United Utilities Water Ltd

Accounting methodology statement

2018/19

Contents

1. Overview

The purpose of this methodology statement is to describe the process followed by United Utilities Water Limited (UUW, the company) to report disaggregated costs within the following Annual Performance Report (APR) tables for the year ended 31 March 2019:

Section 2: Price review and other segmental reporting

- 2B - Totex analysis – wholesale water and wastewater
- 2C - Operating cost analysis – retail
- 2D - Historic cost analysis of tangible fixed assets - wholesale & retail

Section 4: Additional regulatory reporting

- 4D – Totex analysis wholesale water (costs split by upstream service)
- 4E – Totex analysis wholesale wastewater (costs split by upstream service)
- 4F – Operating cost analysis – household retail (costs split by customer type)

Consistent with previous years, the section 2 cost tables in the APR split out the 2015-20 price controls for wholesale water and wholesale wastewater into water resources, water network+, wastewater network+ and bioresources (or sludge), reflecting the disaggregated price controls from 2020. Where we refer to 'Price control units' hereafter in this document, we are referring to these disaggregated price controls, aligned with the section two cost tables 2B, 2C and 2D.

2. Background to the business

2.1. Business structure

Since the transfer of UUW's non-household retail operations to Water Plus Group Limited (Water Plus) in 2016, UUW has been structured into two separate business areas: Wholesale and Household retail.

Wholesale - focused on becoming the leading water and wastewater service provider and integrator, source to tap and sink to sea.

The business area core service activity is structured into:

- Water (excluding networks)
- Wastewater (excluding networks)
- Energy
- Water and Wastewater networks

Household retail - focused on providing best-in-class customer contact, billing, meter reading, cash collection and other added value services to household customers.

The business area core service activity is structured into:

- Customer service
- Sales and cash collection
- Customer experience

2.2. Outsourced functions

The company has not outsourced complete functions, but the following activities are performed by third parties (primarily in North West England):

- Bill printing and posting
- Retail cash processing
- Meter reading
- Debt collection
- Capital programme construction
- Network repairs and maintenance
- Billing and cash collection for wastewater service provision to cross boundary properties
- Facilities management
- Capital programme estimating

3. Governance

3.1. Governance process

We have a well-established, robust, governance structure underpinning the production of our APR.

The majority of the financial data for the regulatory accounts, including the APR tables covered by this methodology (i.e. 2B, 2C, 2D, 4D, 4E & 4F) is sourced from UUW's financial records, maintained in the SAP/CostPerform corporate systems. Data that is not from SAP/Cost Perform is reviewed and checked, as part of the preparation process, to ensure it is appropriate and consistent with other data included within the tables. Further details on the cost allocation process is described in section 4 of this methodology statement.

The governance process covering the production, review and assurance of these tables is overseen by the Regulatory Reporting Team within finance and their responsibilities include to:

- Circulate regulatory reporting instructions and timetable to all table preparers and level 3/2/1 reviewers
- Set-up excel templates for each APR table, including comparison to prior year numbers, and circulate to designated table preparers
- Co-ordinate delivery of finance tables to be included in regulatory accounts/APR as well as the supporting Table Methodology Statements
- Attend review level 2 and level 1 review meetings for these tables to oversee process and to help ensure consistent application of RAGs
- Prepare consolidated excel tables for inclusion in regulatory accounts/APR
- Co-ordinate external assurance for the APR finance tables

The governance processes that accompany the production of these tables, overseen by the regulatory reporting team, is presented in the diagram on the following page.

In addition, the regulatory reporting team are also responsible for the following actions which ultimately help ensure adherence to the RAGs:

- Attendance of Ofwat's regulatory accounting working groups to ensure a thorough understanding of the latest guidance
- Chair internal monthly regulatory reporting groups with senior employees to discuss any regulatory reporting topics/issues arising
- Co-ordinate response to Ofwat's annual RAG consultation
- Communicate updated RAG guidance to finance employees involved in the completion of section 2 and 4 APR tables

Further governance is also provided by a comprehensive month-9 dry run process, with all financial tables completed with supporting methodologies and subject to level 3/2/1 reviews, consistent with the year-end process (as described in the diagram on the next page). This dry-run allows for any issues to be identified and rectified ahead of the year-end run.

Governance process

Month-9

Dry run process

- Completion of all financial tables and supporting methodologies, subject to Level 3/2/1 review.

Year-end

Table and methodology preparation

- Section 2 and 4 APR tables, including variance analysis to prior year, completed by the designated table preparer(s).
- Supporting Table Methodology Statements also completed by preparer with positive confirmation that they have been completed in line with the relevant RAGs. Methodology also includes key assumptions used and changes in methodology vs. prior year.

Table and methodology comprehensive review

- APR tables and supporting Table Methodology Statements reviewed and signed off by Level 3, 2 and 1 reviewers.
- Level 1 reviewer for all these tables is the Group Controller who has delegated executive.

External assurance

- External assurance provider (KPMG) audit the Section 2 APR tables.
- External assurance provider (KPMG) completes agreed upon procedures for the Section 4 APR tables.
- External assurance provider (KPMG) reports its findings to the UUW board.

Board approval of regulatory accounts

- UUW regulatory accounts, including all financial APR tables, is completed and reviewed by senior staff including the Group Controller, Strategy & Regulation Director and the CFO.
- UUW board approve the UUW regulatory accounts.

Inclusion of regulatory accounts in APR

- UUW regulatory accounts, including KPMG audit opinion, included within APR approved by UUW.

4. Cost allocation process

Cost allocation to price controls is performed in compliance with the Ofwat document 'RAG 2.07 – Guideline for classification of costs across the price controls'. This section summarises the activities and processes to allocate costs and assets to each of the four 2015-20 price controls and by upstream service within the two 2015-20 wholesale price controls.

4.1 Operating systems

There are three key IT systems used to populate the Section 2 and Section 4 tables of the APR:

- SAP – Core financial accounting system
- CostPerform – Bespoke activity based costing software solution used to allocate operating expenditure to upstream service
- Capital Project Management System (CPMS) – Central repository for the project management of capital expenditure within UUW

4.2 **Operating expenditure** (included in sections 7.1–7.3 of this document)

Key Steps	Description
1 – SAP export	SAP captures data (IFRS basis) at a cost centre level. Cost centres within UUW are structured into the following areas: • Operational cost centres – Wholesale water – Wholesale wastewater – Household retail • Functional support cost centres – Other wholesale (now including water and wastewater network costs) – Functions & Corporate The operational cost centres align with Ofwat's four price controls for 2015-20, less the business retail price control following the transfer out of UUW's non-household activities during 2016. The functional support cost centres predominantly include shared service costs which have to be allocated across the three relevant price controls using Cost Perform (see below). In addition, Other wholesale also now includes the direct water network and wastewater network costs which map directly to the water network+ and wastewater network+ price control units respectively. The costs in each area are reviewed by the relevant budget managers. The operating costs recorded within each cost centre are split over hundreds of general ledger cost codes. Data is exported from SAP by profit centre and general ledger code and is then imported into the CostPerform system. Operational cost centres are principally allocated to the direct cost section of the regulatory accounts tables, along with all the direct water network and wastewater network costs now included within Other wholesale. Costs within the Functional & Corporate profit centres are principally allocated to general and support costs within the other operating expenditure lines of the tables and are shown as indirect costs.

Key Steps	Description
	Costs within Other wholesale (excluding direct water & wastewater network costs) most commonly map to the other operating expenses line. In previous years, these costs were all classified as indirect costs within the regulatory tables, aligned to our SAP cost structure. Following the migration of water and wastewater networks into Other wholesale during the year, we subsequently completed a detailed review exercise of all profit centres within Other wholesale to assess whether each cost centre's costs should be classified as direct or indirect. This exercise was complete with consideration given, amongst other things, as to whether costs directly relate to a particular price control or upstream service and the consistency with Ofwat's RAG guidance on G&S costs. Note that this exercise did not change anything in the main cost tables covered by this methodology (i.e. 2B, 2C, 2D, 4D, 4E & 4F) since these tables do not split out costs between direct and indirect. This instead impacted on the direct/indirect classifications within the additional APR tables 4N (Sewage treatment functional expenditure), 4O (Large sewage treatment works), 4V (Water resources operating costs) and 4W (Sludge transport, treatment and disposal operating costs), with a resultant shift from indirect to direct costs.
2 – Cost Perform mapping to upstream service	The CostPerform reporting solution takes the operating expenditure outputs from SAP and groups the costs of each cost centre by expense type e.g. employment, power, materials and consumables etc. It then applies established allocation rules to attribute costs to the 2015-20 regulatory price controls and, ultimately, to upstream services within wholesale. Where costs within a cost centre can be directly mapped to a specific upstream service (or price control for retail) and cost line, then no allocations are required and the costs will be mapped directly in CostPerform. This is the case for the majority of operational profit centres within the household retail hierarchy which map directly to a particular cost line in the retail household table (2C). Costs not directly attributable to a price control (usually functional support cost centre costs) will be allocated across price controls using an appropriate cost driver or allocation rule. Costs attributed to a wholesale price control but not directly attributable to an upstream service (either an operational cost centre within the water/wastewater hierarchy or functional support costs that have been first allocated by price control) are allocated across upstream services using an appropriate driver or allocation rule. Cost drivers and allocation rules are provided by the operational budget manager or finance representative responsible for those costs and are completed in accordance with RAG 2.07. These are also reviewed by the relevant budget managers and/or finance business partner. See sections 7.1-7.3 for details of how costs are allocated.

Key Steps	Description
3 – Cost Perform adjustments	Some adjustments are required to the IFRS position to convert it to a regulatory accounting basis in accordance with RAG 3.11, for example: • Renewable Obligation Certificate (ROC) income, reported in revenue on an IFRS basis is directed to 'Income treated as negative expense' within the Sludge Treatment upstream service Some cost reallocations are required from operational cost centres to different price controls and upstream services, for example: • The cost for the treatment of water sludges at wastewater treatment works are reallocated from the wastewater to the water price control Non-appointed and third party costs recorded within UUW's cost centres are identified, with reference to the RAG 4.08 Appendix 1 Income Categorisation, and mapped accordingly.

4.3 Capital expenditure

Data from the Capital Project Management System (CPMS) is used to attribute or allocate capital expenditure. CPMS is the central repository for the project management of capital expenditure within UUW. The data within the system includes spend, milestones and regulatory investment categories. Projects can be either assigned to one category or allocated across multiple categories which determine the project allocation across:

- regulatory price controls and/or upstream services;
- investment drivers (Maintenance, Quality, Supply & Demand and Enhanced Levels of Service); and
- asset classifications (e.g. infrastructure, civils and mechanical & electrical)

There is a defined relationship between the categories and the column and row position in the Regulatory Account tables. The relationship is held as a rule within CPMS and allows the analysis and allocation of project and programme level data in a consistent and comparable manner.

4.4 Grants and contributions

Data from SAP and CPMS is used to identify the following characteristics for each income project:

- infrastructure/non-infrastructure/infrastructure renewals (IRE) status;
- income type (connection charges, infrastructure charges, diversions, requisitioned mains, requisitioned sewers, other); and
- regulatory price control and/or upstream service

This information is then used to populate the grants and contributions line in section 7.1.

4.5 **Fixed assets** (included in section 7.4)

The company maintains its fixed asset register in the SAP accounting system. This register contains two key depreciation areas using two accounting bases being International Financial Reporting Standards (IFRS) and Current Cost Accounting (CCA).

The majority of the fixed asset and depreciation information in the APR uses the IFRS basis of reporting, adjusted for the removal of capitalisation of borrowing costs under IAS23, as required under RAG 1.08. The key exception to this being table 4G ("Wholesale current cost financial performance") which is prepared on a CCA basis.

Each commissioned asset in the SAP register is assigned to a business unit which determines the price control unit that the asset/depreciation is allocated to in the Annual Performance Report (using the 'principal use' method). The business unit is assigned to the asset on commissioning in conjunction with the project team.

Additional processes, detailed in the table below, are followed to allocate assets under construction (see process step 2), shared assets (see process step 3) and year-end adjustments (see process step 4).

Process Step	Description
1	*A detailed Fixed Asset Report is run in SAP as at year-end* - This report details, for every commissioned asset, the movements in the year from opening cost to closing net book value. The report also includes the SAP business unit for each asset.
2	*Assets Under Construction (AUC) allocation* - AUC are posted to summary AUC asset classes in SAP which cannot be used to allocate to asset types. The investment categorisation from CPMS is used to further allocate across price control units/upstream services and asset types.
3	*Shared asset reallocation* - Shared assets are allocated to Management & General ("M&G") service areas. These M&G service areas determine the allocation percentages across the direct business units and therefore price control units and upstream services allocations as determined by operational management in conjunction with the Fixed Asset Accounting Team. Further information on these drivers is included in section 7.4.
4	*Year-end adjustments* - Allocations of year-end adjustments (opening and closing journal accruals) are individually reviewed to allocate across the price control and upstream services.

As part of the implementation of a new asset maintenance and resource scheduling system, the SAP fixed asset records have been more closely aligned with operational equipment records allowing greater granularity in reporting.

5. Cost allocation principles

Ofwat published revised RAGs in March 2019 with RAG 2.07 'Guideline for classification of costs across the price controls' remaining unchanged from the prior year. RAG 2.07 contains seven cost allocation principles as bulleted below. These principles have been adhered to during the preparation of the regulatory accounts.

Principle	RAG 2.07 guidance	UUW response
Transparency	The cost attribution and allocation methods applied to allocate costs within the APR need to be transparent. This means that the costs and revenues apportioned to each service or segment should be clearly identifiable. The cost and revenue drivers used within the system should be clearly explained to enable robust assurance against this guidance.	Transparency is provided by the production of this methodology statement.
Causality	Cost causality requires that costs (and revenues) are attributed or allocated to those activities and services that cause the cost (or revenue) to be incurred. This requires that the attribution or allocation of costs and revenues to activities and services should be performed at as granular a level as possible. Allocating costs in relation to the way resources are consumed provides a means of building up service and product costs. This approach views a business as a series of activities, each of which consumes resources and, therefore, generates costs. An activity based approach should result in the majority of the total costs being attributed or allocated on a meaningful basis. All operating and capital costs must ultimately be attributed or allocated.	Our costs are directly allocated, as far as practically possible, to activities that cause the cost to be incurred. Some costs (for example general and support costs) are more remote from the activities that cause the cost. The methods applied to allocating such costs are described in section 7 of this methodology statement.
Non-discrimination	Companies should ensure that no undue preference or discrimination is shown by water undertakers and sewerage undertakers in relation to the provision of services by themselves or other service providers (this is consistent with the new duty in section 2 of the Water Industry Act 1991 that has been inserted by section 23 of the Water Act 2014). Therefore the attribution or allocation of costs and revenues should not favour any price control unit or appointed/non-appointed business and it should be possible to demonstrate that internal transfer charges are consistent with the prices charged to external third parties.	Objective cost allocation bases are utilised which meet the requirements of the Ofwat guidance and regulatory accounting principles, without any intention of discrimination.
No cross subsidy between price controls	Following the introduction of separate binding price controls at the 2014 price review, companies cannot transfer costs between the PR14 price controls in setting prices and preparing the APR. The revenue allowance for each price control is determined by the costs specific to that particular price control. Therefore companies should also ensure that there is no cross subsidy between price control units. Rules on transfer pricing are detailed in RAG 5.	The company has procedures in place to ensure that the relevant individuals are aware of the requirements of RAG 5, and that transactions between price controls are effected and recorded appropriately in compliance with RAG 5.

Principle	RAG 2.07 guidance	UUW response
Objectivity	The cost and revenue attribution criteria need to be objective and should not intend to benefit any price control unit or appointed/non-appointed business. Cost allocation must be fair, reasonable and consistent.	Objective cost allocation bases are utilised which meet the requirements of the Ofwat guidance and regulatory accounting principles, without any intention of benefitting either any price control or the non-appointed business.
Consistency	Costs should be allocated consistently by each company from year-to-year to ensure: • meaningful comparison of information across the sector and over time; • that regulatory incentives from comparative analysis apply fairly across companies; and • to enable monitoring of companies' performance against price control assumptions. Any changes to the attribution and allocation methodology from year-to-year should be clearly justified and documented in the Accounting Separation Methodology Statement.	The company keeps the methodology as consistent as possible from year-to-year, with changes most likely to occur in order to comply with updated Ofwat guidance or utilising enhanced management information to provide improvements in allocation. Significant methodology changes from the prior year are explained in section 6 of this document.
Principal use	Where possible, capital expenditures and associated depreciation should be directly attributed to one of the price control units. Where this is not possible as the asset is used by more than one service, it should be reported in the service of principal use with recharges made to the others services that use the asset reflecting the proportion of the asset used by the other services.	Capital expenditures and depreciation have been attributed or allocated in line with RAG 2.07 requirements, with particular reference to cost allocation to price control unit by principal use where expenditure cannot be directly attributed and recharges made. This is detailed in section 7.

6. Methodology changes since 2017/18

In 2018/19, with minimal changes in the RAGs within the scope of this methodology versus the prior year, the only significant change in methodology relates to an improvement in the use of management information at co-located wastewater sites, as detailed below.

For 2018/19 other operating expenditure (excluding employment costs) at co-located wastewater sites have been allocated to upstream service using the SAP cost centre hierarchy. This follows substantial system work completed to accurately map costs at each site to SAP cost centres which map to specific upstream services. This is a change from previous years where costs at co-located sites were all grouped together by cost type and were allocated between sewage treatment and sludge treatment using management estimates.

Due to complexities around payroll bookings and subsequent recharges, employment costs continue to be allocated to upstream service using management estimate. This is a transitional process with phased implementation during 2018/19. System improvements have already been implemented to ensure that the SAP cost centre hierarchy can be used for reporting employment costs in 2019/20, providing consistency across all costs categories.

7. Cost allocations

7.1 Wholesale

The following tables show the cost drivers/allocations used to populate each line of the APR tables for wholesale water by upstream service (4D) and wholesale wastewater by upstream service (4E). Cost allocations to upstream services follow the boundary points and assets defined in RAG 4.08. The data in these tables is derived from the underlying financial records as follows:

- Cost Driver A = costs can be mapped directly from a cost centre (or service area for fixed assets) to the relevant upstream service
- Cost Driver B = costs can be mapped directly from a cost centre to the water or wastewater price control and then costs are apportioned to an upstream service using a specific cost driver or in proportion to the level of direct costs
- Cost Driver C = costs are apportioned to water and wastewater using a specific cost driver and then apportioned to an upstream service using another specific cost driver or in proportion to the level of direct costs

The following tables describe how costs are split between the three relevant 2015-20 price controls of water, wastewater and household retail and subsequently to upstream services within wholesale, mirroring the operation of the CostPerform reporting solution. In explaining the allocations to individual upstream services, this is also effectively explaining the allocations to the four wholesale price control units reported in the section 2 tables of the APR (i.e. water resources, water network+, wastewater network+ and sludge) , since these tables are created by summing the respective upstream service totals within each price control unit.

Additional disclosures required under RAG 3.11, appendix 2

Power costs are split between 59% directly coded to a price control unit and 41% involving some allocation between price control units (the equivalent split in 2017/18 was 57% directly coded, 43% involving some allocation). This split is derived from a complete mapping of every cost line from the SAP system download (described in section 4.3) which feeds into the power reporting line.

Other operating costs are split between 62% directly coded to a price control unit and 38% involving some allocation between price control units (the equivalent split in 2017/18 was 63% directly coded, 37% involving some allocation). This split is derived from a complete mapping of every cost line from the SAP system download (described in section 4.2) for all other operating costs excluding IRE. IRE is based on a direct mapping from the Capital Project Management System (CPMS) system (described in section 4.3).

The method of disaggregating power costs consumed at sites that cover more than one price control unit is described for water and wastewater in the following sections of this document.

7.1.1 Water (APR Table 4D)

Operating expenditure

Expenditure line item	Cost Driver	Allocation basis to price control and upstream service
Power	A/B/C	Power cost allocation is allocated on an MPAN meter basis to an upstream service applying asset classifications within RAG 4.08 and where necessary RAG 2.07 Appendix 2. Where this is not possible, for sites that include an element of power in relation to more than one business unit or upstream service the costs are apportioned based on management assessment at a site level. Power for support buildings are apportioned based on floor space. Carbon Tax & Fuel costs are split based upon the average electricity upstream services percentage split calculated from the above.
Income treated as negative expenditure	A	Direct cost
Abstraction charges / discharge consents	A	Direct cost
Bulk supply	A	Direct cost
Renewals expended in year (infrastructure)	A	Direct allocation to the business unit based on investment categories assigned to each project in the Capital Project Management System (CPMS), by the project manager.
Renewals expended in year (non-infrastructure)	n/a	Nil operating costs
Other operating expenditure excluding renewals		
– Employment costs	A	• Water network costs - Direct costs are charged to the individual sites and upstream service.
– Hired and contracted Services	A/B	• Water treatment works - Direct costs are charged to the individual sites. Costs at some sites are directly allocated to upstream service where possible; for sites that include an element of costs in relation to more than one upstream service the costs are apportioned based on assessment by production managers at each site. Where costs cannot be directly allocated to site they are apportioned pro-rate to the level of directly allocated costs.
– Materials and consumables	B	• Water senior leadership and production managers - Cost are apportioned pro-rate to the level of directly allocated costs at Water Network and Water Treatment works.
– Other Direct costs	B	• Other water activities recorded in water profit centre hierarchy - Costs allocated to upstream service based upon the activity of individual teams workload and management estimate where necessary. These costs are not directly allocated to either upstream service or site level.
	C	• Non G&S costs recorded within the Other wholesale profit centre hierarchy (e.g. Operational technology, Wholesale market services) – Cost allocated to price control based on assessment of work undertaken or using an appropriate cost driver. Costs allocated to upstream service within water using specific cost driver or in proportion to the level of direct costs.
– General and support (G&S) expenditure	C	Indirect general and support costs are allocated across the relevant upstream service as analysed out in section 7.3.
– Scientific services	C	Costs are allocated across water and sewerage based upon laboratory test numbers taken relevant to each business unit activity.
– Other business activities	C	8/9ths of the Regulatory costs (including Ofwat licence fees) are allocated to wholesale, 1/9th to retail, in line with Ofwat guidance. This is with the exception of DWI costs directly attributed to the water service. Where not directly allocated, costs are then allocated equally between water and wastewater. Regulation team time is split based on management's estimate of time spent on particular areas. Subsequent allocation to upstream service is done proportional to the level of direct costs for each upstream service.
– Meter maintenance/ installation non capex	A	Direct attribution of costs to wholesale treated water distribution.
– Exceptional items	C	Severance costs are allocated across water, wastewater, retail household and non-household according to the relevant driver for each impacted role/team. Subsequent allocation to upstream service is proportional to the level of direct employment costs.
Local authority and cumulo rates	B/C	Rates are split proportionally based on the Gross Modern Equivalent Asset Value (GMEAV) of those assets attracting rates. Rates for support buildings are apportioned based on floor space.
Third party services	A	Costs are directly allocated to upstream service based upon the nature of expenditure.

Capital expenditure

Expenditure line item	Cost Driver	Allocation basis to price control and upstream service
Maintaining long term capability of the assets – infrastructure	n/a	Nil capital expenditure, all expensed.
Maintaining long term capability of the assets – non infrastructure	A/C	Direct attribution to price control based on the Capital Project Management System (CPMS). Price control of principal use is used where assets cannot be directly attributed with recharges made to other price control services as appropriate to reflect the proportion of the asset used.
Other capital expenditure – infrastructure	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Other capital expenditure – non infrastructure	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Infrastructure network reinforcement	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Third party services	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Grants and contributions	A/C	Predominately direct costs to upstream service based on the Capital Project Management System (CPMS), However, some contributions which cannot be directly mapped to an individual upstream service are allocated based on the Gross Modern Equivalent Asset Value.

Cash expenditure

Expenditure line item	Cost Driver	Allocation basis to price control and upstream service
Pension deficit recover payments	C	Allocated to water, wastewater, household retail & non-household retail based on pension deficit recovery payments allowed in the final determination. Costs are then apportioned across the respective upstream services for water or wastewater pro-rate to the level of employee benefits expense for each business unit.

Derivation of the quantities used to calculate the unit costing information

Service	Cost Driver	Commentary on cost driver selected
Abstraction license	Licenced volume available in Ml	Total volume of water granted for abstraction by the Environment Agency (includes full and transfer licences only). The majority of costs are related to the licence charges paid to the Environment Agency and Natural Resources Wales, where charges are based on the annual licenced quantities.
Raw water abstraction	Raw water abstracted in Ml	The volume of raw water abstraction includes transportation between reservoirs where both reservoirs have an abstraction licence. Transport which occurs between a reservoir with an abstraction licence and a reservoir/storage tank without an abstraction licence is included in the raw water transport service. This is based on the volume of water abstracted from the final point of abstraction prior to WTW i.e. water sources which feed into another source from which they are abstracted to a WTW are not included. This is consistent with the definition from JR11 table 10b line 4 reporting requirements which refers to the 1995 UKWIR report Demand Forecasting Methodology (report ref 95/WR/01/1).
Raw water transport	Raw water transported in Ml	Volume of raw water transported in Ml. We have assumed that abstraction sites either provide water to: • another water source and on to another licenced abstraction site (e.g. Ullswater to Haweswater) • direct to a co-located water treatment works (WTWs) (e.g. Eden Hall borehole and WTW) • the raw water transport service (e.g. Haweswater abstraction to Watchgate WTW) Therefore we assume that the volume transported is equal to the volume abstracted at the third type of site above. The first two form a category which is 'abstraction only' i.e. these volumes are not transported via the raw water transport service and are included in the raw water abstraction cost driver.
Raw water storage	Average volume stored in Ml	The average volume of raw water storage has been calculated from reservoir level data (recorded at least monthly), converted into an average level and volume for the year. Storage on WTW sites has been excluded as the costs associated with operating these storage assets are included within the operating costs for the works and would be difficult to specifically identify.
Water treatment	Volume of water treated in Ml	The volume of raw or partially treated water from the raw water distribution network treated at WTWs. The unit chosen is the annual volume of water treated at WTWs and put into supply. This is equivalent to distribution input but reported in Ml.
Treated water distribution	Volume of treated water from treatment sites and third parties distributed to customers in Ml	The volume of treated water from treatment sites and third parties distributed to customer is the same as distribution input and equals metered distribution input.

7.1.2 Wastewater (APR Table 4E)

Operating expenditure

Expenditure line item	Cost Driver	Allocation basis to price control and upstream service
Power	A/B/C	• Wastewater - Direct costs at co-located sites are allocated based on either sub metering (where available) or engineering's methodology, which are then apportioned across upstream services. All other costs are allocated directly to the individual sites. Carbon Tax is also reported in this line and is allocated to upstream service based on gross consumption. Power for support buildings are apportioned based on floor space. An adjustment is made to give the full benefit of CHP generation to sludge treatment. • Liquor treatment –a proportion of the sewage treatment business unit power costs were classified as liquor treatment based on engineering assessments at each co-located site. • Sewage collection – allocated to upstream service based on GMEAV of network assets.
Income treated as negative expenditure	A	Direct cost
Discharge consents	A	Direct cost
Bulk discharge	A	Direct cost
Renewals expended in year (infrastructure)	A	Direct allocation to the business unit based on investment categories assigned to each project by the project manager in the Capital Project Management System (CPMS).
Renewals expended in year (non-infrastructure)	n/a	Nil operating costs
Other operating expenditure excluding renewals		
– Employment costs	B	• Wastewater treatment works (Co-located sites) - Direct costs are charged to the individual sites against process level cost centres. These process level cost centres directly map to an upstream service. The only exception to this is Employment costs where the costs are grouped together at site level and then allocated using management estimates. Where costs cannot be directly allocated to site they are apportioned pro-rate to the level of directly allocated costs.
– Hired and contracted Services	A/B	• Wastewater treatment works (Sewage Treatment only) - Direct costs are charged to the individual sites and upstream service. Where costs cannot be directly allocated to site they are apportioned pro-rate to the level of directly allocated costs.
– Materials and consumables	B	• Sewage collection – Direct costs are allocated based on number of incidents in the Wastewater Incident Recording System database which identifies if they relate to Foul, Surface Water Highway Drainage (SWHD) or combined. SWHD is split between SW and HD based on the split of the total UU area which drains to UU sewers between SW and HD, based on information from UU Geographical Information Systems (GIS) for land use / type and hydrology models for the area drained.
– Other Direct costs	B	• Wastewater senior leadership, area business managers and production managers – Costs are apportioned pro-rate to the level of directly allocated costs at Sewerage treatment works and Co-located sites.
	B	• Other wastewater activities within wastewater profit centre hierarchy – Costs are allocated to upstream services based on the activity of the individual teams workload and management estimate where necessary. These costs are not directly allocated to individual Sewerage treatment works.
	C	• Non-G&S costs recorded within the Other wholesale profit centre hierarchy (e.g. Operational technology, Wholesale market services) – Cost allocated to price control based on assessment of work undertaken or using an appropriate cost driver. Costs allocated to upstream service within wastewater using specific cost driver or in proportion to the level of direct costs.
– General and support expenditure	C	Indirect general and support costs are allocated across the relevant upstream service as analysed out in section 7.3.
– Scientific services	C	Costs are allocated across water and sewerage based upon laboratory test numbers taken relevant to each business unit activity.
– Other business activities	C	8/9ths of the Regulatory costs (including Ofwat licence fees) are allocated to wholesale, 1/9th to retail, in line with Ofwat guidance. This is with the exception of DWI costs directly attributed to the water service. Where not directly allocated, costs are then allocated equally between water and wastewater. Regulation team time is split based on management's estimate of time spent on particular areas. Subsequent allocation to upstream service is done proportional to the level of direct costs for each upstream service.
– Support for trade effluent compliance	B	Direct costs are charged to specific cost centres and allocated to upstream services based on the activity of the individual teams workload and management estimate where necessary.
– Exceptional items	C	Severance costs are allocated across water, wastewater, retail household and non-household according to the relevant driver for each impacted role/team. Subsequent allocation to upstream service is proportional to the level of direct employment costs.
Local authority and cumulo rates	B/C	Rates are split proportionally based on the Gross Modern Equivalent Asset Value (GMEAV) of those assets attracting rates. Rates for support buildings are apportioned based on floor space.
Third party services	A	Costs relating to the repair of damages caused to the wastewater network (Sewage Collection) by a third party. Costs offset by income from 3rd party damages.

Capital expenditure

Expenditure line item	Cost Driver	Allocation basis to price control and upstream service
Maintaining long term capability of the assets – infrastructure	n/a	Nil capital expenditure, all expensed.
Maintaining long term capability of the assets – non infrastructure	A/C	Direct attribution to price control based on the Capital Project Management System (CPMS). Price control of principal use is used where assets cannot be directly attributed with recharges made to other price control services as appropriate to reflect the proportion of the asset used.
Other capital expenditure – infrastructure	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Other capital expenditure – non infrastructure	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Infrastructure network reinforcement	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Third party services	A	Direct attribution to upstream service based on the Capital Project Management System (CPMS).
Grants and contributions	A/C	Predominately direct costs to upstream service based on the Capital Project Management System (CPMS), However, some contributions which cannot be directly mapped to an individual upstream service are allocated based on the Gross Modern Equivalent Asset Value.

Cash expenditure

Expenditure line item	Cost Driver	Allocation basis to price control and upstream service
Pension deficit recover payments	C	Allocated to water, wastewater, household retail & non-household retail based on pension deficit recovery payments allowed in the final determination. Costs are then apportioned across the respective upstream services for water or wastewater pro-rate to the level of employee benefits expense for each business unit.

Derivation of the quantities used to calculate the unit costing information

Service	Cost Driver	Commentary on cost driver selected
Foul sewage collection	Volume collected (Ml)	The unit chosen is the volume of sewer utilised for foul sewage collection purposes in Ml. The volume of foul water returned to the wastewater network from household and non-household properties.
Surface water drainage	Volume collected (Ml)	The unit chosen is the volume of sewer utilised for surface water drainage purposes in Ml. The specific impact here is that UUW does not own highway drains, although the flow from highway drains impacts upon the costs of operating and maintaining our surface water and combined sewer networks. Therefore, we have allocated the volume of the surface water sewer network between this unit cost category and the highway drain unit cost category based on a calculation using GIS.
Highway drainage	Volume collected (Ml)	The unit chosen is the volume of sewer utilised for highway drainage purposes in Ml. The specific impact here is that UUW does not own highway drains, although the flow from highway drains impacts upon the costs of operating and maintaining our surface water and combined sewer networks. The volume allocated to highway drainage is based upon a split calculated using GIS.
Sewage treatment & disposal	BOD load treated (tonnes BOD)	The unit chosen is the liquor load measured in tonnes Biochemical Oxygen Demand (BOD). The actual treatment costs will again be directly dependent on the nature of the treatment required at the works.
Imported liquor treatment	BOD load treated (tonnes BOD)	The unit chosen is the liquor load measured in tonnes BOD. The actual treatment costs will again be directly dependent on the nature of the treatment required at the works.
Sludge Transport	Sludge volume (m3)	The unit chosen is the volume of liquid sludge transported between wastewater treatment works in m3. This volume excludes liquid sludge transported between works via pipelines and sludge cake transported from feeder wastewater treatment works to thermal hydrolysis plants.
Sludge treatment	Total sewage sludge produced (thousand tonnes dried solids)	The unit chosen is the volume of sludge treated, measured in thousand tonnes dry solids.
Sludge Disposal	Total sewage sludge disposal (thousand tonnes dried solids)	The unit chosen is the volume of sludge disposed, measured in thousand tonnes dry solids.

7.2 Household retail

Operating expenditure (APR Table 2C)

The below table shows how costs are attributed to household retail operating cost lines which form the basis for APR table 2C. As the below table shows, the majority of costs are directly mapped from specific cost centres within the household retail cost centre hierarchy to a specific cost line in accordance with line definitions specified in RAG 4.08.

Certain costs, such as customer side leaks and investigatory visits, are mapped from wholesale cost centres, where the costs are initially recorded. Other centrally recorded costs, such as general and support expenditure, have an apportionment to household retail. These mappings and apportionments are completed in accordance with cost categorisation per price control, as specified in RAG 2.07.

Expenditure line item	Allocation Basis
Customer services:	
– Billing	Largely directly attributed within Household cost centre hierarchy. In addition, allocations of: • Internally generated correspondence based on FTE • Local authority commission based on associated direct costs • Postage, printing and cash management costs based on cost type and volumes of bill types/letters to correct activity line • Senior leadership team costs per individual based on associated direct costs of activities they are involved in
– Payment handling, remittance and cash handling	Largely directly attributed within household cost centre hierarchy plus an allocation of: local authority commission; postage, printing and cash management costs; and senior leadership team costs (allocation basis for all these as described above).
– Charitable trust donations	100% directly attributed within household cost centre hierarchy.
– Vulnerable customer schemes	Vast majority directly attributed within household cost centre hierarchy plus an allocation of senior leadership team costs based on associated direct costs of activities they are involved in.
– Non-network customer enquiries and complaints	Vast majority directly attributed within household cost centre hierarchy plus an allocation of senior leadership team costs based on associated direct costs of activities they are involved in less internal generated correspondence allocation moved to Billing.
– Network customer enquiries and complaints	Vast majority directly attributed within household cost centre hierarchy plus an allocation of senior leadership team costs based on associated direct costs of activities they are involved in.
– Investigatory visits	Direct cost transfer of activity related costs from wholesale water and wastewater to household retail.
Debt management	Largely directly attributed within household cost centre hierarchy plus an allocation of: local authority commission; postage, printing and cash management costs; and senior leadership team costs (allocation basis for all these as described above).
Doubtful debts	Directly attributed within household cost centre hierarchy plus an IFRS to regulatory accounts adjustment for bad debt associated with revenue recognition.
Meter reading	Direct transfer of activity related costs from wholesale to household retail plus an allocation of senior leadership team costs.
Service to developers	Nil costs.
Other operating expenditure	
– Disconnections and reconnections	Nil costs.
– Demand side water efficiency initiatives	100% directly attributed within household cost centre hierarchy.
– Customer side leaks	Direct cost transfer of activity related costs from wholesale water to household retail.
– General and support expenditure	There are no direct general and support costs within the household price control. Indirect general and support costs are allocated across the relevant price controls as shown in section 7.3.

– Other business activities	Where not directly attributable, 8/9ths of the regulatory costs (including Ofwat licence fees) are allocated to wholesale, 1/9th to household retail, in line with Ofwat guidance. Regulation team time is split based on management's estimate of time spent on particular areas.
– Local authority rates	Rates for sites specifically used by retail household are directly attributed. Shared central office rates allocated based on floor space occupied.
– Exceptional items	Price control exceptional items are attributed to water, sewerage or retail household. If the exceptional item relates to functional support, the cost is apportioned across water, wastewater and retail household using an appropriate driver.
– Other direct costs	Direct mapping from Household cost centres less specific management employment costs which are allocated to other lines.
Depreciation and amortisation	100% attributable to household retail where price control of principal use, as per service area field in the SAP fixed asset register.
Debt written off	Derived from bad debt control account.

Operating cost allocations per customer type (APR table 4F)

Total opex in each of the above household retail cost lines is then further allocated (outside of CostPerform) across the six customer types as reported in APR table 4F, using the allocation basis described below.

Expenditure line item	Attribution/Allocation basis across the six customer types
Customer services:	
– Billing	Number of bills raised to each of the 6 customer types.
– Payment handling, remittance and cash handling	Number of payments received from each of the 6 customer types.
– Charitable trust donations	Number of accounts with the Trust from each of the 6 customer types.
– Vulnerable customer schemes	Number of customers from each of the 6 customer types in vulnerable customer schemes.
– Non-network customer enquiries and complaints	Number of non-network customer enquiries made by each of the 6 customer types.
– Network customer enquiries and complaints	Number of network customer enquiries made by each of the 6 customer types.
– Investigatory visits	Number of investigatory visits made to each of the 6 customer types.
Debt management	• Value of debt outstanding for more than 30 days for each of the 6 customer types. • Court income element is split by fees per account, i.e. direct allocation to each of the 6 customer types.
Doubtful debts	Direct attribution to each of the 6 customer types
Meter reading	Direct attribution to measured then allocated between the three measured customer types based on customer numbers.
Other operating expenditure	
– Disconnections	N/A – nil costs.
– Demand side water efficiency initiatives	Number of customers in each of the 6 customer types.
– Customer side leaks	Number of customer-side leaks from each of the 6 customer types.
– General and support expenditure	Number of customers in each of the 6 customer types.
– Other business activities	Number of customers in each of the 6 customer types.
– Local authority rates	Number of customers in each of the 6 customer types.
– Exceptional items	Number of customers in each of the 6 customer types.
Depreciation and amortisation	• Majority – Number of customers in each of the 6 customer types. • Billing assets – Number of bills raised to each of the 6 customer types. • Debt Management assets – Value of debt outstanding for more than 30 days for each of the 6 customer types.
Debt written off	N/A - not required for 4F.

Billing and collection

The company outsources a small amount of debt collection where the risk is transferred to third parties. In 2018/19 the outsourced amount equated to 1.0% of the total 2018/19 appointed revenue.

The company does not issue bills addressed to “the occupier”.

Where a customer has vacated a property, leaving amounts unpaid, the UUW policy is that the customer will be charged up to the date of the change of tenancy. This debt is then placed with debt collection agencies for trace and collection. If new information is obtained by the agencies, advising us of a more accurate date of vacation, the account will be amended accordingly. If debt collection is ultimately unsuccessful, the debt will subsequently be written off.

Bad debt is written off when all economically viable efforts to recover outstanding amounts have been fully exhausted or, alternatively, when the write-off of such amounts forms part of customer rehabilitation processes (subject to acceptance criteria and customer “matching” payments). The company’s bad debt write-off policy has remained unchanged and has been consistently applied in the current year compared with the previous year. The level of write- off has decreased marginally from £68.0m in 2017/18 to £66.6m in 2018/19.

The household bad debt provision is charged to operating costs to reflect the company’s assessment of the risk of non-recoverability of debtors. Household has continued to consistently apply its provisioning model last updated in 2014/15 to calculate the bad debt provision. The provision model applies expected recovery rates to debts outstanding at the end of the accounting period. The overall expected recovery rate takes into account the age of the debt, payment history and type of debt.

Higher provisioning percentages are applied to categories of debt of greater age. Bad debt provisioning rates are reviewed annually to ensure they continue to reflect the latest collection performance data from the company’s billing system. All debt greater than 3 years old is fully provided for.

The actual level of debt collected may differ from the estimated levels of recovery, which could impact operating results positively or negatively.

The household bad debt provision policy has remained unchanged and has been consistently applied in the current and prior years. The bad debt provision has reduced by £20.7m from 31 March 2018 to 31 March 2019 and the household trade debtor balance has reduced by £20.9m. The reduction in both the bad debt provision and the household debtor balance is a result of our strong focus on improving bad debt and cash collection performance. Our improvement in cash collection performance seen in the prior year led to a cleaner debt book brought forward into the current year and this improved cash performance has been sustained into the current year both resulting in reductions in the bad debt charge and household debtor balance. In addition to this, further reductions have arisen from the continuing positive impact of our billing and collections initiatives, particularly our award winning Town Action Plan which has significantly increased the number of customers benefiting from our Financial Assistance Schemes.

7.3 General & Support expenditure

General & Support (G&S) costs are all recorded within UUW's functional support cost centres, split by 'Functions & Corporate' and 'Other wholesale'. CostPerform apportions these G&S costs across the wholesale water, wholesale wastewater and household retail price controls, in accordance with RAG 2.07 cost classification guidelines, and subsequently to upstream service within the wholesale price controls.

The tables below show the basis of allocation per cost type along with the resulting %'s by price control. Full-Time Equivalents (FTEs), including all full-time staff and contractors/temporary staff directly employed, is the most commonly used cost driver.

Functions and Corporate profit centres

Expenditure line item	Allocation to price control and subsequent upstream service (where wholesale)	Water Res	Water Net+	WW Net+	Sludge	HH retail	Non-app
IT costs	IT software support costs directly allocated where possible. Otherwise allocated based on the most appropriate driver for each IT system e.g. FTE, capital spend. Employment costs and other IT costs are allocated by FTE. Subsequent upstream service allocations pro-rate to direct employment costs.	4.7%	30.8%	31.4%	10.9%	21.7%	0.5%
Finance	Costs in relation to treasury and tax are allocated pro-rate to regulatory capital spend. Remaining costs split by team allocated by management assessment of most appropriate split/driver (predominantly FTE). Upstream service allocation pro-rate to the level of direct employment costs with the exception of tax and treasury which are split pro-rate to total direct costs.	4.1%	34.7%	35.9%	11.7%	13.1%	0.5%
HR	Costs allocated to price control by FTE. Upstream service allocation pro-rate to direct employment costs.	3.3%	34.0%	35.3%	12.2%	14.6%	0.6%
Learning & Development	Allocation to price control based on a management assessment of time spent. Upstream service allocation pro-rate to direct employment costs.	4.1%	41.5%	33.9%	11.7%	8.8%	0.0%
General Counsel	Directly attributable to price control where possible. Remaining costs allocated to price control by FTE. Upstream service allocation pro-rate to direct employment costs.	3.1%	32.2%	33.5%	11.6%	19.0%	0.6%
Corporate Affairs	Costs allocated to price control by FTE. Upstream service allocation pro-rate to direct employment costs.	3.3%	34.0%	35.3%	12.2%	14.6%	0.6%
Executive directors remuneration	Allocated to price control based on a management estimate of time spent. Upstream service allocation pro-rate to total direct costs.	7.0%	33.2%	40.3%	9.0%	10.0%	0.5%
Non-executive directors remuneration	Allocated to price control based on a management estimate of time spent. Upstream service allocation pro-rate to total direct costs.	7.0%	33.2%	40.3%	9.0%	10.0%	0.5%
Reward and pensions	Allocated to price control based on an ongoing number of pension members by price control. Upstream service allocation pro-rate to direct employment costs.	3.4%	34.6%	34.7%	12.0%	14.7%	0.6%
Guaranteed Minimum Pension charge (2018/19 only)	Allocated to price control in proportion to defined benefit scheme current employee membership numbers. Upstream service allocation pro-rate to direct employment costs.	4.2%	42.5%	35.5%	12.3%	4.9%	0.6%
Other central costs	Allocated direct to price control where possible. All remaining costs allocated by FTE. Upstream service allocation pro-rate to total direct costs or to the level of direct employment costs, depending on cost type.	3.9%	39.3%	34.6%	12.0%	9.9%	0.3%

Other wholesale profit centres

Expenditure line item	Allocation to price control and subsequent upstream service (where wholesale)	Water Res	Water Net+	WW Net+	Sludge	HH retail	Non-app
Fleet management costs	Majority of fleet costs recharged out to specific site or business area and recorded as direct costs. Residual G&S balance in Other wholesale allocated to price control and upstream service based on fleet servicing cost breakdown.	0.5%	36.6%	38.5%	24.4%	0.0%	0.0%
Facilities management and Accom.	Allocated to business area based on floor space occupied. Other wholesale business area subsequent price control and upstream service allocations follow cost allocations each sub-area.	1.6%	44.7%	41.9%	9.1%	1.5%	1.2%
Grounds maintenance	Vast majority of costs are directly attributed to specific water/wastewater sites. Where not directly attributable, allocated pro-rate to the level of employment costs for each upstream service.	8.5%	39.6%	42.6%	9.3%	0.0%	0.0%
Insurance	Claim costs directly attributed where possible. Insurance premium costs allocated using cost drivers reflective of the basis of the insurance charge per area e.g.: - Asset values used for property insurance - Turnover used for Public Liability and Professional Indemnity insurance Costs not directly attributable to an upstream service are subsequently allocated by total direct costs.	3.5%	55.4%	37.7%	3.3%	0.1%	0.0%
Health & Safety	Costs identifiable as being specific to a price control are directly attributed. Remaining costs are allocated to price control based on FTE and to upstream service pro-rate to direct employment costs.	3.3%	33.7%	39.4%	13.6%	10.0%	0.0%
Commercial	Costs allocated to water and wastewater and then to upstream stream service based on total direct costs excluding employment costs	10.4%	42.5%	40.0%	7.1%	0.0%	0.0%
Innovation	Allocated to price control based on an assessment of the portfolio of projects in the year. Upstream service allocation pro-rate to total direct costs.	6.8%	31.7%	50.5%	11.0%	0.0%	0.0%
Asset Management	Directly attributed where possible. Otherwise allocated based on management assessment using the most appropriate driver. General costs most commonly split by reference to FTEs or capital expenditure. Where not directly attributed, allocated to upstream service pro-rate to employment costs or total direct costs depending on the nature of the costs.	13.3%	36.0%	41.6%	9.1%	0.0%	0.0%
Remaining indirect Other wholesale costs e.g legal, tech support		13.4%	31.3%	45.2%	6.8%	1.5%	1.9%

7.4 Fixed Assets

Allocation of tangible fixed assets between price control units (Table 2D)

The below table shows how fixed assets recorded in UUW's SAP register are allocated to price control units, as defined in RAG 4.08. As detailed below, all mapping are direct except for M&G assets.

SAP Business Unit	Allocation Basis
Water Resources	Directly allocated to the Water Resources Price Control Unit
Raw Water Distribution	Directly allocated to the Water Network+ Price Control Unit
Water Treatment	Directly allocated to the Water Network+ Price Control Unit
Treated Water Distribution	Directly allocated to the Water Network+ Price Control Unit
Sewage Collection	Directly allocated to the Wastewater Network+ Price Control Unit
Sewage Treatment	Directly allocated to the Wastewater Network+ Price Control Unit
Sludge Transport	Directly allocated to the Sludge Price Control Unit
Sludge Treatment	Directly allocated to the Sludge Price Control Unit
Sludge Disposal	Directly allocated to the Sludge Price Control Unit
Retail Household	Directly allocated to the Retail Household Price Control
Management & General (M&G)	Further allocation (see M&G assets section below)
Non-appointed	Directly allocated to the Non-appointed business

M&G assets

In accordance with RAG 2.07, where an asset is utilised in more than one price control unit, the asset and its associated depreciation is recorded in the price control unit of principal use.

As at 31 March 2019, there were 104 live M&G allocations which require an assessment, based on the most appropriate driver, to identify percentage allocations which determine the price control unit of principal use. Examples of these allocations are as follows:

Service Area	Key assets	Drivers
Head office allocation	Head office buildings	Floor space occupation
Corporate systems	SAP system/Workforce Management systems	Number and type of licence/users
Billing systems	Alto billing system	System utilisation
Capital/Project related assets	Project/Investment/Treasury/Tax systems	Total AMP6 capex
IT assets used by all employees	Microsoft, printer, internet, video conferencing, airline	FTE allocation
IT assets supporting all systems	Infrastructure, servers, data centre, IT networks	Weighted average based on the specifically allocated MG codes

Where the principal use changes during the year, to ensure consistency of reporting, we will continue to record the shared asset as being 'owned' by the original 'principal use' price control unit for the AMP period rather than transferring these assets across price control units.

Overall c.16% of depreciation relates to assets used by more than one price control unit (all M&G assets). This depreciation is charged on a principal use basis to the following price control units:

Price Control Units	Water Resource	Water Network+	Wastewater Network+	Sludge	Retail Household	Total
Depreciation (%)	-	16.1%	79.6%	1.2%	3.1%	**100.0%**
Depreciation (£m)	-	10.5	52.1	0.8	2.0	**65.4**

Recharges to/from other price control units for use of fixed assets (Table 2A)

As noted above the depreciation charge for each asset is recorded in the price control unit of principal use. Separately, APR table 2A (Segmental income statement) also shows depreciation recharges from/to each price control unit for the shared use of that asset. The recharge amount per asset is equal to the amount of depreciation which would have been recorded by that price control unit on a proportional allocation basis. These are the same allocation percentages used to determine the price control unit of principal use as detailed above.

See section 8.5 for commentary on the movement in recharges compared to the prior year.

7.5 Planned improvements for future years

Work has been ongoing to implement our new Mobile Asset and Resource Scheduling (MARS) system. Once fully implemented, this will collect manpower, material and contract partner costs at a more granular asset level where the work is performed. This will improve cost allocation to upstream services, with costs being booked direct rather than allocated based on production manager assessments.

UUW will continue to make further enhancements to its cost allocation processes in the future and the methodology for preparing these tables will be reviewed again as part of Regulatory Accounting Guidelines published for 2019/20.

Our continued participation in Ofwat's Regulatory Accounts Working Group may also help us to identify methodologies or allocation methods which are an improvement or which provide greater consistency across water companies.

8. Commentary on cost variances 2018/19

8.1 Wholesale water

Operating expenditure

Wholesale Water Opex year on year movements in operating expenditure (£m)	Water resources		Network +				Water Services Total
	Abstraction licences	Raw water abstraction	Raw water transport	Raw water storage	Water treatment	Treated water distribution	
Total Operating Expenditure 2017/18	**14.0**	**44.3**	**14.9**	**1.0**	**84.2**	**178.0**	**336.4**
Power increases from Summer 2018 Dry Weather Event (see below)	-	0.5	0.4	-	1.1	0.9	**2.9**
Power volume increases largely driven as a knock-on aftermath of refill activity from the Summer 2018 Dry Weather event	-	0.3	0.4	-	0.7	0.3	**1.7**
Increase in price per unit of imported power	-	0.2	0.3	-	0.4	0.3	**1.2**
£5.5m UUW Guaranteed Minimum Pension (GMP) charge in year (impacting all price controls)	-	0.2	0.2	-	1.3	0.9	**2.6**
Increase in the unit cost of chemicals largely above CPI/RPI measures	-	-	-	-	1.1	0.2	**1.3**
Increases within Employee benefits costs for 2018/19 excluding pension costs	-	0.2	0.2	-	0.8	0.5	**1.7**
Pension rate changes as a result of new Hybrid arrangement partly offset by pension compensation payments	-	(0.2)	(0.1)	-	(0.1)	(0.5)	**(0.9)**
Other opex increases from Summer 2018 Dry Weather Event (see below)	-	12.0	0.1	-	2.8	7.7	**22.6**
2005 atypical Central Rates Refund which occurred as a one-off in 2017/18	-	1.2	0.2	-	0.5	2.5	**4.4**
Inflationary rises within the cost of Central and Local Authority Rates attributed to the Water price controls	-	0.5	0.1	-	0.2	1.0	**1.8**
Efficiencies achieved from the centralisation of remote monitoring contingency measures across treatment sites	-	-	-	-	(2.2)	-	**(2.2)**
Beast from the East Freeze / Thaw incident related costs in 2017/18 not repeated in 2018/19	-	(0.9)	-	-	(0.2)	-	**(1.1)**
Additional expenditure to meet improved levels of customer service in the event of network related incidents	-	-	-	-	-	1.3	**1.3**
IRE increases from Summer 2018 Dry Weather Event (see below)	-	-	-	-	-	10.5	**10.5**
Reduction in IRE due to completion of impounding reservoir programmes and reduced mains diversions	-	(7.3)	(0.6)	-	-	(4.8)	**(12.7)**
Other year on year movements below the threshold of being individually reported	0.3	3.0	0.0	(0.1)	(3.3)	0.5	**0.4**
Total operating expenditure 2018/19	**14.3**	**54.0**	**16.1**	**0.9**	**87.3**	**199.3**	**371.9**

Total operating expenditure in the year ended March 2019 increased by £35.5m (11%) to £371.9m. The main contributor was £36.0m of additional costs incurred in relation to the severe summer 2018 Dry Weather Event (split by power, IRE and other operating expenditure in the above table). These costs were atypical to that of a normal water resource and demand year and included elements such as: additional pumping in relation to demand and resource constraints; additional leakage detection and fix activity in line with our Drought Management Plan; and media and customer communications.

Capital expenditure

Line description	Water resources		Water network +				Total
	Abstraction licences	Raw water abstraction	Raw water transport	Raw water storage	Water treatment	Treated water distribution	
2018/19 £m	0.0	8.5	44.2	0.0	101.6	141.0	**295.3**
2017/18 £m	0.0	8.7	24.6	0.0	99.6	138.7	**271.6**
Movement £m	**0.0**	**(0.2)**	**19.6**	**0.0**	**2.0**	**2.3**	**23.7**
Movement %	**n/a**	**(2%)**	**80%**	**n/a**	**2%**	**2%**	**9%**

Increases in the Raw Water Transport unit relate to the ongoing delivery of the West Cumbria project, with greater activity overall in the project compared to 2017/18.

Both Water Treatment and Treated Water Distribution units saw increased costs related to the Dry Weather Event and the increased activity in the West Cumbria project. These increases were largely offset by lower levels of expenditure in our Service Reservoir programme and Start up to Waste programmes, resulting in a small overall increase.

Unit cost information

Line description	Water resource		Water network +			
	Abstraction licences	Raw water abstraction	Raw water transport	Raw water storage	Water treatment	Treated water distribution
2018/19 £/Ml	5.7	73	23	1,783	133	303
2017/18 £/Ml	5.6	61	22	1,811	130	276
Movement £/Ml	**0.1**	**12**	**1**	**(28)**	**3**	**27**
Movement %	**2%**	**19%**	**6%**	**(2%)**	**2%**	**10%**

The costs per unit generally follow the increase in overall costs. In 2018/19 however, we experienced an extended period of very hot and very dry weather. This pressure on supply of water, coupled with an increase in demand for water during this period, put significant pressure on our water supply and distribution networks. This can be observed in the volumes of water abstracted, treated and distributed in the year, where all volumes increased relative to 2017/18, the only reduction in volumes being raw water storage where the low reservoir levels caused by the dry weather event were matched by lower associated costs.

To ensure that we were able to manage the impacts of the dry weather event in a way which minimised the potential impacts on customers, we made more use of a number of less efficient water sources and needed to implement a number of additional measures to ensure that water could be distributed around the region to ensure that water remained reliably available throughout the entire distribution network. The additional costs associated with these additional activities resulted in increases in all unit costs other than raw water storage. There were particularly significant increases in the unit costs of raw water abstraction (+19%) and treated water distribution (+10%), due to the significant atypical costs that were associated with the dry weather event, which meant that the increase in cost in these areas were significantly larger than the increases in volume.

8.2 Wholesale wastewater

Operating expenditure

Wholesale Wastewater Opex year on year movements in operating expenditure (£m)	Sewage Collection			Sewage Treatment		Sludge			Waste water Total
	Foul	Surface Water Drainage	Highway Drainage	Sewage Treatment and Disposal	Imported Sludge Liquor Treatment	Sludge Transport	Sludge Treatment	Sludge Disposal	
Total Operating Expenditure 2017/18	**45.0**	**48.3**	**19.3**	**141.8**	**3.0**	**7.5**	**21.0**	**8.0**	**293.9**
Power Volume Variance (Lower rainfall, delivery of efficiency plans and suspension of incineration at Shell Green)	(0.2)	(0.2)	(0.1)	(4.1)	(0.1)	-	(0.1)	(0.6)	**(5.4)**
Power price variance	0.2	0.2	0.1	1.8	0.1	-	0.5	0.0	**2.9**
Commercial Settlement	-	-	-	(9.9)	-	-	-	-	**(9.9)**
Pension rate changes as a result of new Hybrid arrangement	(0.1)	(0.1)	(0.0)	(0.7)	-	(0.1)	(0.3)	(0.0)	**(1.3)**
Use of temporary centrifuge to meet regional sludge capacity across the region	-	-	-	-	-	-	1.4	-	**1.4**
Increase in Logistics cost due to transporting greater volumes and distances of sludge	-	-	-	-	-	1.2	(0.1)	-	**1.1**
Bioresource other opex cost increases including impact of suspending incineration at Shell Green, outsourcing some sludge disposal activity and use of more expensive restoration sites for disposal	-	-	-	-	-	0.1	(0.2)	2.1	**2.0**
£5.5m UUW Guaranteed Minimum Pension (GMP) charge in year (impacting all price controls)	0.3	0.3	0.1	1.3	-	0.1	0.5	0.0	**2.6**
Increase in Discharge License Fees following EA charging reform	0.5	0.7	0.3	0.7	-	-	(0.0)	-	**2.2**
Increase spend on Compliance / Operational Maintenance	0.3	0.1	0.1	1.0	-	-	1.0	-	**2.5**
Increase in IRE expenditure to reduce sewer flooding and an increase in network maintenance activity linked to large capital projects	7.9	5.5	2.2	-	-	(0.8)	-	-	**14.8**
Rates refund at Birkenhead WwTW	-	-	-	(1.9)	(0.0)	0.0	(0.4)	(0.1)	**(2.4)**
Other year on year movements below the threshold of being individually reported	2.1	1.1	0.3	(4.6)	(0.4)	1.3	2.3	0.1	**2.2**
Total Operating Expenditure 2018/19	**56.0**	**55.9**	**22.3**	**125.4**	**2.6**	**9.3**	**25.6**	**9.5**	**306.6**

Capital expenditure

	Network+ Sewage collection			Network + Sewage treatment		Sludge			Total
Line description	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
2018/19 £m	44.2	55.0	21.9	229.4	0.0	0.0	34.6	0.8	**385.9**
2017/18 £m	165.9	5.6	0.0	223.1	0.0	(0.7)	20.6	3.6	**418.1**
Movement £m	**(121.7)**	**49.4**	**21.9**	**6.3**	**0.0**	**0.7**	**14.0**	**(2.8)**	**(32.2)**
Movement %	**(73%)**	**886%**	**n/a**	**3%**	**n/a**	**(100%)**	**68%**	**(78%)**	**(8%)**

In prior reporting years we have primarily allocated Network capital expenditure to Foul. For 2018/19 reporting year we have completed a programme assessment to apportion expenditure in a more cost reflective manner across the upstream services across sewage collection. The overall reduction across sewage collection is due to the completion of some large projects relating to our Fylde Coast strategy in the prior year.

Within Sewage treatment, enhancement expenditure for the year has increased primarily due to the delivery of our NEP programme. This has been partly offset by a reduction in overall maintenance activity compared to last year, which is in part due to the completion of the modernisation project at Davyhulme.

The Sludge Treatment upstream service has seen increased maintenance expenditure compared with prior years with a number of larger projects contributing to this increase.

Unit cost information

	Network+ Sewage collection			Network + Sewage treatment		Sludge		
Line description	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal
2018/19 £/Ml	128	121	121	617	224	5.0	130,617	95,087
2017/18 £/Ml	102	92	92	705	239	4.2	110,625	95,046
Movement £/Ml	**26**	**29**	**29**	**(88)**	**(15)**	**0.8**	**19,992**	**41**
Movement %	**25%**	**32%**	**32%**	**(12%)**	**(6%)**	**20%**	**18%**	**0%**

The variances in operating expenditure as detailed above account for the majority of the movements in unit costs. Two of the most significant factors relate to an increase in IRE across sewage collection and a credit for a historic commercial settlement within sewage treatment, neither of which impacts volumes, hence a resultant unit cost increase in sewage collection and reduction in sewage treatment. The following unit cost drivers changes have also contributed to the variations in unit cost on a £/unit basis:

- We experienced a very dry summer in 2018 and as a result flows to sewer (from surface water) are lower than previous years, further increasing the cost per unit of the sewage collection upstream services.
- There has been a small increase in the volumes of sludge transported. This is mainly due to minor operational issues at some of our wastewater treatment works / sludge treatment centres, which has resulted in changes to some of the locations where we have treated and disposed of our sludge.
- The minor operational issues mentioned above have meant that sludge has been transported further for treatment and disposal, which doesn't increase volumes but does increase costs, hence an overall increase per unit cost.
- Volumes of sludge disposed have increased this year. We have seen a small increase in the volumes of sludge produced and hence disposed and have also been actively disposing of historic sludge stored at some of our wastewater treatment works. This volume increase is consistent with the sludge disposal cost increases with a resultant consistent year-on-year unit cost.

8.3 Household retail

Table 2C Cost line	2018/19 (£m)	2017/18 (£m)	Movement (£m)	Movement (%)	Explanation
Customer services	24.2	24.6	(0.4)	(2%)	Customer services decrease of £0.4m in primarily due to an agreed £(0.5)m reduction in Trust Fund donations.
Debt management	13.1	11.5	1.6	14%	Debt management has increased by £1.6m mainly due higher manpower costs required to deliver tougher Service Level Agreements.
Doubtful debts	44.3	50.4	(6.1)	(12%)	Doubtful debts reduced by £6.1m due to sustained implementation of effective debt collection activities.
Meter reading	4.2	4.0	0.2	5%	Meter reading has increased by £0.2m due to an increased costs with our metering contract partner.
Services to developers	-	-	-	-	
Other operating expenditure	18.6	15.7	2.9	18%	Other operating expenditure has increased by £2.9m this is mainly due to additional one-off materials and consultancy spend to support the implementation of the debt manager system.
Total opex excluding third party services	**104.4**	**106.2**	**(1.8)**	**(2%)**	
Third party services operating expenditure	-	-	-	-	
Total operating expenditure	**104.4**	**106.2**	**(1.8)**	**(2%)**	
Depreciation - tangible fixed assets	1.7	2.0	(0.3)	(15%)	Depreciation and amortisation has reduced by £1.0m due to asset life changes.
Depreciation - intangible fixed assets	4.8	5.4	(0.6)	(11%)	
Total operating costs	**110.9**	**113.6**	**(2.7)**	**(2%)**	
Debt written off	66.6	68.0	(1.4)	(2%)	Debt written off has decreased by £1.4m due to an improvement in our cash collection and the ongoing clean-up of our debt book leading to continuous improvement of customer information.

8.4 Non-household retail

Costs have increased from a credit of £5.9m in 2017/18 to a charge of £0.6m in 2018/19. With the transfer of the non-household retail business to the Water Plus joint venture in 2016, only residual non-household retail costs remain in UUW. These relate to the administration of developer services, investigatory visits and customer side leaks, in line with the RAG 2.07, and costs remained similar at c£0.5m in 2017/18 and c£0.6m in 2018/19. However, in 2017/18 this charge was more than offset by a one-off £6.4m credit to doubtful debts following the final close-out of UUW's outstanding debt (following the transfer, Water Plus continued to collect outstanding debt on UUW's behalf until the sale of the residual debt balance to Water Plus in March 2018).

8.5 Fixed asset recharges

2018/19

Price control units	Water resources £m	Water network+ £m	Wastewater network+ £m	Sludge £m	Retail household £m	Total £m
Recharge from other segments	(2.0)	(20.2)	(4.0)	(3.9)	(4.7)	(34.8)
Recharge to other segments	1.1	5.7	26.7	0.9	0.4	34.8
Net recharge	**(0.9)**	**(14.5)**	**22.7**	**(3.0)**	**(4.3)**	**-**

2017/18

Price control units	Water resources £m	Water network+ £m	Wastewater network+ £m	Sludge £m	Retail household £m	Total £m
Recharge from other segments	(1.6)	(16.8)	(3.6)	(3.7)	(4.7)	**(30.4)**
Recharge to other segments	0.1	6.2	22.6	0.9	0.6	**30.4**
Net recharge	**(1.5)**	**(10.6)**	**19.0**	**(2.8)**	**(4.1)**	**-**

Overall net recharges of £34.8m for 2018/19 have increased by £4.4m compared to the net recharges in 2017/18. The main increase in the year was in relation to the recharge for depreciation of the new asset maintenance and resource scheduling system from the wastewater network+ price control. This resulted in increased recharges to water resources (£0.3m), water network+ (£1.4m) and sludge (£0.4m). Other movements in recharges in the year are largely due to changes in M&G allocation driver percentages which also contributed to the overall increase in recharges.

Recharges are also made from the appointed business to the non-appointed business and non-regulated businesses for the use of appointed assets by these businesses, e.g. for the use of IT assets by non-appointed staff.