

# Northern Ireland Water

PPP Costs and Activity

(Commentaries for Tables 42 and 43)

Public Domain Submission

Prepared for  
**Utility Regulator and NI Water**

10 November 2014

**CH2MHILL®**

304 Bridgewater Place  
Birchwood Park  
Warrington WA3 6XG

## Table 42 – PPP Reporting

### 1. Introduction

The purpose of the table is to collect information on the cost, performance, and other explanatory variables of the PPP concession, together with assessment of NIW and PPP relative efficiency.

### 2. Key findings

- Based on our audit of sample data we believe that the data reported in this table is consistent with the reporting requirements.
- There are atypical costs of [ x ] for Omega and [ x ] for Alpha.
- There has been more than [ x ] of efficiency gains reported for AIR14.

There has been a significant change to the capital repayments schedule for Alpha. This reflects a discrepancy between the financial lease repayment term and the contract term that was discovered during the audit of the 2012/13 statutory accounts. As a result NI Water also allocates a proportion of the capacity charge [ x ] to opex. The financial auditor should be consulted for the correctness of these adjustments.

- We audited the reported data and challenged the processes on a sample basis. Except where detailed below, we consider the data reported in the table is robustly prepared using systems and process that are appropriate and in line with the reporting requirements and that are properly implemented with effective quality control and governance arrangements.

### 3. Audit approach

To verify the data reported our audit consisted of an interview with the NI Water system holders.

As part of our audits of financial data we liaised with KPMG to share key findings. This was done at a tripartite meeting between the Reporter, KPMG and NI Water.

### 4. Audit findings

#### 4.1 Block B – Payment to PPP concessionaire (Lines 7 to 20)

##### Line 7 – Unitary Charge Capacity Charge

NI Water advised that the data is based on actual invoices received for each of the sites for the 12 months until and including March 2014. This charge applies only to Alpha sites. The costs are based on the payment mechanism as set out in the payment mechanism schedule of the contract.

##### Line 8 – Unitary Charge Variable Charge

As for the capacity charge, NI Water advised that the data is based on actual invoices received for each of the sites for the 12 months until and including March 2014. This charge applies to all contracts. The variation of 2% reflects a movement of both inflation and volumes.

##### Line 9 – Unitary Charge Deductions

NI Water makes performance deductions for both capacity and quality failures. The data is extracted from the invoices and the payment calculation mechanisms.

Performance deductions have been reported for both Alpha and Omega. The basis of this is set out below:

### **Alpha**

Performance deductions are only [ x ] than AIR13. This movement is not material. NI Water advised that the deductions are in accordance with the agreed payment mechanism.

The overall split of deductions is shown as follows:

Works	Value
Balinrees	[ x ]
Castor Bay	[ x ]
Dunore Point	[ x ]
Moyola	[ x ]
<b>Total</b>	[ x ]

### **Omega**

During 2013/14 a total [ x ] deductions have been made. These deductions relate to:

- Wastewater performance deductions;
- Sludge performance deductions.

#### **Wastewater deductions**

Works	Value
Ballynacor	[ x ]
Richhill	[ x ]
<b>Total</b>	[ x ]

#### **Sludge deductions**

A performance deduction of [ x ] has been made for odour performance failures.

## **Line 10 – Atypical Expenditure**

### **Alpha**

Various items of atypical expenditure have occurred on the Alpha contracts.

These items are as follows:

- A change in the unitary charge for lower number of TUPE transferees than expected. This has resulted in a downward adjustment of the charge of [ x ]. [ x ];
- The increased lab services being carried out by NI Water rather than by the contractor. As above this quality monitoring change is a change to the contract. The adjustment of [ x ] is broadly in line with the adjustment made in AIR13;

- As reported last year there has been a change in the EIB finance due to step-down. This was conditional on restructuring including achieving operational performance and special purpose company. This has resulted in a saving of [ x ].

### **Omega**

Various items of atypical expenditure reported have occurred on the Omega contract. These items are as follows:

[ x ]	[ x ]
[ x ]	[ x ]
[ x ]	[ x ]
[ x ]	[ x ]
[ x ]	[ x ]
[ x ]	

### **Kinnegar**

There are no atypical costs reported for Kinnegar.

## **Line 11 – Efficiency Gains Included in Lines 7 - 10**

As NI Water stated the only legitimate efficiency [ x ] that can be used are those that arise from a change in levels of service. The table below sets out the efficiency gains achieved:

### **Alpha**

Reduced frequency of sampling: [ x ];  
Reorganisation change (2009/10) [ x ];

### **Omega**

North Down Disinfection Change: [ x ];  
Change wastewater flow requirements: [ x ];  
Change in weighbridge calibration [ x ].

These efficiencies are due to changes made historically, except for weighbridge which shows a change in AIR14.

There are no efficiencies reported for the Kinnegar contract.

## **Line 13 – 14 – Capital Repayments and Maintenance**

This data relates to paying off the finance lease creditor and any capital maintenance carried out on the contract during the year. The Company advises that data related to capital repayments has been extracted from its accounts and therefore the overall value is consistent with the accounts. The financial

lease model was then used to apply a capital repayment cost by site. In order to split the totals by interest and lease payments by site the Company has used an apportionment. It should be noted that for 2013/14 the financial lease model has been revised. This is because it was noted that a discrepancy was present between the financial lease repayment term and the contract term. The Company now also allocates a proportion of the capacity charge to opex [ x ]. We have not reviewed the detail behind the model or the appropriateness of the amount allocated to Opex.

The capital maintenance charge has been allocated as a straight line based on the total amounts in the original financial model. This is different to the approach adopted previously where the value was provided by [ x ].

We believe that the changed approach is an accountancy issue and hence any queries should be addressed to KPMG.

#### **Line 15 – Residual Interest**

The Company has not been able to split the data for the Omega sites on a site by site basis and hence reported the entire sum under 'Omega all'. The approach therefore is the same as used previously.

#### **Line 16 – Atypical Payments Capitalised**

The Company has reported no such payments for AIR14.

#### **Line 19 – Interest**

The Company advised that the data is from the financial model related to the contract and is consistent with the statutory accounts. We did not review the financial model and accepted the data provided to us at face value. We do note a significant reduction due to the change in the repayment profile of the finance lease and the allocation of an element of the capacity charge to operating costs.

### **4.2 Block C – Water distribution data (Lines 21 and 22)**

#### **Line 21 – Distribution Input**

This line represents the water utilised by the PPP companies. The Supply Source Distribution Table has been updated from AIR13 to take cognisance of the change in demand associated with PPP sites. The methodology mirrors that of Table 10 Line 26 to provide a calculated volume for each site and a cumulative figure for the Alpha contract.

#### **Line 21a – WTW Capacity**

There has been no change to the minimum required capacity of the Alpha WTW under the contract. The capacities are based on Functional Design Specifications. As per the reporting guidance the volume is 'Qminreq' for each facility and this aligns with the Alpha Contract requirement.

#### **Line 22 – Length of Mains**

This line represents the length of main under the contract which links the 16.42 km main from Castor Bay to Forked Bridge. This section of the main is operated and controlled by the contractor and information has not changed from previous reports and correlates with totals reported in other tables. The value is unchanged from last year.

#### **4.3 Block D – Water resource and treatment data (Lines 23 to 27)**

##### **Lines 23-24 – Turbidity 95%ile greater or equal to 0.5NTU**

We have reviewed various supported documents presented by the Company and can confirm that they are consistent.

##### **Lines 25-26 – Treatment Source/Type**

There are no changes to these lines from AIR13. Data is consistent with methodology and summary data in Table 12. However as Ballinrees WTW has three sources impounded reservoirs at Ballinrees and Altikerragh as well as an intake from River Bann, the overall classification is currently under review.

##### **Line 27 – Average Pumping Head**

The APH for each 'Alpha' site is consistent with the AIR 13 return when a change to the reporting requirements was made, wherein the Company is no longer required to use its total Distribution Input as the denominator, rather use the PPP Distribution Input utilised in AIR12. This resulted in a significant change last year but is now stable. The AIR14 value for Line 27 is 155.7 compared to 156.1 for AIR13.

#### **4.4 Block E – Sewerage data (Lines 28 and 29)**

##### **Lines 28-29 – Total Length of Sewer**

As all the sewers reported are classified as critical (as defined by WRc), the length is unchanged from last year. Each PPP facility has collective lengths of sewer which are supported by record drawings for each site.

#### **4.5 Block F – Sewage treatment and disposal data (Lines 30 to 38)**

##### **Line 30 – PE of load received**

The PE has been derived from total loads received from the contractors and is consistent with Table 15 Line 6.

##### **Line 31- Load received**

The total load is based on analytical data derived from samples taken from the inlet of all the PPP wastewater treatment works, the data is consistent with Table 15.

##### **Lines 32-36 - Consents**

Information is unchanged from AIR12 and is derived from Water Order Consents which are held by the Contractors and supplied by the Environment Agency. These are legal documents with unequivocal limits. Consents are based on lower and upper tier limits with pass failure being based on look up tables. Any breach of the upper tier limits being classed as a failure.

The Phosphate consents which are applicable to Armagh and Ballynacor are based on annual average consent figures <1mg/l as set out in the Water Order Consent.

##### **Line 37 – Classification of works**

The treatment type has followed guidelines as per methodologies reported in Table 17b Line 8.

### Line 38 – Size Band of works

This mirrors requirements associated with size banding. There is no change from last year

## 4.6 Block G – Sludge treatment and disposal data (Lines 39 to 52)

### Line 39 – Sludge imported

Sludge imported from NI Water is either transferred to the belt press at Ballynacor or the incineration plant at Duncrue Street, the sum of the two values reported in Line 39 is consistent with the total value reported in Table 15 Line 16.

### Line 40 – Sludge produced

The values reported in Line 40 are consistent with Table 15 values a summary table of the sludge volumes produced is repeated below.

Sludge produced at North Down Ards, Ballyrickard, Richill and Armagh are transferred to either the caking, belt press facility at Ballynacor or sent directly to Duncrue Street incineration plant. On site 'Slogger' sludge monitoring systems at both sludge treatment centres record inputs from the aforementioned wastewater treatment centres. The 'Slogger' system has the capability of recording volume as well as dry solids content to provide accurate ttds. In conjunction with NI Water consistent sampling and measuring of sludge cake imports is also in place.

At Ballynacor the indigenous sludge is calculated by subtracting the input logger data which records both inputs from NI Water and PPP facilities at North Down Ards, Ballyrickard, Richill and Armagh from the cake transferred to Duncrue Street.

Kinnegar sludge is transferred to the incineration plant at Duncrue Street. Prior to discharge at this facility the sludge from Kinnegar is monitored by weighbridge at Duncrue Street. This system involves weighing the vehicles entering and leaving the facility to ascertain the exact tier weight. This is an accurate methodology for sludge disposal.

PPP Production (ttds)	AIR14	AIR13	AIR12	AIR11	AIR10
Armagh WwTW	0.547	0.535	0.570	0.759	0.84
Richhill WwTW	0.071	0.065	0.066	0.213	0.21
Ballynacor WwTW	2.007	2.069	3.330	2.468	2.29
Ballyrickard WwTW	1.126	1.158	1.225	1.627	1.717
NDA WwTW	1.920	1.628	1.559	1.753	1.654
Kinnegar WwTW	0.643	0.726	0.823	0.792	0.7
Omega Screenings and Grit	0.088	0.106			
Kinnegar Screenings and Grit	0.047	0.022			
Totals	6.449	6.309	7.573	7.612	7.411

### Line 41 – Sludge exported to Duncrue Street

Due to all PPP sites transferring sludge to Duncrue Street and mixing with sludge from NI Water, it is impractical to determine where any discrete PPP wastewater treatment sludge was ultimately disposed of to any of the eight disposal sites.

All sludge from PPP facilities is measured irrespective of whether it was thickened at Ballynacor only on receipt at Duncrue Street. At Duncrue Street the sludge is either incinerated or disposed of to alternative disposal routes. The data provided relies upon data provided in Line 40.

The line confirms exports from only PPP Facilities to Duncrue Street. NI Water's sludge's are not included in this line, but are captured in Table 42 Line 39 instead.

#### Line 42 – Sludge exported to Other PPP

All PPP facilities ultimately route sludge to Duncrue Street for final disposal. While sludge's from North Down Ards, Armagh, Richhill and Ballynacor are thickened in the belt press at Ballynacor they are still transferred to Duncrue Street for disposal. For the avoidance of doubt, sludges are recorded as being exported to Duncrue Street as per Line 41 and are not reported as being exported to another PPP facility as they are being transferred for further treatment.

#### Line 43 – Sludge exported to NI Water

The Omega sludge PPP contract has no provision regarding return of sludge to NI Water for disposal.

#### Line 44 to 52 – Sludge Disposed

The figures for alternative disposal are based on the total ttds excluding incinerated sludge, split in accordance with the proportion of m3 of cake sent to each outlet. All information is based on contractor reports detailing disposal route and the disposal site. The transfers are cross-referenced by waste management notes, weighbridge reports, as well as, calibrated using on board weighing systems on plant and Road Haulage Vehicles Information is collated and submitted monthly to NI Water.

The disposal route to landfill is primarily for grit and screenings this has the most uncertainty, although it is only a small volume, as the % dry solids are not measured for all skip loads.

The volumes disposed of to other routes is around 4% of the total volume of sludge, these routes are used primarily when there is an out of the incinerator plant for maintenance or servicing. A summary of the disposal routes compared with previous years is given below.

Disposal Route	AIR14 (ttds)	AIR13 (ttds)	AIR12 (ttds)	AIR11 (ttds)
Farmland Advanced	0.384	0	8.19	26.366
Incineration	36.545	36.386	26.765	5.899
Land fill	0.88	0.128	0	0
Composted	0	0	0.097	1.792
Land Reclamation	0.409	0.549	2.561	1.251
Other (Willow Coppicing)	0.657	0.515	0.634	1.915

Line 52 is correctly calculated from the sum of Lines 44 to 51.

### 5. Assumptions

Except where noted above we do not believe there are any material assumptions to report.

### 6. Confidence grades

Not applicable.



## 7. Consistency checks

We can confirm that:

- Line 4 = Table 42 Line 15
- Line 7 = Table 37 Line 17
- Line 8 = Table 37 Line 18
- Line 9 = Table 36 Line 13

For Line 3, please see our commentary above for details.

## Table 43 – PPP Reporting – Operational Costs

### 1. Introduction

The purpose of the table is to collect information on the cost, performance, and other explanatory variables of the PPP concession, together with assessment of NIW and PPP relative efficiency.

### 2. Key findings

- Line entries for Line 5 are consistent with Table 21 & 21 entries.
- In order to report data for some lines the Company has had to rely on data from external sources.
- Some apportionments and assessments are required to report the data. Where these have been applied we believe they are appropriate and likely to result in data that is reflective of the actual position.
- Noting the above limitations, based on our audit of sample data we believe that the data reported in this table is consistent with the reporting requirements.

### 3. Audit approach

The audit consisted of an interview with the table owner to discuss the methodology and review the source data extracted from the financial system

As part of our audits of financial data we liaised with KPMG to share key findings. This was done at a tripartite meeting between the Reporter, KPMG and NI Water.

### 4. Company methodology

Line entries are based on paid invoices and excludes any capital investment as per the reporting requirements. The values are consistent with entries in Tables 21 & 22.

### 5. Audit findings

Data has been reported at site level for each of the 16 active sites. Further detail relating to each line is discussed below:

#### Line 4 – Payment to Concessionaire

This data has been transposed from Table 42 Line 12. This data is discussed in our commentary to Table 22.

#### Line 5 Payment by Concessionaire to Operating Company

The data relating to payment by concessionaire to operating Company is provided to NI Water by the PPP contractors. There is no way to determine the veracity of this information as the data originates externally. The values are consistent with the totals presented in T21 L22a and T22 L21a.

#### Line 6 - Power

This data has been extracted from the Company's general ledger system. Data related to power costs is reported on a site by site basis and hence no apportionment of data to derive these figures is required. The totals are consistent with tables 21 and 22 (PPP). Note the company has not attempted to estimate power costs for Kinnegar for AIR14 as it has no mechanism for doing so. If this data was required by the regulator the Company may consider using apportionments or an alternative method to estimate power costs at Kinnegar.

#### Line 7 – Other Direct Costs

The Company has reported a small amount (only £79k) for this line. [ x ]

#### Line 9 – General and Support Expenditure

General and support costs are a combination of consultancy costs and time costs of staff employed by NI Water to manage these contracts. Consultancy costs are taken directly from the general ledger. For staff costs a P101 cost centre report is run which shows the relevant payroll costs. The general and support costs are then allocated evenly across each of the sites in order to apply payroll costs to individual sites. The totals are consistent with figures reported in Tables 21 and 22.

#### Line 11 – Scientific Services

The Company has determined the total costs related to scientific services and allocated these costs across PPP sites based on the assessed percentage of samples attributed to each PPP site, an allocation of staff costs and operational contractor costs per site visit. The approach relies on judgment and assessments. However in the absence of actual data we believe the approach is appropriate. The totals data is consistent with data in Tables 21 and 22.

#### Line 12 – Rates

The Company has apportioned the rates bill across the different types of sites. For the rates bill related to water sites the company has data related to total rates bills. It has allocated the portion to the Alpha sites based on the proportion of potable water provided as a percentage of total NI Water input. In the absence of more direct data we believe this approach is appropriate.

Wastewater sites receive a separate rates bill and hence the data can be attributed to each PPP site. For Ballynacor the Company has split costs between sewerage and sludge on the basis of a 65%:35% wastewater to sludge split, whilst Duncrue was allocated between NIW and PPP on the basis of site area covered, with PPP covering 15% of the site. This remains consistent with AIR13.

The totals data is consistent with data in Tables 21 and 22.

#### Line 13 – Estimated Terminal Pumping Costs

The Company has reported power costs related to the terminal pumping station by using the location codes for known sites.

**Line 14 – Estimated Sludge Costs**

The cost here is simply the payment by concessionaire, functional expenditure and rates for Ballynacor and Duncrue.

**6. Assumptions**

No specific assumptions to report.

**7. Confidence grades**

Not applicable.