

Analysis of Operating and Fixed Asset Costs by Business Unit

1. PURPOSE OF METHODOLOGY

The purpose of this methodology statement is to explain how the totex and operating cost analysis tables in sections 2 and 4 of the Northumbrian Water Limited (NWL) Annual Performance Report (APR) 2016/17 have been produced.

The methodology complies with the Regulatory Accounting Guidelines and is consistent with the detailed guidance given in RAG2.06 and RAG4.06.

The methodology contains the following sections:

- 2. Background to NWL
- 3. Operating cost analysis
- 4. Commentary on changes to costs
- 5. Fixed asset analysis
- 6. Capitalisation policies

The methodology was last updated on 22 May 2017.

2 BACKGROUND TO NWL

NWL operates in the north east of England, providing water and wastewater services, and in Essex and Suffolk in the south east of England, providing water services only. NWL's appointed business is structured with Water, Wastewater and Customer directorates, supported by a number of corporate support directorates and departments.

The Water services directorate comprises Production (Resource & Treatment) and Distribution departments in each of the three operating areas, Northumbrian, Essex and Suffolk. There are further smaller geographic regions within each area.

The Wastewater services directorate operates in the Northumbrian area only and comprises Sewerage (Collection) and Sewage Treatment departments. There are further smaller geographic regions.

The Customer directorate aligns closely with the RAG4 definitions of retail services, comprising billing, payment centre, contact centre and debt recovery. The meter reading team now reports into the Commercial directorate but the department costs are still captured in a manner consistent with previous years.

Corporate support functions include Information Services (IS), Financial Services, Human Resources, Scientific Services and Facilities. All corporate support departments operate across all of NWL's operational areas. No functions are outsourced overseas.

3 OPERATING COST ANALYSIS

Tables 2A, 2B and 2C of the APR analyse the operating costs and capital expenditure of the wholesale (water and wastewater) and retail services of the appointed business. The following section explains how the operating costs are allocated and apportioned to the different services.

3.1 SOURCE DATA

NWL uses Oracle financial systems, including General Ledger (GL), accounts payable, accounts receivable (miscellaneous income), i-procurement and project accounting.

All operating costs are recorded in GL against an account code (expense type) and a cost centre code (department). The account codes have been directly aligned to the row headings within the operating expenditure excluding third parties of the wholesale business table 2B in the APR. The cost centre structure in GL reflects the way the business is managed by directorate, department and location.

3.2 OVERVIEW OF PROCESS

Costs are allocated to the appropriate activity categories (table columns) in the following stages:

- Cost centres are separated between direct departments, typically operational and customer functions, and non-direct departments, typically support functions, based upon their function;
- Direct departments are allocated directly to activity categories based on the nature of the function, with some exceptions which require apportionment between activities;
- Direct costs are allocated to the appropriate cost category (table rows) based upon the account code;
- A small number of support departments are allocated directly to water, sewerage or retail services;
- Other support departments are apportioned across wholesale water and sewerage and retail services, based either on a specific analysis of the costs or by apportionment by an appropriate cost driver;
- Once allocated to the appropriate price control the wholesale costs are then allocated to activity categories by full time equivalent (FTE) headcount. The retail costs are allocated using appropriate cost drivers as per RAG2.

Sections 3.4 and 3.5 provide a more detailed explanation of these stages and of the allocation bases used for allocating costs.

3.3 CHANGES TO THE METHODOLOGY FROM 2015/16

The power costs of pumping into supply from water treatment works has been reported under water treatment in 2016/17, following clarification from Ofwat to the Regulatory Accounting Working Group (RAWG). In previous years these costs were reported under water distribution. As a result the 2016/17 distribution power costs are £6m lower than last year.

The costs of treating industrial effluent received at Bran Sands under a number of special agreements have been allocated to operating expenditure excluding 3rd parties, in accordance with appendix 1 of RAG4. In previous years this was reported as 3rd party services. The re-allocated cost is £3.0m, most of which is in sewage treatment.

The cost of indigenous sludge thickening at sludge handling centres has been reported as sewage treatment in 2016/17, following Ofwat clarification on the boundary between sewage and sludge treatment. In previous years these costs were reported as sludge treatment. The cost reallocated in 2016/17 is £1.0m.

The cost of transporting sludge cake between sludge dewatering centres and the advanced anaerobic digestion (AAD) plants at Bran Sands and Howdon has been allocated to sludge treatment rather than sludge transportation, following Ofwat clarification on the boundary between sludge treatment and transportation.

The allocation of water cumulo rates to the Tees industrial raw water system (reported as 3rd party services) has been amended and is now based on Modern Equivalent Asset Value (MEAV), consistent with the allocation of water rates across activities. The cost reallocated in 2016/17 is £1.8m.

The cost of providing meter reading services to other water and sewerage companies has been included in the Retail cost tables (2C and 4F), as has the income received which is shown as a negative cost on the meter reading line, in accordance with RAG4. In 2015/16 the cost and income were reported in the non-appointed business. As the income received was based on the allocated costs (with no profit) this change has minimal impact on the year on year meter reading costs reported on table 2C.

3.4 DIRECT DEPARTMENTS

This section explains how the costs of direct departments are allocated to water service activities (water resources and treatment and water distribution), wastewater service activities (sewerage, sewage treatment, sludge treatment and disposal) and retail activities.

Most operational and customer departments can be allocated directly to a single activity reflecting their function in the company. Where this is not possible, the allocation must be calculated. The main bases for these allocations are summarised below.

3.4.1 WATER SERVICES

- Power costs are identified for each site and allocated to the appropriate service.
 Where the assets on a site are used for more than one activity, the cost is reviewed by operational managers to allocate between the resource, transport, treatment and distribution categories, based on flows and lift.
- There are two main sources of income treated as negative expenditure:
 - income from short term operating reserve contracts with National Grid is allocated to water treatment;
 - o income from hydro generation feed in tariffs and export is allocated to raw water distribution.

- The cost of a bulk supply agreement with Thames Water is allocated to water resources. An element of this charge relates to Environment Agency (EA) abstraction charges and is reported on the service charge line.
- Other operating expenditure comprises:
 - employment (£31.9m), hired services (£20.5m), materials and consumables (£11.1m) and other direct costs (£0.4m), which are mostly allocated according to their direct cost centre. A small proportion of these costs relate to more than one activity and are allocated based upon managers' estimates, whilst operational management and support costs are apportioned based upon managers' estimates;
 - scientific services direct costs (£4.5m) which are allocated by the number of determinants and samples. Samples taken at customers' taps are allocated to water distribution;
 - o general and support costs (£28.3m), for which the basis of allocation is explained in section 3.5.
 - o activities which were capitalised previously under UK GAAP but which are now expensed under IAS16 (£9.1m).
- Water cumulo rates costs are allocated across the activities using gross MEAV.
- Third party services are directly attributable to business activities. The cost of supplying non-potable water to industrial customers on Teesside is reported as services to third parties and includes an element of abstraction charges, water cumulo rates and general & support costs.

3.4.2 SEWERAGE SERVICES

- The majority of sludge costs, such as dewatering, digestion and disposal at the larger sites, are identified directly at source. Some sewage treatment work costs require apportionment between sewage treatment and sludge activities. This is done using managers' estimates.
- Sludge transportation costs are captured in a separate cost centre.
- Sludge liquor costs are estimated based on average loads at the sludge treatment sites. The sewage treatment costs for each of the sites is allocated on a pro-rata basis between sewage treatment and liquor treatment.
- Skip hire for the disposal of grit and screenings is allocated to sewage treatment.
- The costs of Bran Sands and Howdon AAD sites are allocated as follows:
 - power generated by AAD is predominantly used on site. All of the generation is allocated to sludge treatment;
 - there is a net export of power from sludge treatment which is shown as a negative power cost;
 - the sewage treatment power cost reflects the full use on sewage treatment activities including the use of power generated by AAD;
 - all income generated from sludge digestion, which is mainly from renewable energy certificates (ROCs) or renewable heat incentive (RHI) plus occasional export, is shown as income treated as negative expenditure under sludge treatment.
- Power costs are identified by site and allocated accordingly. At sewage treatment
 works where there is sludge treatment, an allocation is made to sludge activities. For
 the two large sludge sites, Bran Sands and Howdon, the allocation uses sub-metering
 data. For other sites the apportionment is based on managers' estimates.

- Other operating expenditure includes the same items as the water service, described in section 3.4.1 above and is allocated on the same basis. The costs comprise employment (£21.8m), hired services (£18.0m), materials and consumables (£6.5m), other direct (£0.5m), scientific services (£1.0m), general and support costs (£15.7m) and activities expensed under IAS16 (£9.7m).
- Non-domestic rates charges are directly attributable on a site by site basis in the first instance and then allocated on gross MEAV.

3.4.3 RETAIL

Allocations to direct cost rows of the retail table are primarily captured by cost centre within the customer directorate, however, some department costs are apportioned.

- The debt recovery process is supported by other teams in the customer directorate, therefore, a proportion of billing and contact centre costs are allocated to line 2, debt management, based on relevant cost driver, e.g. number of reminders.
- Retail includes an allocation of scheduler and distribution technician costs for investigatory work which is not a result of a network issue and the associated cost of internally generated calls which is based on managers' estimates.
- Time spent by the development control team working on pre-development queries from developers is allocated to retail services based on managers' estimates.
- Non-domestic rates costs are allocated by location, therefore, the cost of sites where
 customer teams are based is allocated to retail based on FTE headcount numbers at
 each location. An element of water cumulo rates costs has been allocated to retail
 based on gross MEAV.
- Decision making and administration of disconnections and reconnections are performed by customer teams and allocated directly to retail services.

Each retail activity is allocated between household and non-household services using an appropriate driver as follows:

- Billing based on the number of bills;
- Payment handling based on the number of receipts;
- Vulnerable customer schemes and charitable trust donations allocated fully to household:
- Debt management costs the cost of each team is split based on an appropriate cost driver, e.g. reminders, claims, debt visits;
- Doubtful debts based on actual debts used in calculation of the bad debt provision and customer specific write offs;
- Network customer enquiries based on the number of network contacts;
- Non-network customer enquiries based on the number of non-network contacts;
- Meter reading based on number of meter reads;
- Other direct costs comprises the customer systems team which provides support and analysis across the directorate and is allocated by the number of bills raised;
- Services to developers are allocated fully to non-household services;
- Customer account management is allocated fully to non-household.

NWL has agreements with a number of local authorities and housing associations to bill and collect income. The properties for each local authority are invoiced on one or two schedule bills each year. The risk of collection is transferred to the local authority and a commission is paid to reflect this. Around 9.3% of income is collected in this way. The commission charge is allocated between bad debt and customer services. The billing and debt recovery costs are estimated based on NWL's own costs of billing customers directly. The balance is assumed to represent the bad debt risk and is allocated to doubtful debts.

The company does not issue bills to 'the occupier'. The company does not issue credit notes or cancel unpaid amounts where a customer has vacated a property leaving amounts unpaid.

The Company's bad debt provisioning policy is described in the APR under the Regulatory Accounting Policies and Disclosures.

3.5 NON-DIRECT DEPARTMENTS

This section explains how the costs of non-direct departments are allocated across water, wastewater and retail activities.

A small number of departments can be allocated directly to activity categories, as follows:

- Regulation costs, including the Ofwat licence fee, are allocated equally between the nine service activities, four water, four sewerage and one retail.
- Scientific Services direct cost allocation based on number of determinants and samples.
- Insurance premiums are allocated by applying a relevant cost driver for each premium, e.g. vehicle insurance premium by vehicle numbers.

Where costs cannot be directly allocated to activities, departmental costs are apportioned to wholesale water, wholesale sewerage or retail, based on either a specific analysis of the costs or by an appropriate cost driver, and then allocated to activity categories by FTE. The allocation basis for each support department is outlined below. Where no appropriate cost driver can be identified, functions are classified as 'corporate overhead' and allocated as a block at the end by FTE.

- Information Services a separate allocation model has been produced. In the first instance costs, where possible, are directly attributed to water, wastewater, wholesale and retail with an appropriate driver eg. number of users. The costs within each of the initial allocations eg. water are then allocated into the individual business units on FTE basis. Any costs considered as corporate, or company-wide, are collated and classified as 'corporate overhead'.
- Facilities costs are analysed by location and the cost of each location is allocated to departments on a FTE headcount basis;
- Estates rental costs are directly allocated to the responsible area of the wholesale business. The remaining departmental costs are allocated in proportion to rent, unless a specific allocation is identified;
- Finance (Management Accounts) costs are allocated in accordance with time spent on supporting retail departments the remainder is allocated to corporate overhead;

- Directorate costs are summarised by director, including an apportionment of personal assistants' costs. Each director's cost is allocated according to their areas of responsibility and the FTE headcount in each area;
- Strategic Asset Planning regulation personnel costs are allocated directly across the nine business units the remainder of costs are allocated to the wholesale business only;
- Statutory Recreation costs are allocated directly to water resources;
- Corporate overhead includes those items identified above plus the remainder of the Finance department, Human Resources, Security & Emergency, Health & Safety, Procurement Conservation, Corporate Affairs, Communications and Legal and Secretariat. The total cost is then allocated by FTE.

3.6 REVIEW PROCESS

The cost allocation methodology and tables are prepared by a senior management accountant. They are reviewed by the management accounting manager and financial controller.

4. COMMENTARY ON CHANGES TO COSTS

Costs in the operating cost analysis table for 2016/17 have been compared to the equivalent costs for 2016/17, inflated by the average RPI of 2.2%. Significant year-on-year changes are explained below.

4.1 OPERATING EXPENDITURE

4.1.1 WHOLESALE WATER

Total operating expenditure excluding third party services has increased by £8.3m, in real terms, compared to 2015/16. The main changes are:

- 2015/16 included a one-off pension curtailment accounting credit of £19.7m
- 2016/17 figures include a water cumulo rates rebate of £10.6m

Other changes are:

- Water Distribution power costs have reduced by £6.1m, in real terms, due to the reallocation of pumping into supply at water treatment works being allocated to water treatment;
- Water Treatment power costs have increased by £3.9m, in real terms, due to the reallocation of pumping into supply at water treatment works being allocated to water treatment offset by a £2m credit relating to the release of an accrual for backdated charges at one particular site which we do not need to pay;
- 3rd party services costs have reduced by £7m. Costs associated with the Tees industrial raw water system are down by £6.5m. Abstraction charges have reduced by £4.6m due to a reduction in the licence volumes following a significant reduction in volumes supplied in recent years. The allocation of water cumulo rates has reduced by £1.8m as it is now based on MEAV in line with RAG4;
- Raw water abstraction bulk supply costs paid to Thames have reduced significantly in 2016/17. In previous years the charges included the operation of Lower Hall pumping

station which was owned by Thames. A new pumping station has being built which is owned by NWL and the operational costs are paid by NWL. The increase in raw water abstraction power is cost of the new Lower Hall pumping station, the costs being reported previously on the bulk supply line.

4.1.2 WHOLESALE SEWERAGE

Total operating expenditure excluding third party services has increased by £18.3m, in real terms, compared to 2015/16. The main changes are:

- 2015/16 included a one-off pension curtailment accounting credit of £10m (network+£8.9m, sludge £1.1m);
- 2015/16 rates costs included the release of a provision for unassessed sites of £3.6m;
- Bran Sands industrial special agreement costs are now reported in operating expenditure excluding 3rd parties. In 2015/16 they were reported in 3rd parties and value was £3.0m;
- Activities expensed under IAS16 have increased by £1.6m mainly due to sustainable urban drainage schemes where NWL are working with local councils and the EA and the assets constructed will not be owned and maintained by NWL;
- Income treated as negative expenditure has increased by £3.9m reflecting the optimization of the Howdon gas to grid process.

Other changes are:

- The cost of indigenous sludge thickening at sludge handling centres has been reported as sewage treatment in 2016/17. In previous years these costs were reported as sludge treatment. The cost reallocated in 2016/17 is £1.0m:
- The cost of transporting sludge cake between sludge dewatering centres and the AAD plants at Bran Sands and Howdon has been allocated to sludge treatment. In previous years the cost was allocated to sludge transportation. The value is £0.2m;
- A change in the allocation of c.£2.3m costs from sludge transport in 2015/16 to sludge treatment in 2016/17.

4.1.3 RETAIL

Total operating expenditure excluding third party services has increased by £1.7m, in real terms, compared to 2015/16, comprising £1.3m household (HH) costs and £0.4m non-household (NHH) costs. The main changes are:

- 2015/16 included a one-off pension curtailment accounting credit of £8.4m (HH £7.6m and NHH £0.8m)
- Doubtful debts have decreased by £8.7m, being £6.6m HH and £2.1m NHH. The NHH
 decrease relates to higher costs in 2015/16 as a result of the loss of a major industrial
 customer. The HH bad debt charge has decreased following a review of the bad debt
 provision against historical collection rates.
- NHH retail costs include £1.5m associated with the establishment of the non-household retail market.

5. FIXED ASSETS ANALYSIS

Tables 2B and 2D analyse capital expenditure and fixed asset additions for the wholesale business. Depreciation of wholesale and retail capex is reported within line 3 of tables 2A and on line 10 of table 2C. The following section explains how the assets are allocated between the activities.

5.1 SOURCE DATA

Total capital expenditure is recorded on a summarised basis in the GL. The detailed expenditure by project is recorded in the Project Accounting system.

5.2 ALLOCATION OF ASSETS BY ACTIVITY

Assets are allocated to activities in accordance with the definitions in RAG4. Each project is analysed and costs are:

- allocated to a location, where possible;
- analysed into asset types; and
- allocated to an appropriate cost driver.

This analysis is held in the project accounting system. The location analysis is used to allocate the expenditure to the principal use service (see section 5.3 below in respect of shared assets). The asset type split is used to allocate costs to infrastructure or non-infrastructure. The costs driver detail is used to allocate costs to maintenance or enhancement.

5.3 SHARED ASSETS

Recharges between business units relate to fixed assets used by more than one business unit. The asset value and depreciation for these assets have been recorded in the business unit of principal use, in accordance with the RAGs. Recharges have been made to the other units using the assets based upon the annual depreciation charge and proportion of use.

Shared assets primarily comprise offices and IT systems.

- The principal use of our Northumbria House Customer Centre is the Household retail service.
- The principal use of offices at Howdon is sewage treatment.
- Other shared assets have multiple users and no single dominant user. In these cases, the largest single user has been determined as treated water distribution.

5.4 RETAIL ASSETS

Retail assets comprise the following:

- Billing system;
- Other retail assets, primarily comprising our Lowestoft Customer Centre, including furniture, fixtures & fittings, call centre telephone system, office equipment and IT, plus vehicles; and
- Shared assets allocated to retail principally relate to our Northumbria House Customer Centre, for which a cost is recharged to the wholesale business reflecting proportional occupation of the premises.

Retail assets are allocated to the primary business area of use, being Household and recharged to Retail and Wholesale activities on consistent bases to those applied for the operating cost analysis.

5.5 CURRENT COST DEPRECIATION

NWL does not maintain a full current cost asset register. The current cost depreciation reported in table 4G has been calculated by applying an indexation increase to 2014/15, adding depreciation for the 2015/16 and 2016/17 additions and adding the equivalent of the infrastructure renewals charge (net of costs now expensed under IAS16).

6. CAPITALISATION POLICIES

6.1 ACCOUNTING POLICIES

The capitalisation policies applied in the APR comply with IAS16 Property, Plant and Equipment.

The key capitalisation principles within IAS16, which are applied in NWL's capitalisation policies, are that:

- assets must have an expected useful life of greater than one year (applied as a minimum expected useful life of two years);
- the company must own the asset;
- costs can only be capitalised up to the point at which the asset is ready for use, including an initial commissioning period;
- only costs directly attributable to bringing the asset into working condition for its intended use can be capitalised.

6.2 BELOW GROUND ASSETS

The key elements of capitalisation policies for activities relating to the below-ground network are summarised below:

6.2.1 WATER NETWORK

 Repair of mains using a clamp or replacement of a length of pipe not spanning a joint is charged to opex;

- Replacement pipe lengths spanning at least one joint are capitalised; bends and Tjoints are also considered to be individual assets and are capitalized;
- Replacement of street furniture, such as meter chambers and stoptap covers, is capitalised;
- Replacement of stoptaps and valves is capitalised.

6.2.2 SEWERAGE NETWORK

- Replacement of any length of sewers is capitalized;
- Replacement of street furniture, such as manhole covers, is capitalized:
- Repairs to sewer ancillaries are charged to opex;
- Clearing sewer blockages, including sewer cleaning, jetting and root cutting, is charged to opex, unless it forms part of a larger capital rehabilitation scheme;
- CCTV surveys are allocated to opex by default but will be capitalised if the output leads directly to a capital job;
- Sewer flooding investigations are charged to opex unless the output is a capex solution.

6.3 ABOVE GROUND ASSETS

- The construction or purchase of new assets is capitalised;
- Subsequent expenditure for repairs and maintenance will be opex if it is to maintain the
 expected standard of performance or necessary to prevent the useful life or residual
 value of the asset from decreasing;
- Subsequent maintenance expenditure is treated as capex where it provides an
 enhancement of economic benefits in excess of the expected standard of performance,
 eg. an extension in the estimated useful life, an increase in capacity, or where the
 asset being replaced or overhauled has been depreciated over an appropriate asset
 level which reflects the maintenance requirement;
- Replacement of an entire asset or a significant component of a larger asset is capitalised;
- Refurbishment of an asset to extend its useful life is capitalised but given an appropriate shorter life;
- GAC media replacement is capitalised.

6.4 NON-CAPITALISED COSTS

- All find and fix leakage costs are charged to opex;
- Increases in operating costs incidental to a capital project are not capitalised, for example, higher treatment costs resulting from a treatment works being taken out of service for refurbishment;
- Periodic cleaning costs of, for example, service reservoirs, filter beds or wet wells, are charged as opex;

 Water and sewer network flushing is opex. This includes the acceptability of water programme even though it is a funded regulatory output associated with upgrading the serviceability of the network.

6.5 OVERHEADS AND DIRECT LABOUR RECHARGES

Capital costs are charged directly to a capital scheme wherever possible.

Direct labour costs are initially charged as operating costs and, for staff working on capital schemes, time is allocated by timesheets and recharged to the capital project based on an hourly trade rate. Trade rates are calculated for each distinct trade group and incorporate basic pay, pension costs, national insurance, transport, personal equipment and direct supervision costs. The rates are recalculated on an annual basis to reflect the annual salary review and, by exception, recalculated during the year if a significant change has occurred.

Some functions, such as asset planning and asset accounting, work entirely in support of the capital programme. However, as their activities are spread across all projects, it is not cost-effective to allocate time directly to individual projects, therefore, the full cost of these functions is charged to a separate capital overhead project.

For other functions which support the capital programme a cost allocation exercise is carried out, using appropriate activity cost drivers, to calculate the proportion to be recharged to capital. This is also charged to the capital overhead project. This allocation exercise is carried out in detail annually at the end of the financial year. Where possible a system measured physical driver such as number of invoices processed or value of stock issued is used to apportion costs. Alternatively, estimates are provided by managers but these are done per individual employee to increase their robustness.

For reporting purposes, capital overheads are proportionally allocated across all capital schemes pro rata to the annual spend.

6.6 PROCEDURES & CONTROL CHECKS

The financial systems record operating and capital expenditure separately and the allocation of costs to opex or capex is determined in the source systems and reflects the nature of the activity being carried out. Where the accounting treatment of an unusual activity cost is unclear then guidance is provided by the finance department based upon interpretation of the accounting standards.

Both opex and capex are subject to monthly budgetary monitoring and control and variations from expectations are investigated. Where an incorrect allocation is identified the costs are transferred. In the event that a cost in incorrectly charged to capital and not identified through budgetary control, it will be identified when the asset is financial commissioned and the cost written off to the profit and loss account.

The capitalisation policies reflect statutory and regulatory accounting standards and therefore are only fundamentally reviewed when these standards change. However, as either new activities arise or the nature of existing activities changes, the accounting treatment of these activities is assessed taking account of the standards.