewers
- 44 related to follow on contacts relating to a previously reported incident
- 22 related to repeat calls, and
- 3 related to NIHE contacts

On the basis of the above, 426 contacts did not relate to internal flooding. Of the remaining 230 contacts, 181 related to a severe weather event, 41 FOC and 8 actual DG5 incidents.

As part of our AIR13 review, we reviewed a number of the 426 contacts deemed not to relate to internal flooding, the results of which are summarised below:

Incident Location	Date of Contact	Result	Reason for Exclusion
[ x ], Belfast	28/04/2012	FOC Exclude follow up	<ul style="list-style-type: none"> <li>Field Manager confirmed that flooding was caused by a buried back-drop manhole that was blocked with concrete screen.</li> <li>A repair was completed on 30/4/12 and initial incident was correctly coded as FOC.</li> <li>However, 7 follow up calls were also initially counted as separate incidents.</li> </ul>
[ x ], Ballymena	05/11/2012	Exclude	<ul style="list-style-type: none"> <li>Reported as internal flooding to conservatory.</li> <li>Investigation confirmed that 'conservatory' was a lean-to shed. Flooding occurred at an external grate.</li> <li>Correctly reported as external flooding.</li> </ul>
[ x ], Newtonards	16/11/2012	Exclude	<ul style="list-style-type: none"> <li>Customer reported flooding to garage - next to driveway.</li> <li>Investigation confirmed that garage was not integral and incident should therefore be reported as external flooding.</li> <li>Photographic evidence confirms external flooding</li> </ul>
[ x ], Downpatrick	22/11/2012	Exclude	<ul style="list-style-type: none"> <li>Customer reported surcharging manhole in street. Should not have been logged as internal flooding by CRC.</li> <li>Photos confirm external flooding only.</li> </ul>
[ x ], Rathfriland	06/04/2012	Exclude Private	<ul style="list-style-type: none"> <li>Maintenance Contractor confirmed that there was a mainline blockage which was cleared but they also cleared a blockage in the customer's private soil stack (as a courtesy), which was deemed to be the cause of the internal flooding.</li> <li>Not NIW responsibility.</li> </ul>
[ x ], Antrim	23/11/2012	Exclude	<ul style="list-style-type: none"> <li>Caller reported sewerage overflowing from downstairs toilet. Blockage removed on site, but unable to access customer rodding eye. Contractor states no flooding.</li> <li>Recommend NIW consider reporting as FOC</li> </ul>

As the Company's understanding of the true nature of the 'false' contacts improves, it is apparent that the majority these contacts relate to incidents of external flooding.

In AIR12 we observed that a number of 'false' flooding contacts were being made by NIHE tenants, suggesting that incorrect advice had been provided by the NIHE. In response to this observation, the Company has monitored the number of contacts from NIHE tenants during the year and separately reported them, with a view to making formal contact with the NIHE. We found that the CRC have been more vigilant in assessing NIHE contacts and as a result only 3 NIHE flooding contacts were actually referred to the Maintenance Contractor, and as such NI Water has deferred making contact with the NIHE.

In addition to the sustained efforts in the CRC to correctly categorise flooding contacts, we also recommended that effort is focussed on improving performance of the Maintenance Contractor attending each incident, particularly the non-DG5

incidents, to ensure sufficient information is recorded on the Flooding Incident Report (FIR). To this end, NI Water has amended the FIR to improve clarity of the information provided by the Maintenance Contractor and also to ensure that there is a photograph scanned onto each FIR. However, our subsequent review of a selection of incidents, suggested that the FIR was still not being consistently completed and it was still apparent that the Maintenance Contractor was not completing an FIR for incidents that did not require a clean-up. For the process to be effective, it is important that sufficient levels of detailed information are collected at the time of the incident and on site, to ensure appropriate categorisation and to ensure any other affected properties are identified.

#### **4.2.2 AIR12 Flooding Incidents (overloaded sewers)**

For AIR13, NI Water initially reported that 12 incidents of internal flooding had occurred during the year, however, our subsequent review of the details for each incident, identified that four of the properties were added as a result of further investigations carried out during the year, and the properties had not actually flooded during the year. We advised that the four properties should be included as 'Better Information Additions' and T3 L2&3 should be reduced from 12 to 8. We confirm that the table was subsequently amended post audit, and the Company is now correctly reporting 8 incidents of internal flooding in T3 L2.

As reported in previous years, we continue to highlight the low proportion of confirmed DG5 incidents reported in NI, when compared to water companies in E&W. Whilst comparable performance data is no longer readily available, we are aware that 2012/13 was an extremely wet year, with companies in the north of England experiencing a significant (100 fold) increase in DG5 incidents and a large increase in severe weather events. We consider that the increase in incidents reported was due to the fact the network was regularly operating at full capacity due to sustained heavy rainfall during the year. Relatively low levels of rainfall have then 'tipped the network over the edge' causing flooding. However, this does not appear to have been the case for NI Water. Whilst large scale severe events were also evident in NI during the year, there was limited flooding experienced outside the window of the severe events. We have speculated in previous AIR T3 commentaries, as to the reasons for this anomaly and previously cited a number of explanatory factors. As the Company's level of understanding of the nature of each flooding contact improves, it is becoming apparent that the overall sewerage design and network configuration may be the main explanatory factor for the low levels of internal flooding reported. We are increasingly of the view that the network must contain a number of integral relief points, which protect properties from internally flooding by surcharging to roads, parks, waterways etc. As the Company's understanding of external flooding improves, we would expect to see a higher proportion of external flooding events reported in NI, when compared to E&W. Furthermore, as the Company continues to deliver UID improvements, it would be interesting to see if the level of internal flooding proportionately increases. It may be that resolution of UIDs may reduce the number of relief points within the network.



#### 4.2.2.1 Audit Checks

In order to test the process adopted by NI Water to assess and correctly verify all properties that have flooded during the year we undertook a detailed review of a selection of properties identified as flooding during the year, details of which are summarised below:

Incident Location	Date of Incident	Incident Summary
[ x ], Portadown	22/8/12	<ul style="list-style-type: none"> <li>Internal flooding reported on 22/8/12</li> <li>Heavy rainfall reported in the area and extensive external flooding (see severe weather exclusion for August), but Met Office report confirmed 1in0yr rainfall event</li> <li>Model confirms flooding 1in5yrs. On this basis DG5 Panel added property to 2in10 Register</li> <li>Nearby scheme [ x ] is in the process of being delivered and may benefit the affected property</li> <li>Reporter considers flooding may have resulted from severe weather, but understands Panel decision. Recommend that [ x ] is modelled to assess benefit to [ x ].</li> </ul>
[ x ] and [ x ], Rostrevor	22/3/13	<ul style="list-style-type: none"> <li>Internal flooding reported at 3 props</li> <li>FIR not fully completed, but it did indicate that [ x ] was pumped out.</li> <li>Photographic evidence confirmed flooding at all 3 locations</li> <li>Added to 2in10 Register</li> </ul>
[ x ], Carrickfergus	22/8/12	<ul style="list-style-type: none"> <li>Flooding to integral garage</li> <li>FIR not completed, as clean up not required</li> <li>No photographic evidence</li> <li>Property already on the 2in10 Flooding Register</li> </ul>
[ x ], Belfast	27/6/12	<ul style="list-style-type: none"> <li>Severe Weather Event – see below</li> </ul>

On the basis of our findings, we believe the correct assessment appears to have generally been made, although it highlighted that the FIR was not being consistently completed. In the case of [ x ], we consider the property was probably flooded as a result of the severe weather event that occurred on the 22<sup>nd</sup> August 2012 in Portadown. Whilst the Met Office report for a nearby flooders [ x ], confirmed a rainfall return period of 1 in 171yrs, a rainfall return period of 1 in 0yrs was confirmed for [ x ], less than 2 miles away. This demonstrates the vagaries of the Met Office rainfall reports and highlights the benefits of the Company undertaking their own rainfall radar analysis to assess storm return periods.

#### 4.2.3 AIR13 Flooding Incidents (overloaded sewers attributed to severe weather)

For AIR13, NI Water has reported 181 incidents of internal flooding (overloaded sewers) that were attributed to two separate severe weather events.

The main severe weather event occurred on the 27<sup>th</sup> June 2012, resulting in widespread flooding to 185 properties across the greater Belfast area, with a further event occurring on the 22<sup>nd</sup> August 2012 in Portadown. As summarised in the table below, we reviewed the Met Office rainfall reports obtained for each of the affected areas, and confirm the appropriateness of the Company's assessment. Whilst the rainfall report for [ x ], Belfast only suggests a rainfall intensity of 1in17yrs, the Met Office caveats this assessment by stating in the report that '*torrential*,

*thunderly downpours developed across Northern Ireland leading to some flooding' and that 'the nearby rainfall station at Castlereagh recorded a significantly higher daily total than was shown by the Radar estimate for the [ x ] incident site, as such a higher return period for the event is likely. For example, at the Stormont Castle rainfall site a 3 hour total of 43.6mm provided a return period of 95 years'.*

Date of Event	Location	Met Office Result	Properties Affected	Post Codes Affected
27/6/13	[ x ], Belfast	1 in 25 yrs	23	[ x ], [ x ]
	[ x ], Belfast	1 in 17 yrs	63	[ x ], [ x ], [ x ], [ x ]
	[ x ], Belfast	1 in 39 yrs	65	[ x ], [ x ], [ x ], [ x ]
	Dunmurry	1 in 120 yrs	13	[ x ]
	[ x ], Belfast	1 in 33 yrs	14	[ x ]
	Lisburn	1 in 120yrs	7	[ x ], [ x ]
22/8/12	Portadown	1 in 171 yrs	1	[ x ]
Total			186	

As highlighted in Section 4.2.2.1 and above, we are finding frequent anomalies in the Met Office assessments and they do not always reflect the rainfall conditions experienced. With this in mind we have previously encouraged the Company to explore the use of real time radar based rainfall depth and duration data from the Met Office Nimrod system to assess the storm return period for each event. We also highlighted that given the relatively low number of incidents reported, this approach may be uneconomical. NI Water has assessed the relative costs and opted to follow the 'real time radar' approach and are currently in the process of procuring the raw radar data and data analysis service. Whilst it was expected that raw data would be available during the report year, we understand the procurement process is still ongoing.

Whilst the above table suggests 186 properties were flooded during the two severe weather events in 2012/13, the Company has only included those properties that are not already on the flooding register, with properties in [ x ] excluded from the 181 reported in L4 and 4a.

#### 4.2.4 AIR13 Flooding Incidents (other causes)

For AIR13, NI Water has reported 41 incidents of flooding due to other causes, 22 due to blockages, 4 due to collapses and 15 due to equipment failure. As per overloaded incidents, NI Water is an outlier in terms of FOC (blockage) performance, and despite consistently experiencing circa 3-4 times more blockages/km than Scotland and E&W, continues to experience a very low number of FOC serviceability failures.

During the year, NI Water reported a proportionately high number of FOC due to equipment failure. We investigated the nature of these incidents and found that all 15 incidents related to the failure of Sydenham WwPS in Belfast. It appears that alarms were not immediately responded to following pump failure. Due to the high profile nature of this asset and resulting incident, NI Water confirms that Sydenham WwPS

is now continuously manned to avoid future occurrences. In reviewing this incident we found that an FIR had not been completed for all of the properties affected and there was no photographic evidence to confirm the flooding, again demonstrating that the Company's process was not being consistently followed by the Maintenance Contractor.

#### 4.2.4.1 Audit Checks

As above, we reviewed a selection of FOC incidents reported during the year. As summarised below, our findings, are generally supportive of the Company's assessment.

Incident Location	Date of Incident	Incident Summary
[ x ], Omagh	17/9/12	<ul style="list-style-type: none"> <li>Blockage in main caused internal flooding of integral garage</li> <li>Main de-silted on 27/9/12 and repair completed on 5/10/12</li> <li>FIR completed and incident reported on Ellipse</li> <li>FOC - Blockage</li> </ul>
[ x ], Newry	6/8/11	<ul style="list-style-type: none"> <li>Blockage caused by fats &amp; grease and a heavy deposit of rags</li> <li>Removal of rags identified collapsed manhole</li> <li>New 1200mm ring manhole installed</li> <li>FOC – Blockage</li> </ul>
[ x ], Portadown	5/11/12	<ul style="list-style-type: none"> <li>Blockage in main caused internal flooding in Public House.</li> <li>History of flood causing blockages on main (circa 50)</li> <li>Cleanup by Customer</li> <li>FIR not initially completed by Contractor, but asked to re-assess FIR by NIW</li> <li>FOC - Blockage</li> </ul>
[ x ], Derry	20/4/12 & 3/5/12	<ul style="list-style-type: none"> <li>Initial incident reported as a blockage, but collapse was identified during follow-up incident</li> <li>FIR completed but indicated external flooding only – as Contractor primarily involved in external clean up.</li> <li>FOC - Collapse</li> </ul>

During our review of [ x ], Portadown, we noticed that [ x ] had been subject to repeated blockages (circa 50), suggesting there are possibly structural issues with the sewer. We also note that NI Water only has a small SMRP for PC10 (63km). We consider that the lack of a targeted and focussed SMRP has contributed to the disproportionately large number of blockages reported in the year (circa 21,000). We recommend that NI Water considers the implementation of a large scale, widespread, targeted SMRP, whereby a prioritised replacement programme is based on blockage hotspots.

### 4.3 AIR13 DG5 Properties on the At Risk Register

#### 4.3.1 Verification of Historic Risk Register

We found that the Company has continued to investigate, assess and cleanse all historic flooding records. We queried the process adopted by the Company/Consultant to assess each historic incident and found that the following activities were completed in order to assess each property:

- A site visit is completed

- The occupant of the affected property and neighbouring properties are interviewed and a questionnaire completed
- CCTV survey completed of network
- Local operations staff are interviewed
- Historical complaints data (from Ellipse) for the area is reviewed
- DAS model reviewed/updated

At year end, we found that NI Water had completed 54 historic incident reviews with a further 71 forecast for completion during the current year.

#### 4.3.2 AIR13 At Risk Summary

For AIR13, NI Water has reported 40 properties on the 2in10/1in10yr Flooding Registers. We reviewed a sample of these incidents, all of which have been presented to the 'DG5 Panel' for review and allocation, and have included summaries below.

Location	B.I Addition	Findings
[ x ], Ards	Added to 1in10 Register	<ul style="list-style-type: none"> <li>• Property flooded in 2006. Investigation completed in 2012/13.</li> <li>• Customer interview confirmed flooding to integral garage, although thought to be caused by blockage</li> <li>• Model confirmed property should not flood hydraulically</li> <li>• However, Operations believe there are network capacity issues and a very flat grade causing flooding</li> <li>• Added to 1in10 Register to facilitate further investigation.</li> <li>• Reporter considers that NIW has erred on the side of caution, as flooding appears to be due to FOC, but recognises that this cause of action will ensure additional investigation is completed.</li> </ul>
[ x ], Belfast	Added to 2in10 Register	<ul style="list-style-type: none"> <li>• History of flooding at this address, with flooding incidents reported in 2008, 2009 and 2011</li> <li>• History of flooding at [ x ], with both props on the 2in10 Register</li> <li>• Model confirms flooding during a 1in30yr event</li> <li>• Photographic evidence confirming flooding</li> <li>• Large storm water drain found to be discharging to sewer, could be exacerbating the problem</li> <li>• Added to 2in10 Register, as 13 &amp; 15 already on 2in10 Register</li> </ul>
[ x ], Belfast	Added to 2in10 Register	<ul style="list-style-type: none"> <li>• Two incidents of external flooding confirmed on Ellipse</li> <li>• Customer interview suggests frequent internal flooding (12 incidents)</li> <li>• Customer Field Manager advised that this is in a known flooding area. History of flooding in neighbouring properties</li> <li>• NIW advise of a number of undesignated culverts in the area</li> <li>• Added to 2in10 Register, based on customer advice</li> <li>• Looking at option of spilling to neighbouring golf course. NIW need to recognise this is a form of mitigation and not a solution.</li> </ul>
[ x ], Belfast	Added to 2in10 Register	<ul style="list-style-type: none"> <li>• Block of 50 flats, with 3 incidents of flooding to common area/basement in the past 8 years</li> <li>• Model predicts flooding 1in5yrs</li> <li>• Added to 2in10 register on basis of model results</li> </ul>
[ x ], Belfast	Added to 2in10 Register	<ul style="list-style-type: none"> <li>• Flooding incident report on 3/9/08 – basement flooding</li> <li>• Customer confirmed 12 previous incidents, although a number were thought to be caused by blockages</li> <li>• Model predicts flooding 1in1yr</li> <li>• Added to 2in10 Register</li> </ul>
[ x ], Belfast	Added to 2in10 Register	<ul style="list-style-type: none"> <li>• Customer survey confirmed flooding in 2006, 2008 &amp; 2009. Flooding of integral garage through air brick</li> <li>• No Ellipse records, although air brick covers were installed by customer as an insurance requirement (confirming previous</li> </ul>

Location	B.I Addition	Findings
		incidents) <ul style="list-style-type: none"> <li>Model predicts flooding 1in1yr</li> <li>Added to 2in10 Register</li> <li>Company could consider offering mitigation to customers in first instance</li> </ul>

Overall, we consider the DG5 Panel' decisions have been appropriate, although they have still tended to 'err on the side of caution', allocating some properties to the 2in10 Flooding Registers, where addition to the 1in20 DG5 Register or 'Not At Risk' could be argued. However, we understand that addition to the Flooding Register provides a driver for additional investigation to be completed, as in the case of [ x ].

We are pleased to note that properties identified by the Reporter in AIR12 to have been incorrectly assessed have been reassessed by the DG5 Panel and allocated in accordance with the Reporter's assessment.

We reviewed the full evidence pack for [ x ] and note that the resident has self-fitted a number of flood mitigation devices to prevent internal flooding to his property. We note that companies in E&W are funded to provide flooding mitigation, free of charge to flooders in advance of a permanent solution. We consider this to be a good, low cost initiative that both reduces the risk of internal flooding and ensures good customer relations, and recommend that the Company consider offering mitigation in the future, over and above an NRV.

#### 4.3.3 AIR13 Annual Changes to the Flooding Registers

Register movements reported during the year related primarily to investigations and capital schemes completed during the year.

In terms of removals due to company action (Lines 22 and 30), the Company has completed 11 schemes during the year, whereby 1 property was removed from the 2in10 Register and 65 properties from the 1in20yr Flooding Register.

In summary, NI Water have now delivered 84 removals by company action over the PC10 period, which is circa 59 outputs lower than was initially forecast. However, as the Company are experiencing fewer than 10 DG5 incidents per year, we do not consider a large DG5 capital programme going forward to be justified. For PC15, we consider it would be prudent for the Company to invest in the development of solutions for all properties on the Flooding Registers and then prioritise delivery of these on a cost beneficial/highest impact basis, delivering a modest programme for PC15.

We reviewed the details for six of the schemes, including [ x ], a large sewer extension that removed 51 properties from the 1in20 Flooding Register, and have summarised our findings below.

Location	Removal due to Company Action	Findings
51 properties in Omagh town centre	Removed from 1in20 Register	<ul style="list-style-type: none"> <li>Frequent flooding (annually) of 51 properties on 1in20 Register in Omagh due to capacity problems at [ x ] and [ x ]</li> <li>Flooding has historically been mitigated by shutting down PS and diverting flow to river during rainfall events, but this exacerbates a known UID problem.</li> <li>Model of catchment confirmed insufficient capacity in the network.</li> <li>Scheme [ x ] developed to construct a 2,950m x 525-750mm gravity ring main and 635m x 250mm pumping main.</li> <li>Scheme was completed on 31/5/2011 at a cost of [ x ], but not claimed until 2012/13. Issue whereby EP was not informing DG5 Panel of schemes completed.</li> <li>No flooding incidents since scheme. Properties removed from 1in20 Register, although Reporter would argue properties should have been on 2in10 Register.</li> </ul>
[ x ], Greyabbey & [ x ], Greyabbey	Removed from 2in10 Register & Removed from 1in20 Register	<ul style="list-style-type: none"> <li>15 incidents of internal flooding to utility room</li> <li>DAS confirms capacity issues at the WwTW and in the network. All 3 props are the first properties upstream of the WwTW</li> <li>Sewer / Stormwater separation completed, involving the upsize of 479m x 500mm sewer [ x ] was completed on 24/9/12</li> <li>Properties removed from 2in10 and 1in20 Registers, although it appears the 2 props on [ x ] have only suffered from external flooding, but were reported on internal register</li> </ul>
[ x ], Rostrevor	Removed from 1in20 Register	<ul style="list-style-type: none"> <li>Frequent cellar flooders, with incidents reported in 2007 and 2009 (x3)</li> <li>Scheme [ x ] developed to upsize 63m of 375mm sewer to 450mm.</li> <li>Scheme was completed in June 2011 at a cost of [ x ], but not claimed until 2012/13. Issue whereby EP was not informing DG5 Panel of schemes completed.</li> <li>No flooding incidents since scheme. Property removed from 1in20 Register, although Reporter would argue properties should have been on 2in10 Register.</li> </ul>
[ x ], Claudy	Removed from 1in20 Register	<ul style="list-style-type: none"> <li>Surcharging manhole causes flow to back up into the property.</li> <li>An NRV has previously been installed, but not always successful.</li> <li>A scheme [ x ] to construct 94m x 375mm new sewer and divert flows was delivered in September 2012 at a cost of [ x ].</li> <li>Property removed from 1in20 Register</li> </ul>
[ x ], East Belfast	Removed from 1in20 Register	<ul style="list-style-type: none"> <li>Suggestion that 9 props on [ x ], had a history of flooding, but evidence only available for [ x ], both of which have had NRVs fitted previously.</li> <li>A scheme [ x ] to construct 238m x 900mm new sewer and divert flows was delivered in June 2011. Issue whereby EP was not informing DG5 Panel of schemes completed.</li> <li>No flooding incidents since scheme. Two properties removed from 1in20 Register, although possible that 9 properties have benefited from scheme.</li> </ul>
[ x ], Belfast	Removed from 1in20 Register	<ul style="list-style-type: none"> <li>Internal cellar flooding previously reported, and 4 separate external flooding incidents in 2009</li> <li>Scheme [ x ] to provide localised upsizing and relaying to re-profile network (156m x 150mm in total) was completed on 26/6/12.</li> <li>Two properties removed from 1in20 Register.</li> </ul>

As summarised above, we identified that a number of the schemes reviewed were actually delivered in 2011/12, but were not claimed until 2012/13. It appears that NI Water's Engineering Procurement was not informing the DG5 Panel when schemes were completed. We were advised that systems have now been modified to ensure the DG5 Panel are automatically notified of the beneficial use dates of DG5 schemes, to ensure outputs are claimed within the year delivered.

We also identified a number of examples of capital removals categorised as 1in20 outputs, when there was sufficient evidence to suggest the properties could easily be 2in10 outputs.

NI Water has reported a relatively low average capex cost for the 1in20 outputs in AIR13, due to the impact of the Omagh scheme that delivered 51 outputs at a capital cost of £2.2m (£43k/output). Whilst high output, low unit cost schemes are indicative of a large DG5 programme, the small number of properties currently on the NI Water DG5 Register suggests that similar large schemes are unlikely to occur very frequently, meaning an average unit cost is likely to be higher in future years.

The Company has also reported 26 removals as a result of better information, of which we reviewed 8 examples, affecting 11 properties, as summarised below.

Location	B.I Removal	Findings
[ x ], Portadown	1in20	<ul style="list-style-type: none"> <li>Customer interviewed – confirmed no flooding in previous 10 years</li> <li>Incidents of slow draining sink/shower, suggests internal blockage</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Belfast	1in20	<ul style="list-style-type: none"> <li>Investigations confirmed property does not exist. There is a [ x ] on the Register with an NRV fitted</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Belfast	1in20	<ul style="list-style-type: none"> <li>Ops capital scheme delivered in 2009 – 22m x 9" sewer</li> <li>Pre PC10 output, therefore not claimable</li> <li>No flooding reported since, although scheme was not modelled to confirm props no longer at risk.</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Newry	1in20	<ul style="list-style-type: none"> <li>Numerous incidents of flooding, but nothing since 2009</li> <li>Ops capital scheme delivered in 2009 – 22m x 9" sewer</li> <li>Pre PC10 output, therefore not claimable</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Markethill	1in20	<ul style="list-style-type: none"> <li>Investigation and customer interview confirmed no flooding since 2007.</li> <li>Sewer was de-silted in 2007, suggesting FOC</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Kilkeel	1in20	<ul style="list-style-type: none"> <li>Customer Field Manager and Asset Manager confirm no history of flooding at this property, although customer did not respond to NIW contact</li> <li>This is a new property on a new estate (sewer laid in 2003), with few properties draining to SPS, suggesting this should not be at risk of flooding</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Eniskillen	1in20	<ul style="list-style-type: none"> <li>Last reported incident of flooding in 2005</li> <li>No flooding confirmed by occupant for previous 5 years</li> <li>DAS model confirms property is not at risk of flooding</li> <li>Removed from 1in20 Register</li> </ul>
[ x ], Ballymena	1in20	<ul style="list-style-type: none"> <li>NIHE property</li> <li>Multiple incidents of external flooding reported by customer but no incidents of internal flooding</li> <li>Investigation suggests surface water flooding only</li> <li>DAS model confirms property not at risk of flooding</li> <li>Removed from 1in20 Register</li> </ul>

We also reviewed the 2 movements between the Registers, one of which was based on a Reporter recommendation from AIR12.

Location	B.I Movement	Findings
[ x ], Belfast	2in10 to	<ul style="list-style-type: none"> <li>Two incidents during 2011/12, but not reported to NIW.</li> <li>Some evidence of external flooding historically (photographic and</li> </ul>

Location	B.I Movement	Findings
	1in20	<p>Ellipse), but only anecdotal evidence of internal flooding during heavy rain.</p> <ul style="list-style-type: none"> <li>• DG5 Panel initially recommended addition to 2in10 Register,</li> <li>• Following review for AIR12, Reporter recommended movement to 1in20 Register pending actual confirmed incidents.</li> <li>• DG5 Panel accepted Reporter view and moved property to 1in20 Register</li> </ul>
[ x ], Rostrevor	1in10 to 2in10	<ul style="list-style-type: none"> <li>• Additional internal flooding incident reported on 22/3/13. Three recorded incidents in last 4years</li> <li>• Met Office rainfall report confirmed 1in9yr rainfall event</li> <li>• DAS confirms capacity issues in network, recommending a 65m<sup>3</sup> storage tank, although suspicion that incident was exacerbated by Rivers Agency pumping flood water into a nearby sewer.</li> <li>• DG5 panel recommend movement from 1in10 to 2in10 Reg - OK</li> </ul>

#### 4.4 Confidence Grades

The Company has revised the confidence grade for Line 1 from C2 to A2 in AIR12; this is to be consistent with Tables 4 and 13. However, we believe that the confidence grades should remain C2. Please see our detailed comments on the confidence grades in Table 7.

The Company has once again assigned a confidence grade of B2 to Lines 2 to 11, on the basis that all data is derived from Ellipse, and that the Company undertakes an investigation of all reported incidents. We acknowledge the additional layer of investigation undertaken in order to verify each incident, and understand the logic behind the Company's decision, but as the number of reported incidents is so small, we would consider any variance in numbers would be considerably greater than +/- 5%. Based on the observations/challenges made above, where 4 of the 12 initial flooding incidents in L3 were incorrectly allocated, we consider a B3 to be more appropriate for these lines to reflect the improving rigour applied.

As per Lines 2 to 11, a confidence grade of B2 has been assigned to Lines 12 to 14 and 22 to 34. Whilst we acknowledge the increased rigour applied by the 'DG5 Panel' to assess all 'in year' incidents, there is still an element of uncertainty as to whether all properties are appropriately allocated. Based on the observations made above on a number of properties and in the highlighting of schemes that were not claimed in the year they were delivered, we consider retention of a B3 to be more appropriate for these lines to reflect the improving rigour applied.

All other confidence grades are consistent with our understanding of the systems used to derive the data.

#### 5. Consistency Checks

- Line 14 = Line 14 previous year – (Line 22 + Line 23) + (Line 24 + Line 25)
- Line 15 = Line 15 previous year – (Line 30 + Line 31) + (Line 32 + Line 33)

**Date:** 29 July 2013  
**Prepared by:** HMS



**Table 3a – Sewerage Service – External Flooding****Commentary by REPORTER****1. Background**

The information included in this table is used to measure the frequency of actual flooding of external areas from the public sewerage system by foul water, surface water or combined sewage

The Table 3a – Annual External Flooding Summary includes properties externally flooded as a result of overloaded sewers and other causes

The Areas on the external “at risk” register cover areas at risk of flooding more frequently than once in twenty years and once or twice in ten years, problem status of the external areas on the register and annual changes to the register.

**2. Key Findings and Recommendations**

- For AIR13, NI Water has produced a written methodology for the collection and reporting of external flooding incidents and some investigation of incidents has taken place throughout the year. However, the process is still heavily dependent on the assumption that information provided by the maintenance contractor is accurate and complete.
- On the basis of the above, NI Water has reported 225 incidents of external flooding due to overloaded sewers for AIR13, and 3,576 incidents of external flooding due to other causes
- NI Water has investigated circa 100 external flooding incidents during the year, which has highlighted some of the inadequacies of the information collected by the maintenance contractor for each incident.
- Whilst there is a contractual obligation for the maintenance contractor to collect sufficient levels of detail at each incident, we have seen little evidence of improvement over the years, severely restricting the Company’s ability to understand and report on the true flooding liability. As such, it may be prudent to take responsibility for data collection away from the maintenance contractor, and for the local Customer Field Manager (CFM) to take ownership of the flooding incidents reported in his/her area.
- For AIR13, NI Water has started to populate an external flooding risk register. Those incidents which occurred during the year and were deemed to have been caused by ‘hydraulic overloading’, and were not due to severe weather have been transferred to the At Risk Register.
- As the procedures used for reporting internal and external flooding are theoretically the same, our findings and recommendations in our Table 3 commentary also apply to Table 3a.

### **3. Audit Approach**

The audit consisted of a brief discussion with the NI Water system holder to discuss the methodology and data that has been used to populate this table, and a follow up discussion with the Engineer responsible for undertaking the sample of investigations completed during the year.

### **4. Audit Findings**

#### **4.1 General**

Due to in-house resource constraints and other business priorities, there has historically been very little focus on the management and reporting of external flooding data. Any data historically reported in Table 3a has been taken directly from the maintenance contractor's monthly returns, which had not been validated or checked.

For AIR13, NI Water has produced a written methodology for the collection and reporting of external flooding incidents and some analysis of incidents has taken place throughout the year. However, as Company priorities are still not fully focussed on external flooding, the process is still heavily dependent on the assumption the information provided by the maintenance contractor is accurate and complete.

During the year, NI Water received 7,006 external flooding contacts, and an additional 1,782 potential incidents, referred to the CRC by Network Operations staff. In order to assess the validity of each flooding contact, NI Water has reviewed the contractor's monthly returns and cross checked with the Flooding Incident Reports (FIR) completed for each incident. Where the FIR has not been sufficiently completed or the monthly returns do not identify a cause, NI Water has erred on the side of caution and counted the incident as an external flooding event (due to overloaded sewers). On the basis of this high level review, the Company has identified that:

- 225 contacts related to external flooding incidents (due to overloaded sewers)
- 3,576 contacts related to external flooding incidents (other causes), and
- 4,957 contacts were either not deemed to be external flooding incidents, or repeat calls/follow ups.

In order to verify the monthly contractor returns and confirm the data reported by the maintenance contractor, NI Water has investigated a selection of the incidents reported during the year. For AIR13, NI Water investigated circa 100 external flooding incidents. The approach that was used to investigate each incident is similar to the approach adopted to review historic internal incidents on T3 and involves the following:

- Check and confirm details included in FIR (including photographic evidence)
- Desktop analysis of sewer records on GIS to determine pipe type, size, gradient and performance history
- Discuss site with Field Manager to understand flooding history

- Visit the site to assess topography and interview residents/neighbours, leaving a questionnaire if resident is not available
- Review the DAS where available
- Commission CCTV survey if deemed appropriate

Through the investigation process, NI Water has identified that the contractor has tended to record each incident as a blockage, even when flooding had occurred; and that a large proportion of the incidents reviewed, and initially reported as external flooding (overloaded) were actually FOC incidents; further reducing confidence in the data collected by the maintenance contractor. Whilst the sample of incidents reviewed was relatively small, and the Company are still primarily reliant on maintenance contractor records to determine the annual external flooding liability, the investigations have highlighted the inadequacies of the information collected by the contractor for each incident.

In order for the data collection/reporting process to be effective, it is vital that sufficient evidence/information is collected at the time of the incident. Whilst there is a contractual obligation for maintenance contractor to collect sufficient levels of detail at each incident, we have seen little evidence of improvement over the years, severely restricting the Company's ability to understand and report on the true flooding liability. As highlighted in previous AIR Reporter Commentaries for T3 and 3a, we consider it may be prudent to take responsibility for data collection away from the maintenance contractor, and for the local Customer Field Manager (CFM) to take ownership of the flooding incidents reported in his/her area. The CFM should be able to utilise their operational experience to assess the flooding mechanism, discuss the incident with the customer and fully complete the FIR, providing a comprehensive audit record to assist in incident assessment. We have seen evidence of this approach at other companies, resulting in an improved understanding of flooding incidents and mechanisms, facilitating improved data confidence and network understanding.

## **4.2 DG5 Annual Flooding Summary**

For AIR13, 3,801 areas were reported to have flooded externally during the year, of which 225 were deemed to have flooded due to overloaded sewers. The majority of which were deemed to have flooded as a result of 'other causes', primarily blockages.

As highlighted above, the analysis for AIR13 has primarily been made on the basis that the information supplied by the external contractor is accurate. Whilst some investigation has been carried out in relation to individual incidents, the results of the investigation has identified that a number of the incidents initially reported as hydraulic were actually FOC. As a consequence the data continues to have a low Confidence Grade of D6.

**4.3 DG5 Properties on the At Risk Register**

For AIR13, those incidents which occurred during the year and were deemed to have been caused by 'hydraulic overloading', and were not due to severe weather have been transferred to the At Risk Register.

On this basis, 196 areas were added to the Register as a result of flooding in 2012/13, with the balance from other sources – primarily information supplied by operational staff.

NI Water has opted to default all the additions to the 1in10 Register on the basis. In the absence of better information, we recommend the Company add all arisals to the 1in20 Register.

**5. Confidence Grades**

A confidence grade of D6 has been assigned to lines 1 to 15 on the basis that the raw data has been taken from Contractor records with limited investigation completed to verify the Contractor records.

**Date:** 29 July 2013  
**Prepared by:** HMS

**Table 4 - Customer Service – 1****Commentary by REPORTER****DG6 Response to billing contacts (lines 1 to 5)****1. Background**

These lines collect data on the number of billing contacts received and the time taken to respond to them. This information is used to inform and compare performance for the DG6 indicator.

**2. Key Findings**

- NI Water report a 17% reduction in billing contacts received. The Company have embarked on a number of initiatives which appear to have reduced contact volumes.
- We have reviewed a number of written contacts to satisfactorily test various aspects of the Company's methodology (see Section 4 for details). On the basis of the checks carried out and discussions held we believe the Company's approach is as described in their methodology statement and largely in line with the reporting guidance.
- Our audits indicated satisfactory compliance with the Reporting Requirements.
- The methodology has not changed from AIR12 to AIR13.

**2.1 Recommendations**

- We recommend the Company investigate what risk, if any, third party dispatched items may have on the accuracy and reliability of DG6 reporting.
- We recommend that the Company documents the procedures in place for when items need to be re-categorised between regulatory categories within their methodology.

**3. Audit Approach**

To verify the data reported our audit consisted of an interview with the NI Water system holders, an audit of the data from the Company's systems to the final table and a review of the current Company methodology for data collation. This year's data has been compared with last years table entries to identify significant areas of change.

We have checked data reported in the final submission for consistency with previously audited information.

**4. Audit Findings**

In our AIR13 audits we have reviewed a number of aspects of the Company's methodology. We have documented our audit findings below in the following

structure:

- Section 4.1 – DG6 performance
- Section 4.2 – Dealing with paper based contacts
- Section 4.3 – Non-DG correspondence
- Section 4.4 – Telephone billing contacts
- Section 4.5 – Dispatch of items by third parties
- Section 4.6 – Number of connected properties

#### **4.1 DG6 Performance**

NI Water document that they have received 77,051 billing contacts during the 12/13 Report Year. When compared to the previous Report Year the overall number of billing contacts has decreased by approximately 15,000 or circa 17%. Decreases are observed in both the written and telephone contact volumes. Describing a number of initiatives, NI Water advised that realising the benefits of these projects has reduced contact volumes. Details on these initiatives are provided in the Company commentary.

In terms of responding to DG6 billing contacts, the Company has reported that they dealt with over 100% of contacts within 5 working days 0.02% were dealt with in more than 10 working days. Achieving over 100% is possible because in Line 1 NI Water reported the actual number of complaints received in the Report Year whilst the those contacts reported in Lines 2 and 3 are the number of open contacts responded to in the Year (please see Section 5 below for additional detail on the Company's reporting methodology). A percentage of 100% therefore indicates that the Company has closed more contacts than it has received during the year. Care should therefore be taken when interpreting relative performance.

#### **4.2 Paper based correspondence**

All customer contact information is managed through customer contact and billing system Rapid. We reviewed the operation of Rapid and confirm the principles of the Company's methodology are appropriate to meet the Reporting Requirements. All incoming correspondence is scanned and indexed before being passed to an Agent. The Rapid system subsequently offers work allocation, tracking and retrieval functions to the Company.

We queried the measures the Company takes to ensure guidance on the regulatory definitions (e.g. what constitutes a billing contact and written complaint) are provided to Agents. NI Water provided a guidance document which had been recently communicated across the business detailing the regulatory requirements for the allocation of customer contact. We reviewed this document and concurred with the Company's interpretation of the guidance as this was largely based on the AIR reporting requirements.

Despite the controls in place to mitigate the risk of mis-classification, there is possibility that contacts may need to be reclassified. We queried what controls the Company employs around the reclassification of contacts. NI Water explained that if

an agent is allocated an item from their work queue and recognises the CMS type is incorrect they are able to change the CMS code and would, if required, seek approval to pass the item to the correct team. Whilst this acts an extra check we recommend that the Company documents the procedures in place for when items need to be re-categorised. Documentation was provided after the audit relating to recategorisation but we have not tested the process described. We recommend that these instructions are incorporated into future methodology statements.

During our audits we reviewed a sample of correspondence received by the Company during the year. This sample was chosen at random from contacts closed over the course of the year. Our audit was designed to check the following:

- Correct categorisation
- Correct application of the DG6 Reporting Requirements, which included:
  - dispatch
  - substantive replies
  - application of response criteria
  - date recording on systems.
- Evidence of appropriate audit trails

In total we reviewed a sample of 20 contacts. These were selected at random and included written billing contacts (14) and telephone contacts (6). For the latter contact type, we did not undertake any call listening exercises but did review the audit trail for each contact. A summary of our audit findings are detailed below.

We reviewed the audit trail for all of the contacts selected and confirm each contact was correctly reported as DG6 contacts and treated in line with the Reporting Requirements. We observed one contact where the audit trail for the holding telephone response was not recorded on the call memo and another telephone contact where the compliant flag should have been marked. Based on these observations, we recommend NI Water reinforces the importance of maintaining accurate audit trail with its Agents.

We found that all written contacts received by the Company are logged on day of receipt. We reviewed the Company's treatment of email contacts and believe this to be in line with the guidance. We also reviewed the methodology received on non-working days (such as weekends) and confirm the methodology employed should ensure that contacts received at these times are reported in line with the reporting guidance i.e. the date of receipt is classed as day zero.

- **Use of holding replies**

NI Water explained that they do use holding replies to close out contacts for reporting purposes. In previous audits we have reviewed several examples of these where contacts generally relating to operational matters where additional investigatory work needs to be undertaken. Our AIR13 audit checks did also review replies of this kind and from the evidence reviewed and discussions held we believe the Company's approach to these types of contacts is in line with the Reporting Requirements i.e. a

substantive holding response closes the contact for regulatory purposes. We also note the Company's efforts to reduce the number of holding responses and monitoring of the duration a contact is 'open'.

#### **4.3 Non-DG correspondence**

During our audit we sampled 10 non DG items (which are defined as 'non-reportables' by NI Water) and found these to be correctly excluded from the DG6 measure.

#### **4.4 Telephone billing contacts**

As anticipated the vast majority of DG6 billings contacts are received by NI Water over the phone. The Company did provide a list of high level CMS types which are used to allocate calls to DG6 categories and we undertook a brief review of this listing. Using the CMS type title to confirm the allocation to billing contacts we believe the allocations to be reasonable. We have not undertaken any call listening exercises but understand the Company undertakes similar exercises during their monthly reporting which should help to ensure consistency to the reporting guidance.

#### **4.5 Dispatch of items by third parties**

We queried how they the date of dispatch for items undertaken by a third party e.g. such as copy bills are recorded. NI Water advised the Company's agent has a Service Level Agreement to action these items, but for DG6 reporting purposes the date when the action was requested is used to close the contact.

Whilst this is not strictly in accordance with the requirements, we understand that the SLA with the third party is for any requests to be processed and dispatched the day following. NI Water outlined that a report (ME50) is run overnight to identify picks up all items which require printing. A reconciliation exercise the morning following then ensures all items are passed to the third party who are then responsible for dispatching the items by the end of that day.

Not all DG6 responses are dispatched this way as the process only relates to certain stationary types. If one assumes that the majority of requests are actioned on day of the day of receipt (i.e. day 0) the impact upon reporting durations should be minimal as the day 5 standard should not be exceeded. However, we recommend the Company investigate what risk, if any, third party dispatched items may have on the accuracy and reliability of DG6 reporting.

#### **4.6 Number of connected properties**

As reported elsewhere the Company has derived their estimates of property numbers from extracts produced from their Rapid billing system. We have followed the Company's methodology and believe it to be in accordance with the Reporting Requirements and consistent with the summary information presented to the Reporter during the audit. We also confirm that the methodologies adopted are same as AIR12.



**Line 8 – Number of properties connected for sewerage services only**

Line definition		AIR11 using AIR12 method	AIR12	AIR13
Table 4 Line 8	Sewerage only property	27	25	25

The number of sewerage only properties is directly from Rapid. There is no change from AIR12 figure.

**Line 7 – Number of properties connected for water and sewerage services**

Line definition		AIR11 using AIR12 method	AIR12	AIR13
Table 2 Line 1	Total water connected property	802,457	810,367	817,960
Table 17a Line 4	Total sewerage connected property	655,489	660,813	665,214
Table 4 Line 8	Sewerage only property	27	25	25
Table 4 Line 7	Water & sewerage property	$(655,489 - 27) =$ <b>655,462</b>	$(660,813 - 25) =$ <b>660,788</b>	$(665,214 - 25) =$ <b>665,189</b>

There has been a slight increase of 4,401 (0.7%) in the number of water and sewerage connected property.

**Line 6 – Number of properties connected for water supply only**

Line definition		AIR11 using AIR12 method	AIR12	AIR13
Table 2 Line 1	Total water connected property	802,457	810,367	817,960
Table 17a Line 4	Total sewerage connected property	655,489	660,813	665,214
Table 4 Line 8	Sewerage only property	27	25	25
Table 4 Line 7	Water & sewerage property	655,462	660,788	665,189
Table 4 Line 6	Water only property	$(802,457 - 655,462) =$ <b>146,995</b>	$(810,367 - 660,788) =$ <b>149,579</b>	$(817,960 - 665,214) =$ <b>152,771</b>

Again, there has been a slight increase of 3,192 (2.1%) in the number of water and sewerage connected property.

**5. Company Methodology**

To confirm the methods used by the Company are as described and are generally in line with the Reporting Requirements, we performed a series of reviews and audit checks. From these checks we are content that the approach adopted is in line with their stated methodology.

On the basis of our audits from AIR13 we have provided a summary of our findings

and the Company's methodology below.

- As in previous years', NI Water deals with all written correspondence which is categorised as being billing related. Contacts received via the telephone are dealt with by the Company's agents, Echo.
- Correspondence is opened and date stamped on the date of receipt. At this point, correspondence is allocated between various categories including correspondence relating to DG6 (billing contact) and DG7 complaints.
- Written complaints about billing are recorded in DG7 (Table 5) not DG6.
- A high proportion of billing contacts are counted from the telephone system. Calls to these lines are recorded on Rapid and recognised by CMS types.
- Contacts are recorded on Rapid and this system is interrogated to produce the data reported.
- Once correspondence has been opened and indexed it is routed to an agent for action. Managers maintain a list of prioritised contacts which ensures that contacts are dealt with in line with the SLA and regulatory timescales.
- Contacts are closed when a response is sent to the customer by the contact team. We discussed with the Company various logistical points of this process including the times of collection and dispatch, resourcing issues and contingency plans to ensure all mail is dispatched on the same day a contact is closed. From these discussions we believe the practice adopted by the Company is suitable (except for automated dispatch items) to ensure satisfactory compliance with the Reporting Requirements.

The Company reports all billing contacts received during the Report Year within line 1. To report lines 2 to 4 NI Water reports the number of contacts in the year as the number of contacts 'closed' in the year. We understand that more contacts have been closed in the year than received due to efforts addresses the previous backlog of enquiries. Care should therefore be taken when interpreting response time performance as received over closed trend information could be misleading.

The Company advised that whilst holding responses close the contact for reporting purposes the contact remains open on their system until a final response is issued by the contact team. NI Water explained its methodology for reporting contacts received in one reporting period but not closed until the following year. We understand for AIR13, if a contact was received in the 2012/13 Report Year then this would be included Line 1 of Table 4. If a complaint received in 2012/13 is addressed by a holding response in the 2013/14 year the response time will be reported in AIR14. Where a holding letter has been issued in the same year as the outstanding DG6 contact, but has not been closed by the date of the year end extraction then there is a risk this contact would not be reported. However, we believe this risk is reduced by the Company's efforts to reduce the number of holding responses issued.

The Reporter is content that the methodology employed regarding contacts received versus contacts closed in the year is satisfactory as the staggered approach should mean (assuming the methodology is consistent in subsequent AIRs) contacts are

reported as received then closed in the subsequent year. Nevertheless there is also a small risk that contacts may be unreported if the scenario above exists. Similarly it is possible that over 100% can be reported in Line 2 of Table 4.

#### **6. Company Assumptions**

Except where disclosed above, no assumptions have been identified.

#### **7. Confidence Grades**

The Company has applied a confidence grade of B2 to all the DG6 related information in the table. This is consistent with the grade reported in AIR12. Whilst we have not undertaken any statistical tests, this grade appears reasonable. Further control and reassurance is also gained from checks undertaken by the Echo Contract Management Team, Internal Audit and the external quality certification held by the Company service agents.

The Company assigned the confidence grades of A2 to Lines 6 to 8. However we believe that these lines are calculated from Tables 2 and 17a. During our Table 7 audit, we found some anomalies in their billing and new connection systems. Thus we feel that the confidence grades of these lines should be B3. Please see our Table 7 commentary for further detail.

#### **8. Consistency Checks**

We confirm that the sum of Lines 6 and 7 of Table 4 are consistent with Line 1 – Total connected properties at year end in Table 2.

**Date:** 29 July 2013  
**Prepared by:** HMS

**Table 5 - Customer Service – 2****Commentary by REPORTER****DG7 - Response to written complaints, Lines 1- 5****1. Background**

The DG7 indicator shows the total number of written complaints received and the number dealt with within the specified time bands.

**2. Key Findings**

- The Company report that the total volume of written complaints received has increased. Overall the number of complaints has increased by 36% or 833 complaints in real terms.

**2.1 Recommendations**

- We recommend that the Company documents the procedures in place for when items need to be re-categorised between regulatory categories. A guidance document was shared with the Reporter during the latter stages of the audit process and we recommend that this is referenced in the methodologies produced in future years.

**3. Audit Approach**

To check the accuracy of the information reported, our audit consisted of an interview with the NI Water line holders, an audit of the data from the Company's systems to the final table and a review of the current methodology for data collation. This year's data has also been compared with last year's table entries.

**4. Audit Findings**

We found that the procedures and methodology broadly consistent to that reviewed previously.

In AIR12, we observed NI Water responds to the majority of complaints by letter. This somewhat differed to our observations elsewhere in the industry where there was an increasing tendency to resolve complaints via telephone. Companies endeavouring to resolve complaints this way believe that increased customer interaction assists in reducing the number of repeat contacts. We suggested it may be worth NI Water considering this alternative and within our AIR13 audits NI Water advised that agents had been trained and a small number of complaints are responded to via telephone. Where this is the case agents are instructed to record the response on the system to ensure appropriate audit trails are maintained.

#### 4.1 Line 1 - Total written complaints

The volume of complaints has increased by 36% or 833 complaints in real terms.

Increases in 2012/13 volumes have been attributed to the conclusion of the test meter project which has resulted in a number of disputed liability contacts and also the relatively wet summer which resulted in a number of flooding events.

#### 4.2 Lines 2 to 5 – DG7 Performance

The Company has maintained a good level of performance in responding to complaints. Overall, nearly all written complaints were responded to within 10 working days and only one written complaint was dealt with in more than 20 working days.

The Company's reported performance is ahead of their SBP target (98.5%) of contacts dealt with within 10 working days. Using the equivalent Ofwat assessment criteria for DG7, the NI Water's performance for 2012/13 Report Year would be classified as 'good'.

#### 4.3 Audit Checks

During our audits we reviewed a sample of correspondence received by the Company during the year. This sample was chosen at random from contacts received throughout the 12/13 year. Our audit checks were designed to check the following:

- the contact has correctly been classified as DG7
- the Rapid system correctly records the incoming and response date
- there was an audit trail evident for each complaint
- the nature of the complaint (to inform table 5a)
- the response to the complaint is substantive.

In total we reviewed a sample of 20 contacts to review the criteria set out above. A summary of our audit findings are detailed below. Our audit checks covered complaints received by both post and email.

We found that the Company's approach is consistent with their stated methodologies. The complaints reviewed were correctly classified as DG7 written complaints. We reviewed the audit trail for all of the contacts selected and confirm that they were treated in line with the Reporting Requirements.

- Dating of correspondence

During our audit checks, for each compliant we satisfactorily tested the date of receipt was consistent between date stamp on the incoming correspondence and the date recorded on Rapid. As all incoming date stamped on date of receipt we are content that the Company recording of incoming dates are appropriate.

- Use of holding replies

Within previous audit checks we noted numerous instances where the Company issues holding responses to customer complaints. This effectively closes the contact for regulatory reporting but the contact remains open on the Company's system to ensure a response is issued to the customer. Our audit sample did not review any holding responses of this type but we chose to undertake additional testing in this area. We checked a further 5 samples and believe these to be reasonably based and in line with the guidance.

- Substantiveness of Responses

We confirm that all replies reviewed were considered substantive. Therefore on the basis of the checks undertaken we are content that the Company's interpretation of a substantive response is sound.

- Dispatch

We also questioned the Company on various logistical points of the dispatch process, including the times of collection and dispatch and resourcing issues to ensure all mail is dispatched appropriately. On the basis of these discussions we are content NI Water's approach is consistent with their stated approach and with the NIAUR Reporting Requirements.

#### **4.4 Treatment of emails**

We asked the Company to clarify the processes for email communication and found in general it is treated in the same way as written correspondence. Emails are logged, date stamped, indexed and passed to an Agent as per the Company's methodology statement. The Company advised its' procedures ensuring that all email contacts are logged on the day of receipt which is especially pertinent to emails received on non-working days or out of hours. We tested NI Water's methodology for recording the receipt date of a complaint received via email and the outcomes of these checks were satisfactory.

#### **4.5 Exclusions from the DG7 indicator**

NI Water advised that they do not generally exclude any complaints from the DG7 indicator (18 were excluded in 11/12).

The reporting guidance allows complaints to be excluded for a number of reasons (e.g. about non-appointed activities). Practice elsewhere also excludes contacts where they have fully exhausted the complaints process (where complaints are ongoing over a considerable period and any additional information received from the customer would not change the outcome of the complaint).

The small number of complaints excluded in 12/13 did not form part of our sample audit.

Following our recommendation last year we understand NI Water does now

undertake routine checks on non-reportable categories which should provide further assurance these are categorised correctly.

#### **4.6 Postal Strikes**

We questioned NI Water as to whether the mail strikes had a material impact on their operations (and performance) as they would not have received incoming mail or been able to dispatch mail on certain days. In response the Company advised that they do not believe interruptions in the postal service have had a material impact on their operations in 2012/13.

#### **4.7 Complaints PPP and other contractors**

Last year we reported that no formal process existed to record written complaints received by PPP concessionaires (or other contractors working on NI Water's behalf) which is not in accordance with the reporting guidance. At this time we recommend investigations are carried out to ascertain the potential volume of such complaints and reporting protocols and methodologies updated to ensure inclusion in future years. We are pleased to report that the Company has now implemented a process by which to collate these complaint types, and whilst the volumes are small, NI Water confirms they have been reported within AIR13 volumes.

#### **4.8 Complaint reclassifications**

We queried the measures the Company takes to ensure guidance on the regulatory definitions (e.g. what constitutes a billing contact and written complaint) are provided to Agents. NI Water provided a guidance document which had been recently communicated across the business detailing the regulatory requirements for the allocation of customer contact. We reviewed this document and concurred with the Company's interpretation of the guidance as this was largely based on the AIR reporting requirements.

Despite the controls in place to mitigate the risk of mis-classification, there is possibility that contacts may need to be reclassified. We queried what controls the Company employs around the reclassification of contacts. NI Water explained that if an agent is allocated an item from their work queue and recognises the CMS type is incorrect they are able to change the CMS code and would, if required, seek approval to pass the item to the correct team. Whilst this acts an extra check we recommend that the Company documents the procedures in place for when items need to be re-categorised. Following the audit the Company produced a guidance document and we recommended this is referenced within their methodologies in future years.

#### **4.9 Treatment of contacts from CCNI**

Please see Table 5a.

### **5. Company Methodology**

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## 5.1 Overview

To confirm the methods used by the Company are as described we performed a series of reviews and audit checks. From these checks we are content that the approach adopted is in line with NI Water's stated methodology and generally in line with the Reporting Requirements.

On the basis of our audits from, we have provided a summary of our findings and the Company's methodology below:

- The definition of a written complaint is aligned to that stated in the reporting guidance.
- Correspondence is opened and date stamped on the date of receipt. At this point, correspondence is allocated between various categories including correspondence relating to DG6 (billing contact) and DG7 complaints.
- All Customer contact information is managed through customer contact and billing system.
- All mail is logged on the day it is received.
- Once correspondence has been opened and indexed it is routed to an agent for action. Managers maintain a list of prioritised contacts which ensures that contacts are dealt with in line with the SLA and regulatory timescales.
- Contacts are closed when a response is sent to the customer by the contact team. We discussed with the Company various logistical points of this process including the times of collection and dispatch, resourcing issues and contingency plans to ensure all mail is dispatched on the same day a contact is closed. From these discussions we believe the practice adopted by the Company is suitable to ensure satisfactory compliance with the Reporting Requirements.

## 5.2 Reporting

The Company reports all complaints 'received' during the Report Year within line 1. To report Lines 2 to 4 NI Water reports the number of contacts in the year as the number of complaints 'closed' in the year.

To report data the Company relies on data extracted from CorVu reports.

The Company advised that whilst holding responses close the contact for reporting purposes the contact remains open on their system until a final response is issued by the contact team. NI Water explained its methodology for reporting complaints received in one reporting period but not closed until the following year. We understand for AIR13, if a contact was received in the 2012/13 Report Year then this would be included line 1 of Table 5. If a complaint received in 2012/13 is addressed by a holding response in the 2013/14 year the response time will be reported in AIR14. Where a holding letter has been issued in the same year as the outstanding DG7 contact, but hasn't been closed by the date of the year end extraction then there is a risk this contact would not be reported. However, we believe this risk is reduced by the Company's efforts to reduce the number of holding responses issued.



The Reporter is content that the methodology employed regarding contacts received versus contacts closed in the year is satisfactory as the staggered approach should mean (assuming the methodology is consistent in subsequent AIR's) contacts are reported as received then closed in the subsequent year. Nevertheless there is also a small risk that contacts may be unreported if the scenario above exists.

### **5.3 Quality Assurance**

During our audit work we queried what QA controls NI Water operates on complaints received. The Company outlined the various controls in place, including the administration of their customer service contract and the checks undertaken by the Contract Office team. We believe these should help to promote good practice and help improve the reporting process.

## **6. Company Assumptions**

There are no further material assumptions that we have identified.

## **7. Confidence Grades**

The Company has applied a confidence grade of B2 to all the DG6 related information in the table. This is consistent with the grade reported in AIR12. Whilst we have not undertaken any statistical tests, this grade appears reasonable. Further control and reassurance is also gained from checks undertaken by the Contract Management Team and Internal Audit.

**DG8 - Bills for metered customers, Lines 6 – 12****1. Background**

This indicator identifies the proportion of metered customers who receive bills during the year based on actual meter readings and the proportion based on estimated readings.

**2. Key Findings**

- The Company report that 98.70% of customers received a bill based on a meter reading in 2012/13. This is ahead of the Company's PC10 target which was 98.5% and also an improvement on the percentage reported in the previous year.

**2.1 Recommendations**

- Investigate allocation of voids and consider any consequential impact on void reporting elsewhere in the AIR.

**3. Audit Approach**

To verify the information provided by the Company our audit consisted of an interview with the NI Water system holder, a review of the current methodology for data collation, an audit of the data from the Company's systems to the final table and a comparison with last year's table entries.

We also checked the data in the final submission for consistency with previously audited data.

**4. Audit Findings****4.1 General**

The information to derive DG8 data is supplied from reports produced from the Company's billing records. Summary tables are produced from these records to collate figures for the final table. We reviewed the data in the reports and followed the data trail through to the Company's final table.

**4.2 DG8 Performance**

After subtracting the number of exclusions reported in line 6 from the total number of metered accounts reported in line 7, a total of 67,476 accounts are included with the DG8 indicator. The Company state that of this total, 98.6% of customers received a bill based on a meter reading in 2012/13. The reported performance is also above that reported in 11/12 and the Company's target of 98.5%. The percentage of meters not read by the Company for two years equates to 0.5% of the metered base included in the DG8 indicator.

#### 4.3 Line 6 – Total metered accounts

We noted the number of metered accounts has increased (6%) from previously reported. This is broadly consistent with the number of household and non-household new connections reported in Table 7. The greatest proportion of this increase relates to household customers which are subsequently excluded from the indicator (see below). The actual number of non-household accounts appears relatively consistent to the previous report year.

#### 4.4 Line 7 - Exclusions

As highlighted the above the number of exclusions has increased from 11/12 mainly due to an increase in the number of household accounts being reported in line 6.

Overall, NI Water excluded approximately 39% of its metered base from the DG8 indicator. This is somewhat higher than the average of accounts excluded historically by WaSCs in England and Wales, which is circa 11%. However, whilst providing a useful metric for comparison purposes, it is difficult to make any direct comparisons as NIW DG8 statistics include non-domestic accounts only.

During the audit the Company also cited a number of examples where an account would be reported in Line 7 and excluded from the DG8 indicator. Examples of such accounts include:

- Meters charged on another basis
- Test meters
- Trade-effluent meters
- DRD or NI Water meters
- Fire supplies
- Properties occupied less than six months
- Complex accounts – Including combination meters
- Void properties

To check the Company's methodology in this area, we asked the Company to provide a list of accounts from each exclusion category. NI Water was able to supply this listing and we selected a random sample of accounts to review for the following categories:

- Charged on other basis (7)
- New Property (5)
- Occupied less than 181 days (5)
- Void (5)

Where appropriate we reviewed we sought to check the billing history and consumption records on Rapid to ensure the account was correctly interpreted as a exclusion. For those properties categorised as void we were also able to trace the categorisation to a void inspectors report.

In most cases we were content that the Company's methodology in this area reliably extracts data relating to the exclusion type. However, when checking the records allocated to accounts 'charged on other basis' we did note that meters associated with two accounts were not being charged and were in fact voids. Whilst making no difference to the DG8 indicator (as voids would be excluded anyway) we recommend the Company investigate these accounts and, if required, the DG8 report configuration. Consideration should also be given to any consequential impacts in other reporting areas where void counts are used.

We have previously challenged the Company on their interpretation of the 'less than 6 month' category exclusion category. The Requirements infer that change of occupancy is taken into account when deriving the 6 month exclusion. NI Water confirmed that this is the case and any *meter* occupied for more than 181 days (irrespective of ownership) would be included in the DG8 analysis.

We also questioned the Company on whether they are able to reconcile the number of 'complex' accounts from one report year to the next as under normal circumstances we would expect the types of accounts to remain relatively static over time. NI Water was able to provide evidence to support this assertion.

#### **4.5 Line 8 and 9 - Company readings/Company or customer readings**

The Company methodology outlines that that is encourages customers to provide their own readings and these can be register via NI Water's website or by calling their billing line.

During the audit the Company provided data from the Rapid system to support the figures presented. Based on this and the audit checks undertaken we are content that the data produced is appropriate for reporting purposes.

#### **4.6 Line 10 - Estimated Bills only**

Whilst the Company has made endeavours to ensure that every non-household customer receives a bill based on at least one meter reading, NI Water report a number of instances where this was not possible.

The proportion of metered accounts of receiving a bill based on a estimated reading has again decreased in the Report Year. Approximately 2% of those accounts included in the DG8 measure received an estimated bill.

#### **4.7 Line 11 - No bills received during the Report Year**

NI Water reports a small number of accounts where the customer has not received a bill during the year. We have no sought to verify the accuracy of the number of accounts reported.

**4.8 Line 12 - Unread by the Company for 2 years**

The percentage of meters not read by the Company for two years equates to 0.5% of the metered base included in the DG8 indicator. This has reduced from circa 1% last year and demonstrates management of reading process.

**5. Company Methodology**

The primary source of data is the Company's billing system and we confirm that the Company presents all the annual data and that no sampling techniques have been employed.

To confirm the methods used by the Company are as they describe and are in line with the Reporting Requirements, we performed a series of reviews and audit checks. From these checks we are content that the approach adopted is in line with their stated methodology.

On the basis of our audits from AIR13 we have provided a summary of our findings and the Company's methodology below:

- NI Water outsources its' billing activities to its third party provider.
- The primary source of data is the Company's billing system, Rapid.
- All customers who are eligible for billing are billed, regardless of consumption.
- Before the start of each reading period all meter accounts which need to be read are transferred from the Rapid system onto the Routestar system. These accounts are then transferred onto the PDA's of meter reader who then visits the meter.
- When in the field, all meter readings (including those not able to be read) are input by the meter reader on their PDA.
- Meter readings are uploaded back from the Routestar system onto the Rapid on a daily basis. Bills are then generated on Rapid based on the consumption recorded and appropriate tariff.

The Company described the processes by which meter readings are managed to the Reporter's satisfaction. When meter readings cannot be obtained the meter reader records this on their PDA as being 'skipped' and this is fed back into Rapid. Such instances are monitored and managed but the Company does have the facility for customers to enter a reading via the phone or website. If no reading is provided before the subsequent billing run a system estimate is generated and a bill is issued.

**6. Company Assumptions**

We consider that there are no assumptions to be disclosed and that the data is based on sound procedures.

**7. Confidence Grades**

The Company assigned a confidence grade of A1 to lines 6 to 12. We understand this grade is assigned on the basis data used to provide DG8 performance driven by a system based report that does not require any manual interpretation. The report is taken directly from the Rapid database source which categories each account automatically based its' status and therefore using the most current and up to date data. We suggest that the Company endeavours to quantify any error rates to fully substantiate that an A1 grade is appropriate as any inherent anomalies in the dataset or report configuration will be ultimately reflected in the reported performance data.

**DG9 - Telephone Contact, lines 13-17****1. Background**

This indicator identifies the ease with which customers can make telephone contact with the Company.

**2. Key Findings**

- Overall call volumes have decreased but the abandonment rate has increased from that reported previously. We have checked and confirmed the DG9 performance reported in Table 5 for the calls abandoned metric falls marginally below the target set at PC10.
- Scores from the customer satisfaction survey are also below target.

**3. Audit Approach**

Our audit consisted of an interview with the NI Water system holders, a review of the current methodology for data collation and an audit of the data provided.

We have also checked the data in the final submission for consistency with previously audited data. We have not attempted to reconcile the numbers of calls received to the number of calls logged on the Company's contact management system.

**4. Audit Findings****4.1 General**

With the introduction of High Volume Call Answering System (HVCA) in December 2012, the Company confirmed that the resultant change in the methodology from AIR12 has been reflected in its Company Commentary. We found that unlike previous years, the information is a combination of data supplied from collation reports produced from the Company's telephony system, Call Media and the HVCA system. Data is extracted directly from these systems and summary tables are produced to report volumes for the final table.

Under normal circumstances, a call received from a customer is logged by the telephony system and routed directly to an agent. When all agents are busy, the customers call is placed in a queue until the next available agent is free. During the Report Year we were advised NI Water had introduced a HVCA system as a solution to answering large volumes of unforeseen calls e.g. due to an unexpected flooding event (please see Section 4.8 below). For further details on the call services the Company offers and how these are reported within DG9 please see our commentary in Section 5.

Whilst the majority of reporting is system driven, NI Water made the Reporter aware of an instance where the platform used for reporting was unavailable on one of the

lines for one day in March 13. NI Water has estimated the total number of calls for that day based on the expected call volumes that day and assumed that all calls received were answered (i.e. no calls were abandoned). As the estimate is based on the projected call volumes for that day we concur with the Company's methodology and note the calls for this particular day only amounted to 0.29% of all calls received in the year.

#### **4.3 Line 13 - Calls received**

NI Water reported that they have received 219,399 calls from customers during the year. We confirm the total volume of calls received is circa 5% lower than received in 11/12.

#### **4.4 Line 14 - All lines busy**

The Company report that no calls received an engaged tone during the year. We queried instances where the call centre may be evacuated (such as fire drills) and NI Water agents advised that if calls were received during such a time then callers would hear a message asking them to call back later. We understand the call would be counted as answered.

#### **4.5 Line 15 - Abandoned Calls**

Whilst reporting a decrease in the volume of calls received, the number of abandoned calls has increased. NI Water explained this was largely the result of an unexpected rainfall event in June 12 which resulted in a peak of calls which were unable to be answered by the contact centre. In addition, the introduction of HCVA has also resulted in an increase in the number of abandoned calls.

Overall, performance of calls not abandoned just exceeds the PC10 target of 99% for the 12/13 year.

#### **4.6 Line 16 - Call Handling Satisfaction**

During the audit the Company outlined that they have provided data to the market researcher during the year.

The Company briefly explained the process by which the call data is collated prior to dispatch to the market researcher. All calls are passed to the market researcher and no exclusions are made. In our experience elsewhere, Company's do make a number of small exclusions to the data provided to the market researcher. The possible circumstances where this occurs include:

- Calls (mainly operational) that can be identified as "non-customer" calls (e.g. from field staff or contractors).
- Customers who have ex directory phone numbers.
- From customers sharing the same number (e.g. switchboard).
- If there is a "do not phone" indicator on the account.



#### 4.7 Line 17 - Telephone Complaints

In the Company's draft submission we noted that the reported number of telephone complaints had increased significantly (which followed an observed large decrease in the preceding year). NI Water explained that their own internal assurance procedures had highlighted inconsistencies in the way in which call agents were interpreting complaints (see Section 5 below). Whilst steps to correct these inconsistencies have been taken, care should be taken when interpreting historic year on year trends.

#### 4.8 Other findings

- *Call 'handshake'*

Calls which are reported as received are derived from Call Media, which retrieves call data received at the Company's Telephony Switch. We understand in the 'handshake' between the Company and external telephony provider's system there is the potential for the routing of calls to become lost at which point the calls would not reach this level and therefore not be recorded in the Call Media reports.

We were advised that this issue could affect up to 500 calls per month and we recommend further analysis is undertaken to ascertain the nature of this issue in order to improve reporting and the customer contact experience.

- High Volume Call Answering (HVCA) system

During the year the Company has introduced the HVCA. The system is designed to assist NI Water call handling capability when call volumes increase unexpectedly. Deployed exclusively on the Waterline, the system aims to direct the customer's call to the most appropriate team or message via a series of routing options.

NI Water also makes use of the system's intelligence which identifies and recognises customer details (e.g. location) from the details held on the billing system. This should help to ensure that information during events are tailored appropriately and designed to increase customer satisfaction. Nevertheless, there is a risk that the deployment of the HVCA system may lead to an increase in the abandonment rate as there are more layers and routing options within the system where calls may be abandoned. Care should therefore be taken when establishing when the system is used and when additional layers are amended or changed.

We reviewed the HVCA routing plan provided by the Company and inspected this plan in specific relation to the calls abandoned indicator. Selecting a small sample of 'exit points' from this routing plan we reviewed NI Water's rationale to determine whether the call should be categorised as abandoned or as answered. In each of the cases reviewed we agreed with the logic applied by the Company.

## **5. Company Methodology**

### **5.1 Overview**

The Company's commentary describes the configuration of its telephony system. NI Water has also identified the telephone numbers (PACCP's) and locations against which they are reporting in their Methodology Statement. The volume of calls received on each line is taken directly from Call Media reports and HVCA reports for Waterline and we were able to review the process used to derive call volumes satisfactorily.

In summary:

- For Customer Billing the office hours are 8am to 8pm Monday to Friday, and 8am to 6pm Saturday.
- The Company's debt line office hours are 9am and 5pm weekdays only.
- For Service Enquiries, NI Water's Waterline and Leakline are open 24 hours a day 365 days a year.
- Calls received outside of these advertised times are not included are in the report of calls received or calls abandoned.
- NI Water has not utilised any temporary customer contact points during the year.
- No message manager systems or answering machine facilities were used during the reporting year.

### **5.2 Call Services offered/telephony configuration**

During the audit we questioned the Company on the call services it offered in terms of non IVR Queuing or automated speech recognition facilities as we are aware from other experience that calls via such services are often difficult to track and report.

NI Water advised that their telephony system in the report year has been configured so that an HVCA capability can be deployed if required (see HCVA comments) however the other services highlighted are not currently offered.

### **5.3 Reporting**

NI Water advised that the telephony system is configured to produce data required by the Reporting Requirements. As such data, with the exception of HCVA, is provided for the total number of calls received and calls abandoned are taken directly from the Call Media system. Telephone complaint volumes are derived from CMS logs in Rapid and exported via a Corvu query based on the list of CMS codes identified as a complaint and any other contact that has the complaint indicator selected.

We have not undertaken any checks on the configuration of these reports. The Company has a documented methodology of how data is collated from the system and during the audit the representatives outlined the processes they follow. Data for the all lines busy indicator is derived from NI Water's telephony provider's systems. Again, we have not tested the reliability or accuracy of this report.

We also note that reporting from the HCVA is still relatively immature which makes some aspects of the reporting methodology from the system manually intensive. We therefore recommend that further work is undertaken to help ensure system reports are reliable, accurate and complete.

We have checked and confirm that the totals presented in the DG9 lines of Table 5 are consistent with the summary Call Media reports compiled by the Company.

#### **5.4 Telephone Complaints**

The Company use CMS contact type to identify telephone complaints. We have not undertaken any checks these classifications but we note that NI Water has carried out their own checks as part of their own assurance checks on the Echo contract. These checks found that in some cases the contact was not classed as a compliant. This was because the agent considered they had resolved the customer complaint at the time of the call. This line collects information on complaints received regardless of whether they had been resolved or not, so we therefore concur with NI Water's observation. The Company advised that additional guidance has now been given to ensure complaints are correctly identified and reported and would encourage further checks to make certain the data set reported is reliable and complete.

#### **5.5 Call Handling Satisfaction**

We found that the Company reports all calls received the market researcher as no exclusions are made. As such it is possible that allowable exclusions are included in the market researchers' sample in each of the designated weeks.

#### **5.6 Quality Assurance**

NI Water advised that regular performance audits now take place, including checks on the call handling process, the logging of calls and allocation to CMS code. For reporting purposes the checks (and feedback) given on how calls are recorded onto the Rapid are deemed important and we would encourage the Company to continue these checks.

### **6. Company Assumptions**

We believe that all relevant and material assumptions have been disclosed above by either the Company or the Reporter.

### **7. Confidence Grades**

We believe the confidence grades assigned to lines 13 to 17 are appropriate but have not undertaken any specific or statistically significant checks to verify the volume of calls reported.

**Special Assistance Register - Line 18****1. Background**

This table identifies customers registered for special assistance.

**2. Key Findings**

- We believe the methodology to populate the Special Assistance Register is appropriate and in line with the Reporting Requirements.
- The number of customers registered on the scheme has increased significantly. We believe this is a combination of efforts to promote awareness amongst the customer base.

**3. Audit Approach**

Our audit consisted of an interview with the Service manager, a review of the current methodology for data collation, an audit of the data provided and a comparison with last year's table entries. The focus of the audit has been to review the number of customers registered on the Special Needs Register, not the operation of the scheme.

We have also checked the data in the final submission for consistency with previously audited data.

**4. Audit Findings****4.1 General**

The Company's Special Needs Register is called the Customer Care Register. At the end of the 12/13 Report Year the Company advised that 2,675 customers were recorded on the Customer Care Register. The number of customers registered on the scheme has therefore increased by 34%. We believe this is a combination of efforts to promote awareness amongst the customer base.

During the audit we discussed a number of aspects of the operation of the scheme. The following provides an overview of these discussions:

- The reported figure is extracted from the Rapid system and registration on the scheme is managed by the Company's Service Provider.
- We met with a representative from the Company's Service Provider who explained how new registrations onto the scheme and how existing registrations are managed. We were advised that new registrations are managed by a dedicated team and existing registrations have been verified during the year through a data cleansing exercise. The latter involved contracting customers to verify they are still eligible and wish to remain on the Register. From the discussions held we believe the approach adopted is reasonable.
- The Company confirmed and we checked that where a customer is registered for

more than one service, they are only counted once in the total number of customers reported in Line 18.

- Previously we noted a number of customers registered were non-household customers and based on experience elsewhere our expectation would be that all customers registered on the scheme would be domestic/household properties. During the year the Company advised that they have undertaken a data cleansing exercise that, where appropriate, corrects this anomaly.
- The Company also confirmed that customers are registered on a household rather than individual customer basis.
- The Company has assigned a confidence grade of A2 to this line. We believe this grade is appropriate.

**Date:** 29 July 2013  
**Prepared by:** HMS

**Table 5a – DG7 Response to Written Complaints (complaints data for CCNI)****Commentary by REPORTER****1. Background**

This table summarises written complaints received by a company into 5 complaint categories defined by the Consumer Council.

**2. Key Findings**

- The breakdown of complaints reported by the Company is consistent with the complaint volumes reported in Table 5.
- We have tested the Company's allocation of complaints to the various complaint categories and believe NI Water's methodology is satisfactory. The risk of misclassification has been reduced as closing CMS codings are now used rather than open (pre investigative) codings.

**3. Audit Approach**

The audit involved an examination of the procedures adopted by NI Water for its customer service activities regarding customer complaints. Whilst the main focus of our audits has been on the work systems and practices used by the Company in preparing data for Table 5, we have carried out a cursory inspection of the methodologies used to populate Table 5a.

**4. Audit Findings****4.1 General**

During the audit, we discussed with the Company their methodology for completing this requirement. The Company explained that as for the DG7 measure, they extract data from the Rapid billing system.

**4.2 Total written complaints - lines 1 to 3**

We confirm the source of these lines is Table 5 lines 1, 2 and 4. Please see our DG7 commentary for the derivation of these lines. We also confirm that the totals reported in these lines is consistent with that reported in Table 5.

**4.3 Category of written complaints – lines 4 to 13****Allocation to category**

During the audit the Company explained that as each complaint is logged it is allocated to a category. The categories are aligned to those in the reporting guidance. NI Water confirmed the allocation of complaints to categories is now done on closing CMS codings rather than opening codes. In previous years there was a small risk of misclassification as opening CMS codings are used rather than closed

(post investigative) codings as complaints can be recategorised during the process.

We confirm the addition of lines 4, 6, 8, 10 and 12 equal the number of complaints reported in line 1.

#### **Allocation to Stage**

In our review of DG7 (see Table 5 commentary) we reviewed a number of complaints and witnessed evidence of complaints being logged at various stages within the Company's complaint handling process on Rapid. From the checks carried out we believe allocations made to be reasonable.

#### **4.4 Number of holding responses issued (line 14)**

The Company has been able to report data on this requirement for the first time in AIR13. The items reported relate to holding responses issued within the Report Year where a written complaint has been received and allocated as 'open' in the Report Year.

We found data is compiled from stand alone spreadsheets maintained by individual agents. We tested a number of holding responses and found the approach adopted aligned to the reporting guidance. The Company has recently introduced a case management system which should hopefully negate the need for standalone spreadsheets to be collated in order to report on this metric. Data extraction from a single system should help to ensure the completeness of data so recommend the Company investigate whether system reporting can be introduced for AIR14.

#### **4.5 CCNI Investigations (line 15)**

The Company report 27 CCNI investigations in line 15.

We discussed the approach taken by the Company and they explained how written complaints are logged to the appropriate CMS code to the Reporter's satisfaction. We tested a small number of complaints and agreed with NI Water's classification. During this testing we noted dialogue between CCNI and NI Water over the correct classification of a contact. This challenge process gives additional assurance that CCNI investigations are being logged in line with their expectations.

#### **5. Company Methodology**

The Company methodology is similar to that it employs for DG7 – written complaints. In essence, the Company interrogates the Rapid system to extract the required data to populate the table. During our audits of DG7 we reviewed the Company's processes for dealing with written complaints, including the operation of this system. Please see our Table 5 commentaries for further details.

From discussions with the Company and checks carried out we believe the methods used by the Company are as described in their methodologies. CMS codes are used by agents to allocate complaints to a particular category.

**6. Company Assumptions**

We believe all assumptions have been reported.

**7. Confidence Grades**

For lines 1 to 3 – “total written complaints”, data is copied directly from Table 5 and therefore the grades assigned to these lines are consistent. Please see our commentary on Table 5 on the appropriateness of the confidence grades assigned to these lines.

For lines 4 to 13 and 15 – “Category of written complaint”, data is extracted directly from Rapid and therefore the Company methodology does not rely on sampling or extrapolation to populate the table. The B2 grade is reflective of occasional uncertainty when identifying complaints and then allocation of complaints into particular service areas.

For lines 14 – “Number of holding responses issued”, the grade assigned is B4 due to data being compiled from several independently maintained spreadsheets. If ‘on-system’ reporting is introduced we would expect this grading to increase as data confidence should improve.

**Date:** 29 July 2013  
**Prepared by:** HMS