

# **RAG 2.07 – Guideline for classification of costs across the price controls**

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## **1. Introduction**

### **1.1 Introduction**

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).

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. Although a significant proportion of costs can be attributed or allocated in relation to the way resources are consumed, it is recognised that a point of diminishing returns will be reached where the cost of further attribution or allocation outweighs the benefit. In addition, it is recognised 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.

### **1.2 Scope**

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 (APR parts 1 and 2);
- Price control units (APR part 2);
- Household and non-household retail services (APR parts 2 and 4); and
- Services for measured and unmeasured customers (APR parts 2 and 4).

### **1.3 Objectives**

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.

## **1.4 Licence authority**

Condition F, paragraph 5, sets out the analysis of operating costs which appointees are required to provide. This guideline sets out those requirements.

## 2. Cost allocation

### 2.1 Cost allocation principles

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

- **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.
- **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.** Following the introduction of separate binding price controls at the 2014 price review, companies cannot transfer costs between the PR14 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:
  - 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.

- **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.

## 2.2 Cost allocation guidance

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;

- operating costs between retail and wholesale – paragraph 2.4
- operating costs between household and non-household retail - paragraph 2.5
- operating costs between measured and unmeasured – paragraph 2.6.
- sludge liquor transferred to a sewage treatment works for treatment – paragraph 2.7
- imported tankered waste – paragraph 2.8
- Developer services – paragraph 2.9
- Sludge – paragraph 2.14
- Recharges between water and wastewater – paragraph 2.15

## **2.3 Capital costs**

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.

### **2.3.1 Allocation of capital costs between appointed and non-appointed business**

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

### **2.3.2 Allocation of capital costs between price control units**

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.

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. The cost of the recharge will be reported as an operating cost within the other services under “Recharges from other segments” in pro forma 2A. The corresponding income will be reported as a negative operating cost under “Recharges to other segments” in pro forma 2A.

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 (paragraphs 2.4 – 2.14). In these areas companies should allocate capital costs according to these specific instructions.

## **2.4 Allocation of operating costs between retail and wholesale**

This guidance applies to the attribution or allocation of operating costs between retail and wholesale (water and wastewater) in pro forma 2B and 2C of the annual

performance report. Where possible, operating costs should be directly attributed between retail and wholesale (water or wastewater). Where this is not possible, companies must use the cost drivers set out in table 2.4.1 to allocate their operating costs between retail and wholesale (water and wastewater).

Where there is a choice of cost driver for any cost in table 2.4.1, 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 2.4.1 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 or wastewater), with the remainder of the costs allocated between retail and wholesale (water and / or wastewater) using the cost drivers in table 2.4.1.

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 2.4.1 Cost drivers for allocating operating costs between retail and wholesale**

Heading per Pro forma 2C	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
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 3.1)	Wholly in retail	n/a	n/a	n/a
Customer services	Investigatory visits / first visit to the customer (as defined in paragraph 3.1) (see Note 3)	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

<b>Heading per Pro forma 2C</b>	<b>Cost</b>	<b>Wholly or partly in retail</b>	<b>Part in retail</b>	<b>Part in wholesale</b>	<b>Cost driver to be used (where cost cannot be directly attributed)</b>
Doubtful debts	Doubtful debts (see Note 3)	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
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 (see Note 3)	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 (see Note 3)	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

<b>Heading per Pro forma 2C</b>	<b>Cost</b>	<b>Wholly or partly in retail</b>	<b>Part in retail</b>	<b>Part in wholesale</b>	<b>Cost driver to be used (where cost cannot be directly attributed)</b>
Other operating expenditure	General and support – IT costs	Partly in retail	See Note 1	See Note 1	In order of preference: 1. An appropriate cost driver depending on the nature of IT costs. 2. 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: 1. Time (based on timesheets) 2. FTEs
Other operating expenditure	Executive directors' remuneration (as defined in paragraph 3.1) (see Note 3)	Partly in retail	See Note 1	See Note 1	In order of preference: 1. Time (based on timesheets). 2. Management estimate (with supporting commentary)

<b>Heading per Pro forma 2C</b>	<b>Cost</b>	<b>Wholly or partly in retail</b>	<b>Part in retail</b>	<b>Part in wholesale</b>	<b>Cost driver to be used (where cost cannot be directly attributed)</b>
Other operating expenditure	Non-executive directors' remuneration (see Note 3)	Partly in retail	See Note 1	See Note 1	In order of preference: 1. Time (based on timesheets). 2. Management estimate (with supporting commentary ie time spent at board meetings)
Other operating expenditure	General and support - Facilities, building / grounds maintenance (see Note 3)	Partly in retail	See Note 1	See Note 1	In order of preference: 1. Floor space 2. 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: 1. Time (based on timesheets). 2. Appropriate cost driver (based on nature of cost) 3. FTEs (where there is not an appropriate cost driver)

Heading per Pro forma 2C	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	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
Other operating expenditure	Local authority rates and cumulo rates (see Note 3)	<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:</p> <ol style="list-style-type: none"> <li>1. Floor space</li> <li>2. FTEs</li> </ol> <p>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 3)	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		

#### 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 2.4.1.

#### 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.

#### Note 3

Guidance has been refined or has changed since the cost allocation guidance for the 2015-20 price review.

## 2.5 Allocation of retail operating costs between household and non-household

This guidance applies to the allocation of retail operating costs between household and non-household retail in pro forma 2C of the annual performance statement. 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 2.5.1 to allocate their operating costs between household and non-household retail. Where there is a choice of cost driver for any cost in table 2.5.1, companies must explain in their Accounting Separation Methodology Statement why they have selected the cost driver that they have used.

For some of the costs in table 2.5.1 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 household or non-household retail, with the remainder of the costs allocated using the cost drivers in table 2.5.1.

**Table 2.5.1 Cost drivers for allocating retail operating costs between household and non-household**

Heading per Pro forma 2C	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: 1. Time spent on non-network customer enquiries and complaints 2. Volume of non-network customer enquiries and complaints
Customer services	Network customer enquiries and complaints	Split	In order of preference: 1. Time spent on network customer enquiries and complaints

<b>Heading per Pro forma 2C</b>	<b>Cost</b>	<b>Entirely in household/ non-household or split between household/ non-household?</b>	<b>Cost driver to be used (where cost cannot be directly attributed)</b>
	(as defined in paragraph 3.1)		2. Volume of network customer enquiries and complaints
Customer services	Investigatory visits / first visit to the customer (as defined in paragraph 3.1) (see Note 4)	Split	In order of preference: 1. Time spent on investigatory visits 2. Number of investigatory visits
Customer services	Other customer services	Split	In order of preference: 1. Time (based on timesheets). 2. Appropriate cost driver (based on nature of cost) 3. Customer numbers
Debt management	Debt management	Split	Debt outstanding for more than 30 days (that is, not current debt)
Doubtful debts	Customer doubtful debts (see Note 4)	Split	n/a – direct attribution on a customer type (meaning household or non-household) specific basis
Meter reading	Meter reading	Split	In order of preference: 1. Time (based on timesheets) 2. Number of meter reads factored by scheduling an allowance for average time taken 3. 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: 1. Time (based on timesheets).

<b>Heading per Pro forma 2C</b>	<b>Cost</b>	<b>Entirely in household/ non-household or split between household/ non-household?</b>	<b>Cost driver to be used (where cost cannot be directly attributed)</b>
			2. 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 (see Note 4)	Split	In order of preference: 1. An appropriate cost driver depending on the nature of IT costs. 2. Number of computers and mobile devices (where there is not an appropriate cost driver)
Other operating expenditure	General and support – motor vehicles (see Note 4)	Split	In order of preference: 1. Number of motor vehicles 2. Customer numbers
Other operating expenditure	General and support - Finance, HR, payroll, general management (see Note 4)	Split	In order of preference: 1. Time (based on timesheets) 2. FTEs 3. Customer numbers
Other operating expenditure	Executive directors' remuneration (as defined in paragraph 3.1) (see Note 4)	Split	In order of preference 1. Time (based on timesheets). 2. Management estimate (with supporting commentary)
Other operating expenditure	Non-executive directors' remuneration (see Note 4)	Split	In order of preference 1. Time (based on timesheets). 2. Management estimate (with supporting commentary ie time spent at board meetings)
Other operating expenditure	General and support - Facilities, building / grounds maintenance (see Note 4)	Split	In order of preference: 1. Floor space 2. FTEs 3. Customer numbers
Other operating expenditure	General and support – insurance (see Note 4)	Split	FTEs for employers/ employees liability or more appropriate cost driver for other types of insurance.

Heading per Pro forma 2C	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	Other general and support costs	Split	In order of preference: 1. Appropriate cost driver (based on nature of cost) where there is not an obvious cost driver. 2. Customer numbers
Other operating expenditure	Other business activities (regulation costs)	Split	
Other operating expenditure	Local authority rates (see Note 4)	Split	In order of preference: 1. Floor space 2. FTEs 3. Customer numbers
Third party services	Third party services (see Note 4)	Dependent on nature of cost	Direct attribution where possible. Otherwise appropriate cost driver based on nature of cost.
Depreciation	Depreciation	See section 2.3	

## Note 4

Guidance has been refined / is new or has changed since the cost allocation guidance for the 2015-20 price review.

## 2.6 Allocation of household retail operating costs between measured and unmeasured services

This guidance applies to the allocation of household operating costs between the following customer types in pro forma 4F of the annual performance report:

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

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 2.6.1 Possible cost drivers for allocating household retail operating costs between measured and unmeasured**

<b>Heading per pro forma 4F</b>	<b>Cost</b>	<b>Possible cost driver to be used</b>
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

Heading per pro forma 4F	Cost	Possible cost driver to be used
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.
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)	
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	
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

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

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 sewage treatment works costs should be attributed to the operation of dealing with the liquor.

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,
- % of solids,
- BOD,
- COD and;
- Ammonia.

We will work with the sector to agree a formula to be used based on the above factors.

## **2.8 Allocation of operating costs and capital costs for imported tankered waste**

Treatment of tankered waste is a non-appointed activity as set out in appendix 1 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.

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.

## **2.9 Allocation of operating costs and capital costs for Developer services**

Developer services costs should be accounted for in the price control unit in line with the basis on which the price controls have been set. The part of developer services included in retail is providing developer information and administration for new connections. This should be reported as operating expenditure. It should not be capitalised as there is no relevant asset in retail against which to capitalise the expenditure. The wholesale part of developer services includes all other developer services, which are those not in retail.

## **2.10 Allocation of operating costs for rates**

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 2.4.1.

The rates costs for wholesale should then be allocated to price control units using gross MEA values.

## **2.11 Allocation of operating costs and capital costs for borehole pumping**

‘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 appendix 1.

## **2.12 Allocation of operating costs for Sludge energy generation**

Where sludge 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 the sewage treatment operations.

## **2.13 Allocation of operating costs for imported potable bulk water supplies**

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).

The allocation basis should be described in the methodology statement.

## **2.14 Allocation of operating costs and capital costs for imported sludge**

Treatment of imported sludge is a non-appointed activity as set out in appendix 1 of RAG 4.

Specific rules for this activity in relation to the allocation of costs and transfer pricing are dealt with in RAG5.

## **2.15 Recharges between wholesale water and wastewater**

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.

## **3. Third party services**

### **3.1 Background**

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 PR14 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 Appendix 1 lists all of the activities which are classed as third party.

### **3.2 Practical issues**

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 also be shown in pro forma 2D.

## **4. Upstream services**

### **4.1 Allocation of capital costs between business units**

We have not prescribed how companies should attribute or allocate capital expenditure and depreciation between the services units in part 4 of the APR. The onus is on companies to determine the most appropriate means of attributing or allocating these costs. The general principles in part 2.1 should be followed for allocation of capital costs in part 4. Where part 2 specifies particular cost drivers or treatments, then these should be followed. However we do not require the principal use method to be used in part 4 of the APR. Similarly we do not require that a recharge is made for finance costs between the upstream services.

## **5. Definitions**

### **5.1 Additional guidance on definitions**

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

#### **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**

The actual cost to the supplier, of the goods, works or services, including a reasonable rate of return on capital employed. Unless the circumstances of the transaction provide a convincing case for the use of an alternative measure, the return on capital should be consistent with the cost of capital/net retail margin as set out in Ofwat's final determination of 12 December 2014, (or any other determination applicable in the 2015-20 period).

## **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 price controls set for 2015-20, customer numbers [when used as a cost allocation metric as referred to in Table 2.5.1 above] is equal to;

- 1.0 for single-service (water or wastewater only) customers and;
- 1.3 for dual-service (water and wastewater) customers.

## **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 paragraphs 2.4 and 2.5 of this RAG.

## **FTEs**

For the purposes of cost allocation, FTEs (or 'full-time equivalents') should include all full-time staff, and contractors/temporary staff directly employed (average in service during the year).

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.

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. 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.

### **Investigatory visits/first visit to the customer**

Undertaking an investigation (that is, a site visit) on account of a network customer enquiry or complaint

### **Marginal costing**

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.

### **Market price**

The price of a good, service or supply as determined by market-testing.

### **Market-testing**

Market-testing is the process of determining a market price for a particular supply, works or service.

### **Measured and unmeasured**

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.

- **Measured.** These are properties where some or all of the charges for supplies are based on measured quantities of volumes.
- **Unmeasured.** 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.

### **Network customer enquiries and complaints**

This includes the following activities:

- 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

It does not include investigatory visits/first visits to the customer.

## **Price control units**

At the 2014 price review Ofwat introduced separate binding price controls. These include wholesale water, wholesale waste water, retail household and retail non household.

For the period 2015-20, rules regarding 'principal use' and cross-subsidy across price controls apply to these units only. We have proposed additional price control units for the 2019 price review (effective 2020-25) which are included in section 2. However these are for disclosure purposes only.

## **Transaction**

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.

## **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.

## Appendix 1 Definition of average pumping head

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

Average Pumping Head is defined using the following formula:

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

Where, for each price control area:

- $APH_t$  is Average pumping head reported for the Period, t, (in m.hd)
- $h_i$  is the 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
- $WP_i$  is the total measured volume of water pumped, (in MI), entering each price control and any repumping within
- $V_p$  is the volume of water pumped, (in MI), entering each price control
- $V_g$  is the volume of water gravitated, (in MI), entering each price control

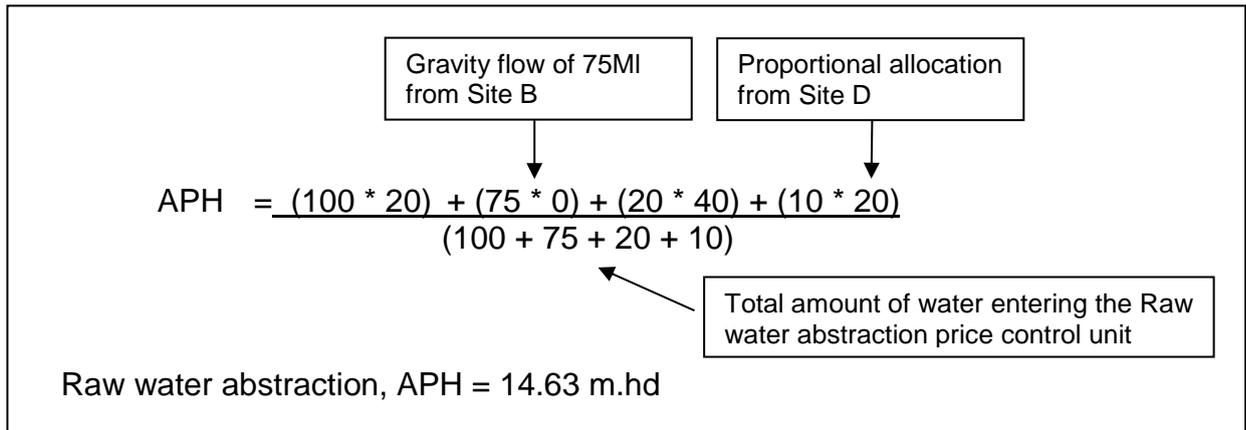
Included below is an example of how average pumping head should be calculated (the numbers are not representative of a real life situation, just for illustrative purposes.)

### Example 1: Raw Water Abstraction

A company has the following processes:

- 100MI of surface water is pumped 20m at site A.
- 75MI of surface water is gravitated at site B.
- 20MI of ground water is pumped 40m at site C to ground level.
- 10MI of ground water is pumped (20m and 80m as per Appendix 2) at site D directly into supply

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

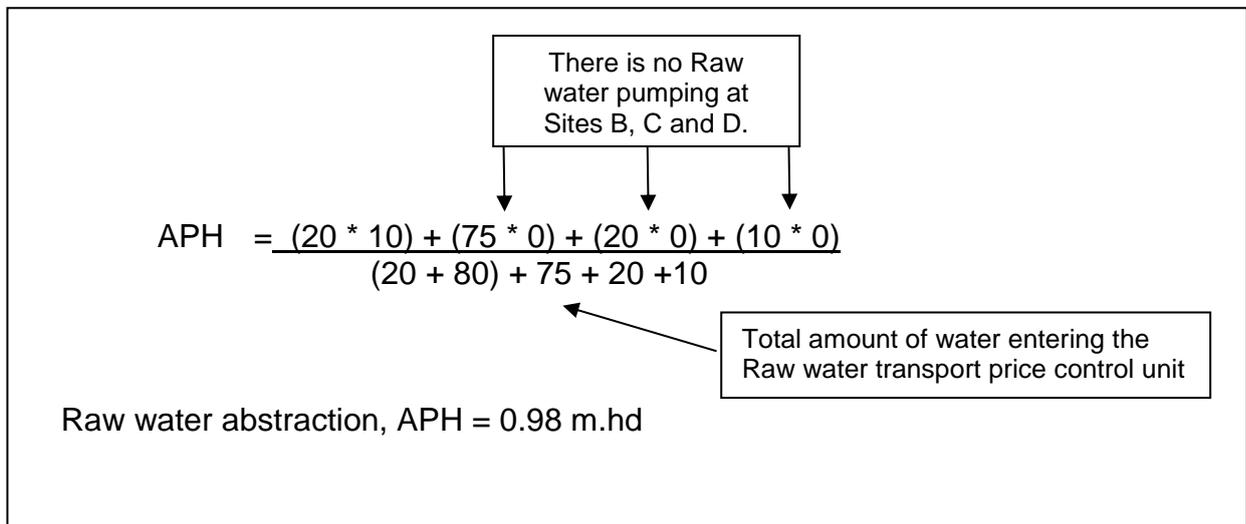


**Example 2: Raw Water Transport**

A company has the following processes:

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



**Example 3: Water Treatment**

A company has the following processes:

- 100MI 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.
- 75MI of raw water enters the Water treatment at site B, inter stage pumping and ancillary pumping accounts for 5m.
- 20MI of raw water enters the Water treatment at site C, with only marginal disinfection, there is insignificant ancillary pumping
- 10MI 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:

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

Proportional allocation  
from Site D

15MI repumped  
10m at site E

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

Treated water distribution, APH = 97.0 m.hd

Total amount of water entering  
the Treated water distribution,  
MI price control unit (excludes  
repumping within)

**Further Points to note:**

1. Annual mean head ( $h_i$ ) = Static Head + Dynamic Head (all infrastructure losses)
2. Companies are expected to use measured flow and pressure data.
3. 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.
4. Where companies do not have measured data available they should estimate their Average Pumping Head using credible methods based on robust engineering assessments.
5. Companies should describe in their commentary each method used and the proportion (in %) of their Average Pumping Head calculated using that method.
6. 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.
7. 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.
8. 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.
9. Any averaging across separate operating regions should be individually weighted within price control areas.

## Appendix 2 Allocation of operating costs and capital costs for borehole pumping

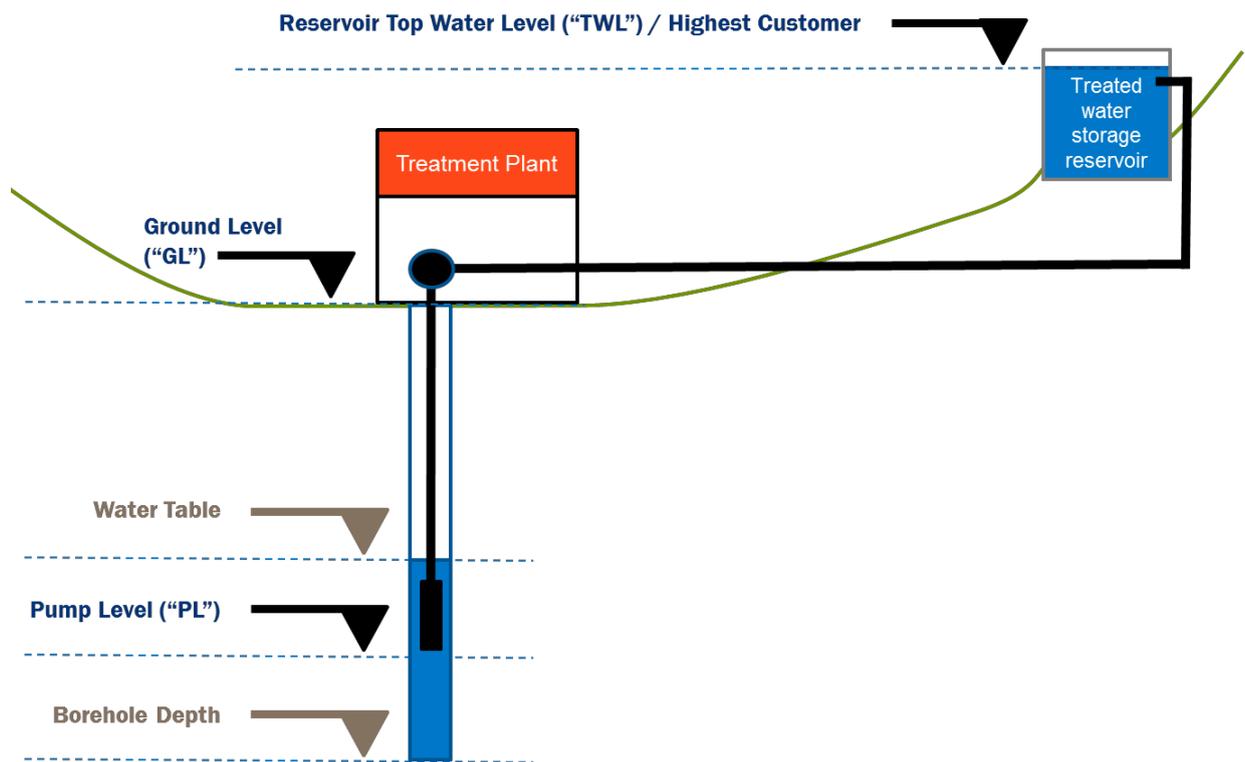
The following approach shall be followed where borehole pumping activity (single lift) crosses price control areas and there is no pressure measurement at the boundary, e.g. where pumping supports Raw water abstraction and Treated water distribution. In this scenario pumping costs should be allocated based on the proportional allocation of 'pumping head' to the height (or level Above Ordnance Datum, mAOD).

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.

To apply this approach three defined levels are required:

- **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.
- **Pump Level (PL)** – the average level of the pump in the borehole from which water is abstracted.

**Figure: Borehole pump example – key levels**



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

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

Where:

$E_{RWA}$  is the proportion of costs for Water resources - Raw water abstraction

$TWL_t$  is Top Water Level (mAOD)

$GL_t$  is Ground Level (mAOD)

$PL_t$  is Pump Level (mAOD)

#### 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
- Pump Level (PL) 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.