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RAG 2.09 – Guideline for classification of costs across the price controls

About this document

Version control

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1. Introduction

1.1 Cost attribution and allocation are the means by which costs are divided between specific products and services. Costs can be considered as:

- direct costs of activities (for example materials and wages); and
- indirect costs which are directly consumed or allocated to activities (for example space occupied, IT resource used by an activity) and those not related to activities (for example management fees).

1.2 Costs should be attributed and allocated in relation to the way in which resources are consumed. This 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 total costs being attributed or allocated on a meaningful basis.

1.3 Although a significant proportion of costs can be attributed or allocated in relation to the way resources are consumed, we recognise that a point of diminishing returns will be reached where the cost of further attribution or allocation outweighs the benefit. In addition, we recognise that some costs will not be driven by activities and that some subjective allocation will be necessary to arrive at the full cost. All costs must ultimately be attributed or allocated including, where appropriate, depreciation charges.

Scope

1.4 This regulatory accounting guideline (RAG) covers the principles and cost drivers to be used to attribute and allocate capital and operating costs in the annual performance report (APR) between:

- Appointed and non-appointed activities within the appointee;
- Price control units;
- Household and non-household retail services; and
- Services for measured and unmeasured customers.

1.5 When setting prices for the wholesale control we use a 'totex' approach. This is to remove a regulatory barrier so that companies can realise additional efficiencies and innovate. However, for statutory purposes companies must make a distinction between capex and opex in their accounts, and the tax treatment of the two types of expenditure is different. This means that we continue to collect costs on this disaggregated basis.

Objectives

1.6 The key objectives of this guidance are as follows:

- to strike an appropriate balance between the need for comparability and cost reflectivity, so that informed decisions can be made and the report is useful to all stakeholders;
- to ensure that companies' revenue and cost splits are aligned and that they transparently report revenues and costs for each price control unit; and
- to ensure that there is a level playing field for companies and customers in non-household retail markets and also as potential upstream markets develop.

2. Cost allocation

Cost allocation principles

2.1 The following principles should underpin the attribution and allocation of companies' costs when preparing the APR:

Principle	Description
Transparency	The cost attribution and allocation methods applied when allocating costs within the APR needs 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.
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.
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 (or, in relation to Welsh water companies, will be) 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.
No cross subsidy between price controls	Price reviews have separate binding price controls. Companies cannot transfer costs between the price control units 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. Rules on transfer pricing are detailed in RAG 5.
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.
Consistency	Costs should be allocated consistently by each company from year to year to ensure: <ul style="list-style-type: none"> • meaningful comparison of information across the sector and over time, • that regulatory incentives from comparative analysis apply fairly across companies, • to enable monitoring of companies' performance against price control assumptions; and, • Any changes to the attribution and allocation methodology from year to year should be clearly justified and documented in the Accounting Separation Methodology Statement.
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.

Cost allocation guidance

2.2 Appointees should use the above principles when determining how to attribute or allocate costs. The onus is on companies to ensure that all costs are ultimately allocated in accordance with these principles. The only exception is where we have provided further guidance on the use of cost drivers for the allocation of the following;

Paragraph	Cost
2.8-2.10	operating costs between retail and wholesale
2.11-2.12	operating costs between household and non-household retail
2.13-2.14	operating costs between measured and unmeasured
2.15-2.19	sludge liquor transferred to a sewage treatment works for treatment
2.20-2.21	imported tankered waste
2.22-2.23	developer services
2.24-2.25	rates
2.26	borehole pumping
2.27	biomass energy generation
2.28-2.29	imported potable bulk water supplies
2.30	sludge
2.31	recharges between water and wastewater

Capital costs

2.3 This guidance applies to capital costs for all assets, including general and support and management and general assets, in part 2 of the APR where assets are used for both appointed and non-appointed activities or are used by more than one price control unit.

Allocation of capital costs between appointed and non-appointed business

2.4 The allocation between appointed and non-appointed activities is covered in RAG 5.

Allocation of capital costs between price control units

2.5 It is likely that most assets are used solely within a single price control unit and so costs are simply recorded under the relevant heading in part 2 of the APR.

2.6 Where an asset is used by more than one of the price control units, it should be reported in the price control unit where the **principal use** occurs. This price control

unit should then make a recharge to the other services reflecting the proportion of the asset used by those services.

- 2.7 The basis for recharges between the price control units should reflect the nature of the asset being recharged. For many cases this will be straightforward – such as an office building being recharged on the basis of floor space. Appointees should use the above principles when determining how to attribute or allocate capital costs. The onus is on companies to ensure that all costs are ultimately allocated in accordance with the principles set out in paragraph 2.1. The only exception is where we have provided further guidance on the use of cost drivers for operating costs. In these areas companies should allocate capital costs according to these specific instructions.

Allocation of operating costs between retail and wholesale

- 2.8 This guidance applies to the attribution or allocation of operating costs between retail and wholesale (water resources, water network plus, wastewater network plus and bioresources) in the annual performance report. Where possible, operating costs should be directly attributed. Where this is not possible, companies must use the cost drivers set out in table 1 to allocate their operating costs between retail and wholesale (water resources, water network plus, wastewater network plus and bioresources).
- 2.9 Where there is a choice of cost driver for any cost in table 1, companies must explain in their Accounting Separation Methodology Statement relevant to the reporting year concerned why they have selected the cost driver that they have used for that year. For some of the costs in table 1 below, it may be possible to directly attribute some but not all of the costs. Where this is the case, the costs that can be directly attributed should be directly attributed to retail or wholesale (water resources, water network plus, wastewater network plus or bioresources), with the remainder of the costs allocated using the cost drivers in table 1.
- 2.10 The guidance for actual cost attribution and allocation builds on the bases used for setting allowed revenues in the price review. It seeks to strike a balance between cost reflectivity, comparability and proportionality.

Table 1 Cost drivers for allocating operating costs between retail and wholesale

Cost Heading in the APR	Cost	Wholly or partly in retail	Part in retail	Part in wholesale	Cost driver to be used (where cost cannot be directly attributed)
Customer services	Billing	Wholly in retail	n/a	n/a	n/a

Cost Heading in the APR	Cost	Wholly or partly in retail	Part in retail	Part in wholesale	Cost driver to be used (where cost cannot be directly attributed)
Customer services	Payment handling, remittance and cash handling	Wholly in retail	n/a	n/a	n/a
Customer services	Charitable trust donations	Wholly in retail	n/a	n/a	n/a
Customer services	Vulnerable customer schemes	Wholly in retail	n/a	n/a	n/a
Customer services	Non-network customer enquiries and complaints	Wholly in retail	n/a	n/a	n/a
Customer services	Network customer enquiries and complaints (as defined in paragraph 5.1)	Wholly in retail	n/a	n/a	n/a
Customer services	Investigatory visits / first visit to the customer (as defined in paragraph 5.1)	Partly in retail	Where the cause of investigation is not a network issue. This means that there isn't a fault or the fault is on the customer's property up to the emergency stop tap.	Where the cause of the investigation is a network issue. This means that there is a fault on the network at or beyond the emergency stop tap. This includes jobs requiring follow up work.	n/a – direct attribution to retail or wholesale
Customer services	Other customer services	Wholly in retail	n/a	n/a	n/a
Debt management	Debt management	Wholly in retail	n/a	n/a	n/a
Doubtful debts	Doubtful debts	Partly in retail	Customer doubtful debts	Wholesale doubtful debts eg. bulk supplies, third party	n/a – direct attribution to retail or wholesale
Meter reading	Meter reading	Wholly in retail	n/a	n/a	n/a
Services to developers	Services to developers	Partly in retail	Providing developer information and administration for new connections	All other developer services (that is, those not in retail)	n/a – direct attribution to retail or wholesale

Cost Heading in the APR	Cost	Wholly or partly in retail	Part in retail	Part in wholesale	Cost driver to be used (where cost cannot be directly attributed)
Other operating expenditure	Disconnections and reconnections	Partly in retail	Decision and administration of disconnections and reconnections	Physical activity of disconnections and reconnections	n/a – direct attribution to retail or wholesale
Other operating expenditure	Demand-side water efficiency initiatives	Partly in retail	All expenditure in retail except where there is expenditure to meet wholesale outcomes	Expenditure to meet wholesale outcomes	n/a – direct attribution to retail or wholesale
Other operating expenditure	Customer side leaks	Partly in retail	All expenditure in retail except where there is expenditure to meet wholesale outcomes	Expenditure to meet wholesale outcomes	n/a – direct attribution to retail or wholesale
Other operating expenditure	Other direct costs	Partly in retail	Other direct costs which are retail in nature (ie. those not covered under the other headings)	Other direct costs which are wholesale in nature	n/a – direct attribution to retail or wholesale
Other operating expenditure	General and support – IT costs	Partly in retail	See Note 1	See Note 1	In order of preference: An appropriate cost driver depending on the nature of IT costs. Number of computers and mobile devices (where there is not an appropriate cost driver)
Other operating expenditure	General and support – motor vehicles	Partly in retail	See Note 1	See Note 1	Number of motor vehicles
Other operating expenditure	General and support - Finance, HR, payroll, general management	Partly in retail	See Note 1	See Note 1	In order of preference: Time (based on timesheets) FTEs

Cost Heading in the APR	Cost	Wholly or partly in retail	Part in retail	Part in wholesale	Cost driver to be used (where cost cannot be directly attributed)
Other operating expenditure	Executive directors' remuneration (as defined in paragraph 5.1)	Partly in retail	See Note 1	See Note 1	In order of preference: Time (based on timesheets). Management estimate (with supporting commentary)
Other operating expenditure	Non-executive directors' remuneration	Partly in retail	See Note 1	See Note 1	In order of preference: Time (based on timesheets). Management estimate (with supporting commentary ie time spent at board meetings)
Other operating expenditure	General and support - Facilities, building / grounds maintenance	Partly in retail	See Note 1	See Note 1	In order of preference: Floor space FTEs
Other operating expenditure	General and support - insurance	Partly in retail	See Note 1	See Note 1	FTEs for employers/ employees liability or more appropriate cost driver for other types of insurance
Other operating expenditure	Other general and support costs	Partly in retail	See Note 1	See Note 1	In order of preference: Time (based on timesheets). Appropriate cost driver (based on nature of cost) FTEs (where there is not an appropriate cost driver)
Other operating expenditure	Other business activities (regulation costs)	Partly in retail	See Note 1	See Note 1	1/9th to retail for water and sewerage companies 1/5th to retail for water only companies

Cost Heading in the APR	Cost	Wholly or partly in retail	Part in retail	Part in wholesale	Cost driver to be used (where cost cannot be directly attributed)
Other operating expenditure	Local authority rates and cumulo rates	<p>Where there is a separate local authority rates bill for buildings with both retail and wholesale activities (such as offices), then in order of preference: Floor space FTEs The cumulo rates bill is then coded to wholesale.</p> <p>Where there is no separate billing arrangement, e.g. where a single cumulo rates bill applies to all company operations, then as a first step a notional rate for the jointly used assets (typically office buildings) should be established with reference to MEAV. Then the retail / wholesale allocation of this cost should be calculated using the methodology set out above.</p>			
Third party services	Third party services	See Note 2	See Note 2	See Note 2	Direct attribution where possible. Otherwise appropriate cost driver based on nature of cost.
Depreciation	Depreciation	Partly in retail	See section 2.3	See section 2.3	See section 2.3

Note 1: Many of the costs in this cost category are unlikely to be directly attributable to retail or wholesale and will need to be allocated between retail and wholesale using the cost drivers prescribed in Table 1.

Note 2: The extent to which these costs are wholly or partly in retail and can be directly attributed or need to be allocated using a cost driver will depend on the nature of the specific cost.

Allocation of household retail operating costs between measured and unmeasured services

2.11 This guidance applies to the allocation of household operating costs between the following customer types in the annual performance report:

- Unmeasured water only;
- Unmeasured wastewater only;
- Unmeasured water and wastewater;
- Measured water only;
- Measured wastewater only;
- Measured water and wastewater

2.12 Where possible, household retail operating costs should be directly attributed to one of the categories above. Where direct attribution is not possible, an appropriate allocation should be made using a cost driver consistent with the allocation principles in paragraph 2.1 above. In order to assist companies with the process of allocating costs between different household retail customer types we have included further guidance on cost allocation. This includes a list of possible cost drivers for each type of activity/cost. **These are only to be used as a guide and the onus is on companies to identify the most appropriate cost driver.** Companies should explain the reasons for their choice in their Accounting Separation Methodology Statement.

Table 3 Possible cost drivers for allocating household retail operating costs between measured and unmeasured

Cost Heading in the APR	Cost	Possible cost driver to be used
Customer services	Billing	Number of bills raised to each of the 6 customer types (unmeasured water only, unmeasured wastewater only, unmeasured water and wastewater, measured water only, measured wastewater only, measured water and wastewater)
Customer services	Payment handling, remittance and cash handling	Number of payments received from each of the 6 customer types
Customer services	Charitable trust donations	Number of customers in each of the 6 customer types
Customer services	Vulnerable customer schemes	Number of customers from each of the 6 customer types in vulnerable customer schemes
Customer services	Non-network customer enquiries and complaints	Number of non-network customer enquiries made by each of the 6 customer types
Customer services	Network customer enquiries and complaints (as defined in paragraph 3.1)	Number of network customer enquiries made by each of the 6 customer types
Customer services	Investigatory visits/ first visit to the customer (as defined in paragraph 3.1)	Number of investigatory visits made to each of the 6 customer types
Customer services	Other customer services	Number of customers in each of the 6 customer types
Debt management	Debt management	Debt outstanding for more than 30 days (that is, not current debt) for measured and unmeasured then allocation between the 3 measured and unmeasured customer types using an appropriate cost driver
Doubtful debts	Customer doubtful debts	Direct attribution to measured and unmeasured then allocation between the 3 measured and unmeasured customer types using an appropriate cost driver
Meter reading	Meter reading	Direct attribution to measured then allocated between the three measured customer types based on customer numbers
Other operating expenditure	Demand-side water efficiency initiatives	Directly attributable to measured or unmeasured where initiatives are specific to measured or unmeasured customers. Then allocation between water only and water and sewerage measured and water only and water and sewerage unmeasured based on customer numbers in each of the customer types.

Cost Heading in the APR	Cost	Possible cost driver to be used
Other operating expenditure	Customer side leaks	Number of customer-side leaks in measured water only, measured water and sewerage, unmeasured water only and unmeasured water and sewerage properties
Other operating expenditure	Other direct costs	Number of customers in each of the 6 customer types
Other operating expenditure	General and support costs (excluding motor vehicles)	Number of customers in each of the 6 customer types
Other operating expenditure	General and support – motor vehicles	Costs relating to vehicles used for meter reading directly attributable to measured then allocated between the three measured customer types based on customer numbers Other costs allocated based on number of customers in each of the 6 customer types
Other operating expenditure	Other business activities (regulation costs)	Number of customers in each of the 6 customer types
Other operating expenditure	Local authority rates	Number of customers in each of the 6 customer types
Depreciation	Depreciation	Directly attributable to measured for vehicles used for meter reading and IT used for meter reading then allocated between the three measured customer types based on the number of meter readings Allocation of other assets based on the nature of asset, for example billing system based on number of bills raised to each of the 6 customer types

Allocation of retail operating costs between household and non-household

- 2.13 This guidance applies to the allocation of retail operating costs between household and non-household retail in the annual performance report. Where possible, retail operating costs should be directly attributed between household and non-household retail. Where this is not possible, companies must use the cost drivers set out in table 2 to allocate their operating costs between household and non-household retail. Where there is a choice of cost driver for any cost in table 2, companies must explain in their Accounting Separation Methodology Statement why they have selected the cost driver that they have used.
- 2.14 For some of the costs in table 2 below, it may be possible to directly attribute some but not all of the costs. Where this is the case, the costs that can be directly attributed should be directly attributed to household or non-household retail, with the remainder of the costs allocated using the cost drivers in table 2.

Table 2 Cost drivers for allocating retail operating costs between household and non-household

Cost Heading in the APR	Cost	Entirely in household/ non-household or split between household/ non-household?	Cost driver to be used (where cost cannot be directly attributed)
Customer services	Billing	Split	Number of bills raised
Customer services	Payment handling, remittance and cash handling	Split	Number of payments received
Customer services	Charitable trust donations	Entirely in household	n/a
Customer services	Vulnerable customer schemes	Entirely in household	n/a
Customer services	Non-network customer enquiries and complaints	Split	In order of preference: <ul style="list-style-type: none"> • Time spent on non- network customer enquiries and complaints • Volume of non-network customer enquiries and complaints
Customer services	Network customer enquiries and complaints (as defined in paragraph 5.1)	Split	In order of preference: <ul style="list-style-type: none"> • Time spent on network customer enquiries and complaints • Volume of network customer enquiries and complaints
Customer services	Investigatory visits / first visit to the customer (as defined in paragraph 5.1)	Split	In order of preference: <ul style="list-style-type: none"> • Time spent on investigatory visits • Number of investigatory visits
Customer services	Other customer services	Split	In order of preference: <ul style="list-style-type: none"> • Time (based on timesheets) • Appropriate cost driver (based on nature of cost) • Customer numbers
Debt management	Debt management	Split	Debt outstanding for more than 30 days (that is, not current debt)
Doubtful debts	Customer doubtful debts	Split	n/a – direct attribution on a customer type (meaning household or non- household) specific basis

Cost Heading in the APR	Cost	Entirely in household/ non-household or split between household/ non-household?	Cost driver to be used (where cost cannot be directly attributed)
Meter reading	Meter reading	Split	In order of preference: <ul style="list-style-type: none"> • Time (based on timesheets) • Number of meter reads factored by scheduling an allowance for average time taken • Number of meter reads
Services to developers	Services to developers	Entirely in non-household	n/a – direct attribution to non-household
Other operating expenditure	Disconnections and reconnections	Entirely in non-household	n/a – direct attribution to non-household
Other operating expenditure	Demand-side water efficiency initiatives	Split	Direct allocation where initiatives are specific to household or non-household, otherwise customer numbers.
Other operating expenditure	Customer side leaks	Split	Directly attributable on a job specific basis
Other operating expenditure	Other direct costs	Split	In order of preference: <ul style="list-style-type: none"> • Time (based on timesheets) • Appropriate cost driver (based on nature of cost) where time basis is not possible and there is not an obvious cost driver.
Other operating expenditure	General and support – IT costs	Split	In order of preference: <ul style="list-style-type: none"> • An appropriate cost driver depending on the nature of IT costs. • Number of computers and mobile devices (where there is not an appropriate cost driver)
Other operating expenditure	General and support – motor vehicles	Split	In order of preference: <ul style="list-style-type: none"> • Number of motor vehicles • Customer numbers
Other operating expenditure	General and support - Finance, HR, payroll, general management	Split	In order of preference: <ul style="list-style-type: none"> • Time (based on timesheets) • FTEs • Customer numbers
Other operating expenditure	Executive directors' remuneration (as defined in paragraph 5.1)	Split	In order of preference <ul style="list-style-type: none"> • Time (based on timesheets) • Management estimate (with supporting commentary)

Cost Heading in the APR	Cost	Entirely in household/ non-household or split between household/ non-household?	Cost driver to be used (where cost cannot be directly attributed)
Other operating expenditure	Non-executive directors' remuneration	Split	In order of preference <ul style="list-style-type: none"> • Time (based on timesheets). • Management estimate (with supporting commentary ie time spent at board meetings)
Other operating expenditure	General and support - Facilities, building / grounds maintenance	Split	In order of preference: <ul style="list-style-type: none"> • Floor space • FTEs • Customer numbers
Other operating expenditure	General and support – insurance	Split	FTEs for employers/ employees liability or more appropriate cost driver for other types of insurance.
Other operating expenditure	Other general and support costs	Split	In order of preference: <ul style="list-style-type: none"> • Appropriate cost driver (based on nature of cost) where there is not an obvious cost driver • Customer numbers
Other operating expenditure	Other business activities (regulation costs)	Split	In order of preference: <ul style="list-style-type: none"> • Appropriate cost driver (based on nature of cost) where there is not an obvious cost driver • Customer numbers
Other operating expenditure	Local authority rates	Split	In order of preference: <ul style="list-style-type: none"> • Floor space • FTEs • Customer numbers
Third party services	Third party services	Dependent on nature of cost	Direct attribution where possible. Otherwise appropriate cost driver based on nature of cost.
Depreciation	Depreciation	See section 2.3	See section 2.3

Allocation of operating costs and capital costs for sludge liquor transferred to a sewage treatment works for treatment

2.15 Where liquors are treated on a stand-alone basis at a sludge treatment centre then there is no impact on any other upstream services. However, if liquors are passed back to sewage treatment works (STW) (as is often the case on co-located sewage

and sludge facilities) then an appropriate portion of the STW costs¹ should be attributed to the operation of dealing with the liquor.

2.16 In order to achieve consistency across the sector a common method needs to be used to establish the amount and strength of liquor as a proportion of the total waste dealt with at the STW. This should take into account;

- Volume flow,
- the percentage of solids,
- BOD,
- COD
- Ammonia.

2.17 We implemented a standard methodology for the quantification of liquor treatment costs in reporting year 2021-22. This will form the basis for shadow reporting for the period from 2021-22 to the end of the 2020-25 period.

Allocation of operating costs and capital costs for imported tankered waste

2.18 Treatment of tankered waste is a non-appointed activity as set out in A1 of RAG 4. Generally tankered waste will need to be treated as part of the general sewage treatment process with the output from that process passing through to the sludge treatment and disposal process.

2.19 Where this is the case then the non-appointed business should be recharged for costs of both the sewage treatment and sludge treatment activities. The recharge income should be recognised as negative opex in both sewage treatment and sludge treatment.

Allocation of operating costs and capital costs for Developer services

2.20 We understand that developers in reality chose to deal directly with wholesalers rather than appoint an outside retail provider to deal as an intermediary between developer and wholesaler.

2.21 However where a retail function provides such a link between a developer and wholesaler (e.g. to provide developer information and administration for new connections) then this should be reported as operating expenditure. It should not be

¹ STW activity is contained in the wastewater network plus price control.

capitalised as there is no relevant asset in retail against which to capitalise the expenditure.

Allocation of operating costs for rates

- 2.22 As a first step companies should identify that element of the rates costs that should be attributed to wholesale. Guidance for this is in table 1.
- 2.23 The rates costs for wholesale should then be allocated to price control units using gross MEA values.

Allocation of operating costs and capital costs for borehole pumping

- 2.24 'Pumping head' is the preferred driver to be used where a borehole pump performs a joint function for both Water resources – Raw water abstraction and Network+ activities. Operating costs to be apportioned would include power and maintenance costs. A worked example is given in A1.

Allocation of operating costs for Bioresources energy generation

- 2.25 Where bioresources assets are used for energy generation then all of the cost savings and all of the negative opex from external sales should be recorded as part of sludge treatment. Cost savings or income should not be shared with sewage treatment operations.

Allocation of operating costs for imported potable bulk water supplies

- 2.26 Where companies import potable water then the costs should be split between water resources and water network+ (specifically 'water treatment' as defined in the upstream services). Companies should either use;
- Data provided by the exporting company as to the treatment costs incurred in addition to supplying the original raw water; or,
 - the average costs of the exporting company as a guide to a split of the costs (as shown in the annual performance report).
- 2.27 The allocation basis should be described in the methodology statement.

Allocation of operating costs and capital costs for imported sludge

2.28 Treatment of imported sludge is a non-appointed activity as set out in A1 of RAG 4. Specific rules for this activity in relation to the allocation of costs and transfer pricing are dealt with in RAG5.

Recharges between water resources, water network plus, wastewater network plus and bioresources

2.29 Companies are reminded that recharges should be made for services that are provided across these units. This would include, but is not limited to;

- Treatment of water sludges at a sewage treatment works; and,
- Use of water at a sewage treatment works.

Allocation of the revenues / avoided costs associated with energy generation in bioresources

2.30 Alongside the 2021-22 RAGs, we published our [final decisions](#) on how companies should account for the revenues / avoided costs associated with energy generation in bioresources. In summary, we require that:

- Energy generated and consumed within the bioresources control should be treated as an avoided cost;
- Energy exported from bioresources to other price controls should be considered a sale and therefore have negative opex in bioresources associated with it;
- Companies should aim to measure at least 80% of their bioresources energy consumption across their portfolio;
- When estimating heat energy consumption, companies should do this in the manner set out in appendix 1 of our final decision document;
- The price paid by other controls to bioresources should be benchmarked against the price that the business unit would have paid to import energy from an external source, were it not receiving energy from the bioresources control. In the majority of cases, this is likely to be the price to purchase energy from the national electricity/gas network (the grid).
- Companies are required to shadow report based on this new guidance, alongside regular reporting based on their current practice for the remainder of the 2020-25 period. After this period companies will be required to live report on the basis of this guidance.

- 2.31 Further detail related to this guidance is contained within our final decision document, our [original consultation document](#) and the accompanying [report by Jacobs](#).
- 2.32 For the purposes of reporting within the APR, the cost to wastewater network plus of purchasing energy from bioresources should be accounted for within APR line 4K.19. From 2025 onwards, when our decisions will be fully implemented, this should be accounted for within APR line 4K.1. The income received by the bioresources control associated with this transfer should be accounted for within APR lines 4K.20 and 8C.20. From 2025 onwards, when our decisions will be fully implemented, this should be accounted for within APR lines 4K.2 and 8C.3.
- 2.33 We have provided the opportunity for companies to shadow report APR lines 8C.18 – 8C.23. However, for some of these lines there may be no differences to APR lines 8C.1 – 8C.6. Where there are no differences between APR lines 8C.1 – 8C.6 and 8C.18 – 8C.23 companies should report the same figures in both sets of lines.

3. Third party services

Background

- 3.1 Third party services are activities which are not part of the regular water and wastewater supply operations. Some of these activities are included in the wholesale price control but others are not. But where activities are included in the price control then the costs need to be separately identified for cost assessment purposes. RAG 4 A1 lists all of the activities which are classed as third party.

Practical issues

- 3.2 Many third party activities are solely opex in nature. However some operations, such as exporting bulk supplies and non-potable supplies, may have their own dedicated assets. Where this is the case, then the depreciation charges for these assets should be disclosed within the analysis of fixed assets.

4. Upstream services

Allocation of capital costs between upstream services

- 4.1 We have not prescribed how companies should attribute or allocate capital expenditure and depreciation between the upstream services in the APR, such as water treatment, treated water distribution etc. The onus is on companies to determine the most appropriate means of attributing or allocating these costs. The general principles for price control units in paragraph 2.1 should be followed for allocation of capital costs for upstream services. Where particular cost drivers or treatments are specified, then these should be followed. However we do not require the principal use method to be used in respect of the upstream services in the APR. Similarly we do not require that a recharge is made for finance costs between the upstream services.

5. Definitions

5.1 A number of terms have been used throughout these guidelines. To avoid confusion, they are defined as follows:

Term	Definition
Activity	A logical grouping of tasks (undertaken to provide a service covered by these guidelines). An activity based approach views a business as a series of activities, each of which consumes resources, and therefore generates costs.
Appointee	The company appointed to be the water undertaker or sewerage undertaker for any area of England and Wales, as set out in the Water Industry Act 1991.
Appointed business	The appointed business comprises the regulated activities of the appointee which are activities necessary in order for an appointee to fulfil the function and duties of a water or sewerage undertaker under the Water Industry Act 1991.
Arm's length trading	Arm's length trading is where the appointee treats the associate on the same basis as external third parties
Associate company	Any "Group Company" or a "Related Company" as defined in licence conditions. For the purposes of compliance with these guidelines and to ensure complete transparency, any associate determined in accordance with 'Financial Reporting Standard 102 (FRS 102) should be treated as a Related Company for the purposes of this guideline. Any exceptions to this must be agreed with Ofwat.
Competitive letting	Letting contracts as a result of a tendering process.
Cost allocation	Cost allocation is the means by which all costs are allocated to appointed and non-appointed businesses, price control units, or specific supplies, works and services, ensuring a fair share of overheads, even where costs cannot be directly attributed to specific activities and associated services.
Cost driver	A cost driver is the factor or factors which cause cost to occur. This can be further divided between the driver that causes an activity to occur, and a driver that determines how often it occurs. Costs may vary in relation to the cost driver over the short or longer term, depending on the nature of cost concerned.
Cross-subsidy	Cross-subsidy in this context is monetary aid or contributions from the appointee to the associate, between the appointed and non-appointed business, or between price control units, which does not reflect the value of the services received. It also relates to services provided by the appointee to associate companies where there has been an under-recovery of costs incurred by the appointee.
Customer numbers	To ensure consistency with the retail price control, customer numbers should be used which are on the same basis to that set out in the residential retail price control.
Economically advantageous price	The economically advantageous price is the net cost to the appointee after taking account of all factors including the contract price, contractor management time, cash flow impact of the payment schedule, completion date, quality, after sales service, technical merit, aesthetics, security of supply, effectiveness, whole life cost, capability, etc.
Executive Directors' Remuneration	The total remuneration received by executive directors for services provided to the appointee. This includes any form of payment (including bonuses), consideration or other benefit (including pension benefit) received. Where possible, the total remuneration should be directly attributed to price control units. Where this not possible it should be allocated in accordance with paragraph 2.2 of RAG2.

Term	Definition
Full time equivalents	<p>For the purposes of cost allocation, ‘full-time equivalents’ (FTEs) should include all full-time staff, and contractors/temporary staff directly employed (average in service during the year).</p> <p>Where there is a joint venture operation with a share of the costs, then an appropriate share of FTEs should then be used as a driver.</p> <p>For outsourced operations, FTEs should only be used where appropriate. For instance, if the outsourced supplier has staff on company premises, then FTE may still be an appropriate driver for, say, allocating building related costs. Where staff are not on company premises then FTEs would not be an appropriate driver for this. Additionally, if board level or senior management costs are being allocated, then it would seem sensible to allocate costs based on the value of the contract rather than the number of FTEs involved – which in any case may not be accurately known.</p> <p>Where outsourced operations form a significant part of a price control unit’s costs, then the approach to allocating these costs should be made clear in the methodology statement.</p>
‘Investigatory visits’ and ‘first visit to the customer’	<p>Undertaking an investigation (that is, a site visit) on account of a network customer enquiry or complaint.</p>
Marginal costing	<p>Marginal costing is the additional variable cost of the production of the next unit. Short-run marginal costing merely includes the short-term costs involved in producing the additional unit, whereas long-run marginal costs include the additional costs, including a capital element, involved in the sustained production of the next unit over the long term.</p>
Market price	<p>The price of a good, service or supply as determined by market-testing.</p>
Market-testing	<p>Market-testing is the process of determining a market price for a particular supply, works or service.</p>
Measured and unmeasured	<p>The definition to be used for measured and unmeasured retail services for the purposes of separating retail costs in the annual performance report is set out below.</p>
Measured	<p>These are properties where some or all of the charges for supplies are based on measured quantities of volumes.</p>
Unmeasured	<p>These are properties where none of the charges for supplies are based on measured quantities of volumes. These include properties which receive an assessed charge because metering is not possible or economic.</p>
Network customer enquiries and complaints	<p>This includes the following activities:</p> <ul style="list-style-type: none"> • receiving and passing on a phone call, email or letter; • scheduling jobs where they are triggered by a customer call; and • internally generated calls to the retail call centre to enable the customer call to be resolved <p>It does not include investigatory visits/first visits to the customer.</p>
Price control units	<p>Ofwat uses separate binding price controls. These are;</p> <ul style="list-style-type: none"> • Network plus water • Network plus wastewater • Water resources • Bioresources • retail household • retail non-household (Welsh companies only)
Transaction	<p>For the purposes of RAG 5, a transaction occurs where the appointee and its associates supply goods, works or services to each other, directly or indirectly via a third party. A transaction also occurs where price control units supply goods, works or services to each other.</p>

Term	Definition
Transfer pricing	A transfer price is the price paid by one group company to another for transactions between the two companies or for transactions within the appointee between price control units or between appointed and non-appointed business.
Water and wastewater customer	A 'dual service customer' to whom the appointee provides both water and a wastewater service.
Water only customer	A 'single service customer' to whom the appointee provides a water service.
Wastewater only customer	A 'single service customer' to whom the appointee provides a wastewater service.

A1 Definition of average pumping head

A1.1 Average Pumping Head (“APH”) is a key variable for cost modelling. Average Pumping Head is to be allocated to each of the following price control units:

- Raw water abstraction
- Raw water transport
- Water treatment
- Treated water distribution

A1.2 Average Pumping Head is defined using the following formula:

$$APH_t = \frac{\sum(h_i \times WP_i)}{V_p + V_g}$$

Where, for each price control area:

Term	Definition
APH_t	Average pumping head reported for the Period, t, (in m.hd)
H_i	Annual mean head, h, (in m.hd). The annual mean head is defined as the average delivery pressure minus the average suction pressure when the pump is operating
WP_i	Total measured volume of water pumped, (in Ml), entering each price control and any repumping within
V_p	Volume of water pumped, (in Ml), entering each price control
V_g	Volume of water gravitated, (in Ml), entering each price control

A1.3 Included below is an example of how average pumping head should be calculated (the numbers are not representative of a real life situation, just for illustrative purposes).

Example 1: Raw Water Abstraction

A company has the following processes:

- 100ML of surface water is pumped 20m at site A.
- 75ML of surface water is gravitated at site B.
- 20ML of ground water is pumped 40m at site C to ground level.
- 10ML of ground water is pumped (20m and 80m as per A2) at site D directly into supply

The average pumping head for this price control – Raw water abstraction would be calculated as follows:

$$APH = \frac{(100 * 20) + (75 * 0) + (20 * 40) + (10 * 20)}{(100 + 75 + 20 + 10)}$$

Raw water abstraction, **APH = 14.63 m.hd**

Gravity flow of 75ML from Site B

Proportional allocation from Site D

Total amount of water entering the raw water abstraction price control unit

Example 2: Raw Water Transport

A company has the following processes:

- 20ML of Raw water transport is pumped 10m at site A, 80ML gravitates
- 75ML gravitates at site B
- 20ML of ground water is accounted for at ground level at site C.
- 10ML of ground water is accounted for at ground level at site D.

The average pumping head for this price control – Raw water transport would be calculated as follows:

$$\text{APH} = \frac{(20 * 10) + (75 * 0) + (20 * 0) + (10 * 0)}{(20 + 80 + 75 + 20 + 10)}$$

Raw water abstraction, **APH = 0.98 m.hd**

There is no raw water pumping at Sites B, C and D.

Total amount of water entering the raw water transport price control unit

Example 3: Water Treatment

A company has the following processes:

- 100ML of raw water enters the Water treatment at site A, and the main flow of water gravitates through the processes. Ancillary pumping accounts for 1 m.
- 75ML of raw water enters the Water treatment at site B, inter stage pumping and ancillary pumping accounts for 5m.
- 20ML of raw water enters the Water treatment at site C, with only marginal disinfection, there is insignificant ancillary pumping
- 10ML of raw water enters the Water treatment at site D, complex treatment accounts for 8m from Ground Level to the beginning of the treatment process (e.g. pressure filter, reactor, etc.).

The average pumping head for this price control – water treatment would be calculated as follows:

$$\text{APH} = \frac{(100 * 1) + (75 * 5) + (20 * 0) + (10 * 8)}{(100 + 75 + 20 + 10)}$$

water treatment, **APH = 2.71 m.hd**

Additional head due to treatment complexities

Total amount of water entering the water treatment price control unit

Example 4: Treated Water Distribution

A company has the following processes:

- 95ML of Water treatment enters the Treated water distribution from site A, as 5ML is treatment works losses, and is pumped 150m.
- 73ML of Water treatment enters the Treated water distribution from site B, as 2ML is treatment works losses, and pumped 30m.
- 20ML of Water treatment enters the Treated water distribution from site C, zero treatment works losses, and is pumped 90m.
- 9ML of Water treatment enters the Treated water distribution from site D, as 1ML is treatment works losses, and is pumped 80m.
- 15ML of treated water gets repumped 10m at site E

The average pumping head for this price control – Treated water distribution would be calculated as follows:

$$\text{APH} = \frac{(95 * 150) + (73 * 30) + (20 * 90) + (9 * 80) + (15 * 10)}{(95 + 73 + 20 + 9)}$$

water treatment, **APH = 97.0 m.hd**

Proportional allocation from Site D

15ML repumped 10m at site E

Total amount of water entering the Treated water distribution, ML price control unit

Further Points to note

- Annual mean head (h_i) = Static Head + Dynamic Head (all infrastructure losses)
- Companies are expected to use measured flow and pressure data.
- Companies should state in their commentary the proportion (in %) of their Average Pumping Head that has been calculated using measured data in accordance with the above methodology.
- Where companies do not have measured data available they should estimate their Average Pumping Head using credible methods based on robust engineering assessments.
- Companies should describe in their commentary each method used and the proportion (in %) of their Average Pumping Head calculated using that method.
- Pumping of water as part of an environmental improvement scheme (for example stream support) **should be included**, in the appropriate price control unit, **unless funded by a third party**.

- Pumping of water that is exported to another company (raw and treated bulk supply exports) **should not be included**. Companies should describe in their commentary these exclusions.
- All other ancillary pumping (for example as part of the treatment process) should be included, based on robust engineering assessments, in the price control units.
- Any averaging across separate operating regions should be individually weighted within price control areas.

A2 Allocation of operating costs and capital costs for borehole pumping

- A2.1 The following approach shall be followed where borehole pumping activity (single lift) crosses price control areas and there is no pressure measurement at the boundary, e.g. where pumping supports Raw water abstraction and Treated water distribution. In this scenario pumping costs should be allocated based on the proportional allocation of ‘pumping head’ to the height (or level Above Ordnance Datum, mAOD).
- A2.2 NB: If a Company has the ‘total head’ data it should be used. This simple ‘static head’ method must be used where the company does not have data for total head, as the likely overall impact is considered insignificant at the Company level i.e. any allowance for dynamic head loss and head onto any treatment process **is not included**.
- A2.3 To apply this approach three defined levels are required:

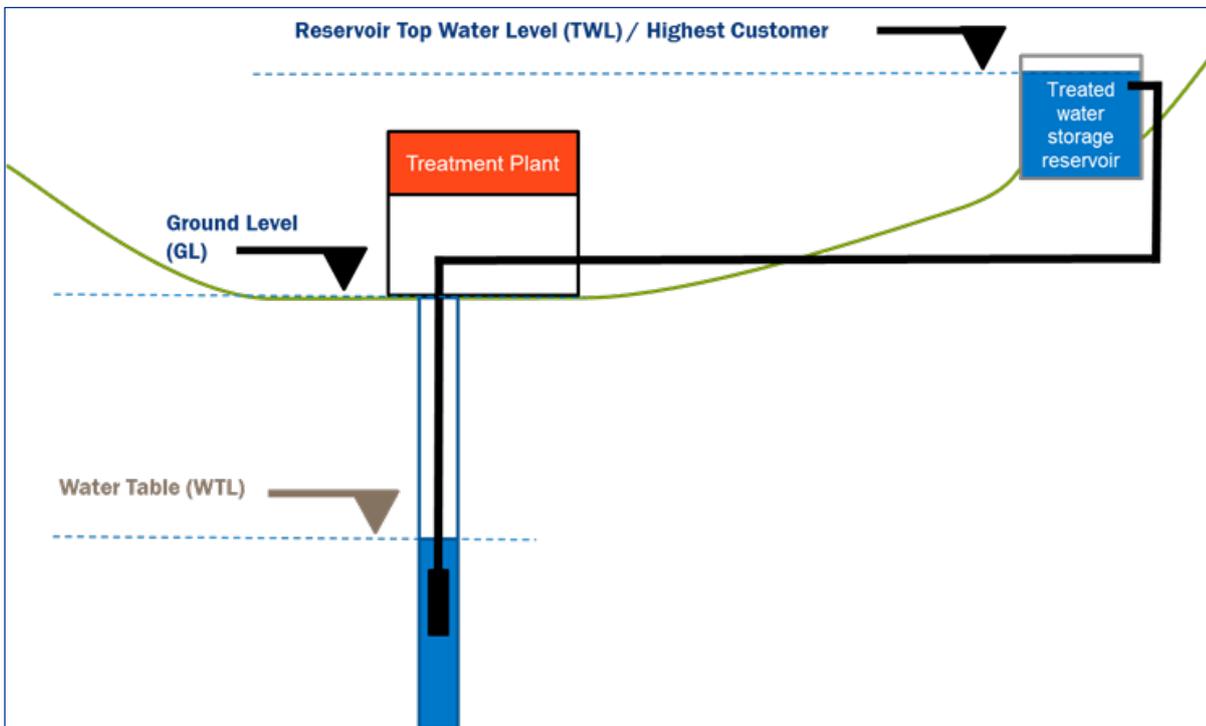
Level	Definition
Reservoir Top Water Level (TWL)	The top water level of the highest treated water storage reservoir supplied by the borehole. Where multiple boreholes supply the same reservoir / highest customers then less values are required for this calculation as the TWL is the same for all calculations.
Ground Level (GL)	The ground level of the borehole pumping site.
Water Table Level (WTL)	The average water table level, when the borehole pump/s are operational.

- A2.4 Using these three levels the proportion of costs for Water resources – Raw water abstraction can be calculated as follows:

$$E_{RWA} = \left(\frac{GL_t - WTL_t}{TWL_t - WTL_t} \right)$$

Term	Definition
E_{RWA}	The proportion of costs for Water resources - Raw water abstraction
TWL_t	Top water level (mAOD)
GL	Ground level (mAOD)
WTL_t	Water table level (mAOD)

Figure 1: Borehole pump example – key levels



Worked example

A company receives an invoice of £20,000 for energy costs associated with a Borehole “A”. The physical measurements associated with Borehole “A” are:

- Top Water Ground Level (TWL) is 160 mAOD
- Ground Water Level (GL) is 100 mAOD
- Water Table Level (WTL) is 80 mAOD

From the equation above, Water resources – Raw water abstraction costs are:

$$E_{RWA} = \left(\frac{100-80}{160-80} \right) = 0.25$$

Thereby giving an allocated cost of **£5,000 to Water resources – Raw water abstraction**. The remainder of the £20,000 is allocated to Network+ (treated water distribution).

This example has focused on ongoing energy consumption. However the same principles can also be applied to all costs (Opex & Capex) and assets which provide benefits across price control units.

**Ofwat (The Water Services Regulation Authority)
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We regulate the water sector in England and Wales.**

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