

2014 Price Review
Business Plan Supporting Appendices
Cost to Serve

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Executive Summary

The purpose of table R3 is to provide the components to allow Ofwat to calculate our cost to serve (CTS). The starting point to calculate CTS is total household retail operating expenditure, with the latest actual value being obtained from our 2012/13 accounting separation submission. Following guidance from Ofwat, we have revised household expenditure to take account of changes to general and support, scientific services, and customer type allocation. Additionally, following internal allocation changes to reflect the removal of wholesale drought costs and depreciation of meters, we have revised retail household expenditure further.

From our 2012/13 household position we have forecast our 2013/14 position through analysis of the 2013/14 budget to ensure all retail additions are included. Changes to the retail household expenditure include an increase in bad debt charge, plus increased cost to allow for an increasing customer measured base and also growth in customers. We have also performed analysis to ascertain the measured customer premium – this has involved deriving suitable drivers to allocate cost to either measured or unmeasured customers.

The outcome of this analysis is to arrive at the following position for the 2013/14 year.

Table 1: 2013/14 Forecast Cost to Serve Inputs

Household Retail Facts		<i>2013/14</i>
Unmeasured expenditure	£m	16.900
Measured expenditure	£m	3.336
Total household expenditure	£m	20.236
Depreciation	£m	1.670
Measured households	000s	478.2
Unmeasured households	000s	339.3
Total Households	000s	817.5

Given 2013/14 is the year used to ascertain cost to serve, the data in Table 1 can be used to derive our unmeasured CTS of £22.72 per customer (unmeasured expenditure, plus depreciation, divided by total households). A measured premium in addition to this is £6.98 per customer. In the absence of industry data we have assumed no efficiency challenge and therefore used forecast 2015-20 expenditure plus new depreciation to calculate our forward CTS. Given our future depreciation is forecast to be lower, our CTS profile is also lower. We have not included legacy depreciation within future expenditure forecasts.

In line with Information Notice (IN) 13/17 we have amended base operating costs to remove actual pension deficit repair costs and replaced them with the level of pension deficit repair cost Ofwat consider should be reflected in prices. We have made a small amendment to the profile provided for in IN13/17 to reflect the fact that our committed pension deficit repair costs increase with RPI

from 2015, rather than being flat in nominal prices.

We have also added adjustments to reflect cost impacts that we expect to alter our future CTS – these include energy increases throughout the period, revaluation of business rates from 2016/17, and input inflation increasing beyond RPI levels. In addition we have also included inflationary costs into the adjustment line, which amount to £4.6m by 2020. This document outlines robust analysis to support these claims. The adjustments are summarised in Table 2.

Table 2: Adjustments to Cost to Serve

£m	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Energy	0.002	0.004	0.007	0.035	0.048	0.063
Business Rates	0.000	0.000	0.000	0.025	0.025	0.025
Above inflation input cost	0.000	0.079	0.219	0.358	0.437	0.479
Inflation	1.142	1.666	2.282	2.965	3.730	4.575

We have also targeted efficiencies for the retail function – these include specific targeted efficiencies but also a stretch efficiency to match CPI expectations. The summary of these efficiencies are set out in the table below which outlines that by 2019/20 that targeted efficiencies will equal £1.7m.

Table 3: Household efficiencies

£m	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Efficiency	0.000	(0.284)	(0.684)	(1.096)	(1.403)	(1.686)

The outcome of the above ensures that we arrive at the following unmeasured (A) and measured (B) CTS, which are outlined in the below table.

Table 4: Our Cost to Serve (CTS)

Cost per customer	2015/16	2016/17	2017/18	2018/19	2019/20
Cost to Serve					
A <i>(allowed recoverable costs per unmeasured customer)</i>	21.25	21.99	22.77	23.61	24.51
Total Cost to Serve					
B <i>(allowed recoverable for measured cost)</i>	28.23	28.96	29.75	30.59	31.49

Table 4 indicates that our unmeasured cost to serve is increasing by £3.26 per customer, from £21.25 in 2015/16 to £24.51 per customer by the close of 2019/20. Our measured cost to serve reflects the additional £6.98 per customer premium and therefore a measured customer is forecast to cost £31.49 by 2019/20, rising from £28.23 in 2015/16. We note that the majority of the increase is driven by inflationary pressures.

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Section 1. Introduction

The purpose of this paper is to outline the building blocks of our cost to serve (CTS) calculation. The platform to calculate CTS originates from the 2012/13 accounting separation tables, more specifically the household section of A8. From our original submitted version a number of changes have taken place to effectively deliver a revised A8 – these changes have been driven by both business plan guidance from Ofwat and subsequent analysis leading to the re-allocation of drought costs. These changes are outlined in this paper.

A fundamental part of calculating our CTS is to understand the incremental costs of a measured customer compared to an unmeasured customer. We have built upon the platform of our accounting separation methodology in order to do this.

To ensure full understanding, this paper also outlines the individual components of Table R3 before delivering an assumption on our own future CTS calculations. This paper concludes by outlining a number of concerns that we feel should be stated alongside CTS or average cost to serve (ACTS).

All costs are presented in 2012/13 prices unless otherwise stated.

Section 2. Starting point – Household Retail Table

The basic platform to providing the components of table R3 is to use the Accounting Separation tables – specifically the household section of table A8. Our standard accounting separation methodology is supplied as an appendix to this document. However, following guidance from Ofwat, we have made the following changes to the way we allocate some of our costs.

General and Support Costs

To ensure consistency, general and support services are allocated on a FTE basis. A number of our current general and support costs were apportioned based upon activity analysis or on a pro-rata basis based upon existing spend – this has now been switched to an FTE basis as outlined in Ofwat's requirements. Additionally some General and Support cost centres were deemed to have activity in other costs lines, such as customer services. The allocation using FTEs now attributes all cost to general and support. Cost centres affected by this change include standard support centres such as Human Resources, Finance, Information Services, Board of Directors, Economic Regulation, Health and Safety, and Procurement. Overall the impact of these changes is very small.

Scientific Services

Following Ofwat's request all scientific service activity is now fully allocated to wholesale.

Household / non-household retail allocation

Following Ofwat requirements, where retail expenditure is not directly attributable to either household or non-household, then customer type should be consistently used to apportion expenditure. Customer type is already a common driver used to apportion expenditure, but this revised guidance means that it has superseded some existing drivers such as metering information and debt analysis.

Company Allocation Changes

In addition to the above Ofwat led changes we have also made other amendments related to two items:

- Drought
- Meter depreciation

In relation to drought costs, these were wholly attributed to the retail function in our 2012/13 submission. Our subsequent review has revealed significant areas of cost linked to additional abstraction, bulk supply, and operational overtime which are clearly wholesale in nature. A revised allocation of drought costs has been prepared and this is discussed in more detail in the Operating Cost Appendix.

With regard to meter depreciation this was incorrectly apportioned to retail for the 2012/13 submission and has now been re-allocated to wholesale.

Given these changes the table below outlines the changes from the 2012/13 submission to the PR14 business plan.

Table 5: Accounting Separation – 2012/13 Household Reconciliation

A8	Household Retail Expenditure	<i>2012/13</i>	<i>PR14</i>	<i>variance</i>	<i>Allocation driver</i>
	<i>Line description</i>	<i>£m</i>	<i>£m</i>		
1	Customer services	6.66	6.43	(0.23)	Allocation of G&S by FTE
2	Debt management	1.97	1.99	0.02	Allocation by customer type
3	Doubtful debt	2.43	2.52	0.09	Allocation by customer type
4	Meter reading	0.99	1.04	0.04	Allocation by customer type
5	Services to Developers	-	-	-	
6	Other operating expenditure	6.50	6.18	(0.32)	G&S, customer type, sci services
7	Local authority rates	0.60	0.60	-	No change
8	Exceptional Items	n/a	n/a	n/a	
9	Total Opex Retail (minus 3 rd party)	19.16	18.76	(0.40)	
10	Third party services	-			
11	TOTAL Opex Retail	19.16	18.76	(0.40)	
12	Current cost of depreciation	3.72	1.93	(1.79)	Meter re-allocation to wholesale
	TOTAL Retail Expenditure	22.88	20.69	(2.19)	

Total household operating expenditure is calculated at £18.76m, with depreciation set at £1.93m. In total allocation changes have meant that retail operating costs have reduced by £400k, and depreciation has decreased by £1.79m.

Please note that exceptional items have been excluded from these calculations.

Section 3. Metered Expenditure

To determine our metering cost we have reviewed our household cost from table A8 to establish a split between measured and unmeasured cost. To robustly allocate cost we have expanded our A8 table where applicable to original retail accounting separation table format – for example for customer services (A8.1) we have expanded to include network and non-network enquiries.

For the allocation of costs between measured and unmeasured customers we have used the following drivers:

- **Customer type** – Our most general driver which splits the number of billed customers between measured and unmeasured. Given our current meter penetration the split is nearly even with 52% of customers being measured.
- **Billing documentation** – we have analysed how many bills and related documents have been sent to each type of customer. For 2012/13 approximately 1.4 million bills were sent to measured customers versus 900,000 bills sent to unmeasured customers. Additionally 273,000 bill summaries were sent to measured customers, resulting in this driver allocating 64% of activity towards measured customers.
- **Customer contacts** – analysis of customer contact indicates that 61% originate from measured customers.
- **Debt Analysis** – analysis of our debt has been used to allocate provision of bad debt between measured and unmeasured customers.
- **Turnover** – where appropriate we have also used turnover split by measured and unmeasured household. Currently measured customers account for 42%.

The table below outlines how each cost line has been allocated between measured and unmeasured customers. Unit costs are derived by dividing by customer numbers specific to each type. Customer numbers are as follows:

Measured customers billed	= 420,027
Unmeasured customers billed	= 392,490
Total customers billed	= 812,517

Table 6: Allocation of measured and unmeasured expenditure

A8	Line description	£ per customer		Difference
		Measured	unmeasured	
1	Customer services	9.45	6.27	3.18
	Customer services activity has been divided into the following categories, with selected drivers to allocate cost:			
	<ul style="list-style-type: none"> • Billing – driver used: billing documentation sent to customers • Payment handling – driver used: billing documentation sent to customers • Non-network enquiries – driver used: customer contact data • Network enquiries - driver used: customer contact data 			
	As expected measured customers are more costly to service, with a premium of £3.18 being recorded.			
2	Debt management	2.45	2.45	-
	Numbers of customers has been used to allocate cost, and therefore the cost is broadly consistent between customer types.			
	Doubtful debt	2.52	3.73	(1.21)
	Bad debt analysis has indicated a larger value attributed to unmetered customers, i.e. unmeasured customers are more expensive to service – primarily this is due to bills for unmeasured customers being higher. For 2012/13 bad debt relating to measured customers amounted to £11.5m, whereas unmeasured customers accounted for £16.0m – resulting in a 58% allocation to unmeasured customers.			
4	Meter reading	2.47		2.47
	A dedicated measured customer cost. Taking into account all types of reading (i.e. cyclical, checking) cost per measured customer equates to £2.47. It should be noted that the cost calculated only for the appointed business. We read meters on behalf of our sewage partners and broadly the cost is split evenly. A policy of using appointed cost provides some risk should our sewage partners seek other arrangements to read the meter.			
6	Other operating expenditure	8.83	6.29	2.54
	Other operating expenditure activity has been broken into the following categories, with selected drivers to allocate cost:			
	<ul style="list-style-type: none"> • Demand side water efficiency – assumption is that only measured customers utilise this activity • Customer side leaks - assumption is that this activity is mostly driven by measured customers. Therefore, costs are allocated 95-5 in favour of measured customers. • IT – driver used: customer contacts. Measured customers are largely influencing the design and resources of SEW IT services and therefore customer contact has been used. • Other costs (including general and support): driver used: number of customers. 			
7	Local authority rates	0.73	0.73	-
	Numbers of customers has been used to allocate cost, and therefore the cost is broadly consistent between customer types.			
	TOTAL Retail Opex	26.46	19.48	6.98
8	Current Cost Depreciation	4.58	4.58	-
	Numbers of customers has been used to allocate cost, and therefore the cost is broadly consistent between customer types.			
	TOTAL Retail Expenditure	31.04	24.06	6.98

Analysis indicates that measured customers carry £6.98 premium over and above the cost of unmeasured customers.

Table 7 outlines how this analysis reconciles with our household operating expenditure from table A8 (2012/13). For 2012/13 we had 812,517 household customers (measured and unmeasured) – since these customers are all benefiting from unmeasured customer services this number is multiplied by £19.48 to generate a sum of £15.83m. For the same period we have 420,027 measured customers who cost an additional £6.98 (per customer). This calculates to a sum of £2.93m. The total of these calculations equates to our A8 total household figure of £18.76m.

Table 7: Allocation of measured and unmeasured expenditure

	Number (x)	Cost to serve (y)	Total Cost (xy)
All SEW Customers	812,517	£19.48	£15.83m
Metered SEW Customers	420,027	£6.98	£2.93m
Total			£18.76m

Section 4. R3 – Information to set the Household ACTS Control

A version of the submitted R3 is outlined in Table 9: SEW R3 Extract. The purpose of this section is to ensure full understanding of the contents. This section provides a line by line explanation of the values submitted. Only lines populated are included.

Block A: Expenditure

Line 1 Total Operating Expenditure

The 2012/13 household retail operating cost of £18.76m, as per Table 5, is our reference point. As discussed above, this has been calculated following post allocation changes due to Ofwat's guidance and our own review.

Given Ofwat has stated that 2013/14 is the key year for calculating CTS we have also selected 2013/14 as our base year. The table below outlines how we expect household retail expenditure to increase from our 2012/13 cost of £18.76m.

Table 8: 2012/13 to 2013/14 reconciliation

	£m	2012/13	2013/14
2012/13 Household Retail Operating Expenditure		18.76	18.76
Additional energy			0.03
Provision for bad debt			0.87
Unmeasured to measured switchers			0.37
New Connection (Customer Growth)			0.13
Other budgetary items			0.07
Adjusted Retail Opex		18.76	20.24

Provision for bad debt is wholly attributable to the retail function, and the increase of £870k represents a return to normal past year levels following a provision release in 2012/13. Other significant expenditure items are costs associated with customers switching from unmeasured to measured billing. As seen earlier metered customers attract a £6.98 pa cost premium and this has been used to calculate the additional cost requirement of unmeasured customers switching to measured. Between 12/13 and 13/14 this equates to £371k, largely as a result of our customer metering programme. Additionally extra cost to deal with the forecast of 8000 new households has been added. This has been calculated using the unmeasured plus measured premium cost of £26.46 pa, giving an incremental cost of £131k.

Other costs relate to additional energy requirements (please see Operating Cost Appendix) and remaining budgetary increases – the combination of this cost amounts to £100k. Following these additions, household retail expenditure is expected to equal £20.24m in 2013/14.

In line with IN13/17 we have amended base operating costs to remove actual pension deficit repair costs and replaced them with the level of pension deficit repair cost Ofwat consider should be reflected in prices. We have made a small amendment to the profile provided for us in IN13/17 to reflect the fact that our committed pension deficit repair costs increase with RPI from 2015, rather than being flat in nominal prices.

To ensure a correct adjustment for period 2015-20, we have first removed the existing pension deficit in the allocations consistent with the 2012/13 Accounting Separation, and then re-inserted Ofwat's assumed figures in the allocations consistent with their information notice.

Our current allocations versus Ofwat's expected allocations regarding the pension deficit are outlined in the below table.

Table 10: Pension allocation

	RETAIL HOUSEHOLD	RETAIL NON- HOUSEHOLD	WHOLESALE	TOTAL
SEW 2012/13	26%	3%	71%	100%
OFWAT (31-10-13)	17%	3%	80%	100%

At an appointed business level we have removed the existing pension deficit of £6.8m per annum, and inserted £3.8m per annum as per Ofwat guidance. The table below details the pension adjustment for the household retail function for 2015-20.

Table 11: Retail (household) pension cost adjustment

£m	2015/16	2016/17	2017/18	2018/19	2019/20
RETAIL HOUSEHOLD					
- SEW deficit	(1.8)	(1.8)	(1.8)	(1.8)	(1.8)
+ Ofwat deficit	0.65	0.65	0.65	0.65	0.65

From 2013/14 retail expenditure for line 1 starts with £20.24m and then is increased by the changing ratio and growth of properties outlined in block E of table R3, multiplied by the metered and unmetered CTS. In addition line 1 is also adjusted for the pension adjustment (detailed above) for the 2015-20 period. For 2020-25 the pension adjustment is continued.

Table 12: Total Retail Operating Expenditure, Line 1 (R3)

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
2013/14 Budget Opex	20.236	20.236	20.236	20.236	20.236	20.236	20.236
New Connections (growth)		0.213	0.418	0.632	0.853	1.059	1.264
Unmeasured to measured switchers		0.335	0.610	0.877	1.138	1.395	1.649
- SEW pension deficit			(1.758)	(1.758)	(1.758)	(1.758)	(1.758)
+ Ofwat pension deficit			0.646	0.646	0.646	0.646	0.646
Total Opex (Line 1, R3)	20.236	20.785	20.151	20.633	21.115	21.578	22.037

Line 2 Total depreciation of assets included in RCV (assets existing before 2015-20)

For years up to and until 2012/13 depreciation figures have been reported. In line with guidance we have stripped out meter depreciation and re-allocated this to the wholesale function. For the remaining years of 2010-15 we have forecast retail capital expenditure. We have used both the existing assets and these forecast additions to generate a depreciation forecast for this line. Depreciation provided is consistent with IFRS.

Line 3 Total depreciation of assets that are not included in RCV (2015-20 or later assets)

Retail assets from the capital plan have been identified and provided for table R3. Depreciation provided is consistent with IFRS.

Line 4 Debt Management

Debt management costs have been included in our analysis for measured versus unmeasured customers. There was considered to be no difference between measured and unmeasured customers and therefore the level of debt management increases consistently with growth.

Debt management costs are included within line 1.

Line 5 Doubtful Debt

Doubtful debt costs have been included in our analysis for measured versus unmeasured customers. Debt by customer type was the selected driver for this line, and analysis suggests that unmeasured customers carry a larger unit cost. Given the level of measured customers versus unmeasured customers is increasing this is therefore a reducing expenditure item. We are concerned, however, that the main reason that unmeasured customers carry a higher doubtful debt cost is the fact that the average unmeasured bill is higher than the average measured bill. As we increase meter penetration the bill difference decreases. We estimate that this issue presents us with a potential risk of £164k that is not reflected in prices. This anomaly is discussed further in Section 6.

Doubtful debt costs are included within line 1.

Block B: Operating expenditure - part funded through wholesale

Line 6 Demand-side water efficiency initiatives – gross

This line represents the gross cost of demand side water efficiency – thereby including normal retail activity, plus additional wholesale related expenditure.

Line 7 Demand-side water efficiency initiatives – funded by wholesale

As part of the draft water resource management plan customers impacted by the compulsory metering programme (CMP) will receive water efficiency advice. The cost for this activity is for the 2015-20 period only and amounts to approximately £2m for the period.

Line 8 Demand-side water efficiency initiatives – net retail expenditure

This line deducts the wholesale element from the gross water efficiency cost line to leave normal retail cost for this activity. Normal retail water efficiency is included in line 1.

Line 9 Customer side leak repairs – gross

Customer side leaks are typically reported on metered properties so this cost is increasing in line with our meter penetration. This activity is included within the metered customer premium and is therefore included within line 1. customer leakage decreased by approximately 75% from years 2010/11 to 2011/12 due to a change in our policy which now focuses more strongly on a contribution to the customer carrying out the repair, rather than us carrying out the repair.

Line 10 Customer side leak repairs – funded wholesale

No additional customer side leakage activity is being funded by the wholesale function.

Line 11 Customer side leak repairs – net retail expenditure

All customer side leakage activity is being funded by the retail function. This cost is included in line 1.

Line 12 Total - net retail expenditure

This is the sum of lines 11 and 8.

Block C: Operating expenditure and depreciation - excluded from ACTS

Line 13 Operating expenditure – excluded from ACTS

Adjustments are detailed in Table 13.

Table 13: Additional adjustments excluded from ACTS

£m	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Energy	0.002	0.004	0.007	0.035	0.048	0.063
Business Rates	0.000	0.000	0.000	0.025	0.025	0.025
Inflation	1.142	1.666	2.282	2.965	3.730	4.575
Above inflation input cost	0.000	0.079	0.219	0.358	0.437	0.479
Efficiency	0.000	(0.284)	(0.684)	(1.096)	(1.403)	(1.686)
Total	1.144	1.466	1.824	2.287	2.836	3.456

Each line is described in more detail below:

Energy

As set out in our appendix on Operating Costs we expect energy costs to increase throughout the next regulatory period, reflecting higher wholesale charges and higher regulatory and green charges.

Whilst the majority of energy is consumed in the wholesale business, the retail function has typically been allocated around 1.3%. We have then apportioned this cost between household and non-household using customer type

Business Rates

As set out in the Operating Cost appendix we are expecting an increase in our Business Rates following the rating revaluation due in 2017. We allocate business rates on the basis of the 2012/13 accounting separation methodology, using MEAV allocations as a driver. 97.6% of MEAV is attributable to the wholesale business function, with the remainder being applied to the retail function. Business rates attributable to household retail are apportioned according to customer type.

Inflation

With Ofwat indicating they will not be adding inflation to retail costs we have therefore added an inflationary forecast as part of our adjustments to cost to serve. For a fuller explanation please refer to our appendix "Inflation Indexing" which details our assumptions regarding 2015-20 inflation. Inflation (RPI) is applied to all retail Opex and adds approximately £4.6m to our cost by 2020.

Above inflation input cost

First Economics has undertaken analysis to assess water industry input price inflation and productivity growth. This report is included as an appendix to this document. We believe the document provides robust evidence to suggest 2015-20 input factors will exceed our RPI assumptions. First Economics' detailed analysis concludes that retail household costs will increase as shown in the following table:

Table 14: Aggregate input price inflation, nominal % per annum

	2015/16	2016/17	2017/18	2018/19	2019/20	AVERAGE
First Economics retail HH inflation	3.1%	3.4%	3.5%	3.4%	3.4%	3.4%
RPI	2.7%	2.7%	2.9%	3.1%	3.3%	2.9%
Variance	0.4%	0.7%	0.6%	0.3%	0.1%	0.4%

As can be seen, on average retail household costs will increase c 0.4% ahead of inflation. To allow for this higher than RPI assumption we are submitting the 0.4% variance as an adjustment to CTS to reflect the expected cost increase, which is not covered by any other adjustment item identified for block C of R3.

The table below shows how this is calculated.

Table 15: Aggregate input price inflation, cost increase

	2015/16	2016/17	2017/18	2018/19	2019/20
Total Retail Expenditure (R3, line 1), £m	20.15	20.63	21.12	21.58	22.04
Expected p.a. compounded % increase	0.4%	1.1%	1.7%	2.0%	2.2%
Required cost increase, £m	0.08	0.22	0.36	0.44	0.48

Efficiency

A further adjustment we are factoring into our CTS is efficiency. The planned information technology and website improvements (outlined in our retail plan) will help to deliver savings during the period. We will also improve our processes and reduce our costs where we can which, combined, will lead to a reduction in costs of £1.6m by 2020, or approximately 0.6% per annum efficiency for the five year period.

The following table summarises the savings that will be delivered:

Table 16: Outlined Retail Efficiencies

Area	Saving over 5 year period £m
Bill format and process improvements	£0.3m
Improved website functionality and self-serve options	£0.2m
System improvements	£0.2m
E-billing savings through less postage and printing costs	£0.4m
Meter reading unit rate efficiency	£0.5m
Total	£1.6m

Whilst we have identified specific efficiencies (outlined above), we have also challenged ourselves to ensure that general cost increase, pre specific efficiencies, are no more than the Consumer Price Index (CPI). Given First Economics' input inflation profile our additional calculated target efficiency is outlined below.

Table 17: CPI versus First Economics' Input Inflation Forecast

	2015/16	2016/17	2017/18	2018/19	2019/20	AVERAGE
CPI	2.1%	2.1%	2.3%	2.5%	2.7%	2.3%
First Economics retail HH inflation	3.1%	3.4%	3.5%	3.4%	3.4%	3.4%
Variance	-1.0%	-1.3%	-1.2%	-0.9%	-0.7%	-1.0%

The table outlines that to meet CPI expectations we would require an additional 1% per annum efficiency. Activities to generate these efficiencies are yet to be identified but we believe this represents a reasonable challenge for the business to place upon itself. Cumulative efficiencies are set out in the table below, showing that by 2019/20 we are targeting £1.7m pa efficiency in the household retail function.

Table 18: Outlined Retail Efficiencies

	2015/16	2016/17	2017/18	2018/19	2019/20
Total Retail Expenditure (R3, line 1), £m	20.151	20.633	21.115	21.578	22.037
Company Specific Efficiencies	0.5%	0.5%	0.5%	0.5%	0.5%
Targeted CPI efficiencies	1.0%	1.3%	1.2%	0.9%	0.7%
Efficiencies - £m	(0.284)	(0.684)	(1.096)	(1.403)	(1.686)

Block D: Operating Expenditure – Metering***Line 15 - Total retail metering expenditure - water only customers***

Metered expenditure is the calculation of the metered premium (calculated in section 3.0) multiplied by the number of measured properties outlined in block E. An increasing measured property base results in increasing expenditure.

Block E: Customer Numbers***Line 18 - Households connected for water only – unmetered***

This line shows historical and forecast values of connected unmetered properties.

Line 19 - Households connected for water only – metered

This line shows historical and forecast values of connected metered properties.

Section 5. Our cost to serve calculation

In calculating cost to serve (CTS) we have mimicked Ofwat's worked example with the assumption that our CTS is equal to average cost to serve (ACTS).

An exception to Ofwat's calculation is that we do not remove legacy depreciation from the initial CTS calculation. This is because we believe that legacy depreciation is already removed when the adjustment is made allowing for future depreciation (line 4 in the table below). We have raised a query to Ofwat regarding this possible double counting error, and have yet to receive a response. We set out why we believe this is wrong in Section 6

The table below (stage 1 CTS calculation) outlines the initial stage of the CTS calculation. Line 1 represents unmeasured operating expenditure only. The allowance adjustment calculated in line 4 is a product of both legacy depreciation (line 2) and new depreciation (line 3) divided by five years. Given this calculates a value which is lower than 2013/14 legacy depreciation (£1.67m) no future allowance is provided. This therefore leaves total cost at £18.57 m, which converts to a cost to serve (CTS) of £22.72 per customer.

Table 19: Cost to serve (stage 1 CTS calculation)

			2013/14	2015/16	2016/17	2017/18	2018/19	2019/20
1	Operating Expenditure (unmeasured) (R3 line 1 less R3 line 15)	£m	16.90	16.10	16.25	16.42	16.57	16.72
2	Dep' in RCV (R3 line 2)	£m	1.67	1.58	1.40	0.73	0.40	0.25
3	Allowed dep' not in RCV (R3 line 3)	£m		0.15	0.42	0.65	0.84	1.03
4	Allowance for future dep'	£m	0.00					
5	TOTAL COSTS	£m	18.57					
6	Customer Numbers	000s	817.47					
7	CTS (excluding metering Costs)	£ / customer	22.72					

The remainder of our CTS calculation assumes that our CTS is equal to ACTS (£22.72), i.e. no additional efficiency challenge is required. As such we have used our forecast costs derived from the sum of operating expenditure and new depreciation, divided by customer numbers for the year. This means our unadjusted CTS commences at £19.49 in 2015/16, rising to £20.52 per customer in 2019/20. This calculation is shown in the below table.

Table 20: CTS calculation

			2013/14	2015/16	2016/17	2017/18	2018/19
A	Operating Expenditure (R3, line 1)	£m	16.10	16.25	16.42	16.57	16.72
B	Allowed dep' not in RCV (R3, line 2)	£m	0.15	0.42	0.65	0.84	1.03
C	Sub-Total (A+B)	£m	16.24	16.68	17.06	17.41	17.75
D	Customer Number (R3, lines 18 + 19)	000	833.3	841.3	849.7	857.5	865.3
E	CTS (before adjustment = D ÷ E)	£ / customer	19.49	19.82	20.08	20.30	20.52

As noted we differ from Ofwat's worked examples by not removing legacy depreciation at this stage (see Section 6).

The next step is that adjustments from line 13 (Block C of table R3) is then applied to our CTS. As discussed this adjustment includes efficiency. This brings our allowed recovered CTS per unmeasured customer to £21.25 in 2015/16 and rises to £24.51 by 2019/20.

Table 21: CTS allowed recovered per unmeasured customer

			2013/14	2015/16	2016/17	2017/18	2018/19
8	Cost adjustments	£ / customer	1.76	2.17	2.69	3.31	3.99
9	CTS (allowed recovered per unmeasured customer)	£ / customer	21.25	21.99	22.77	23.61	24.51

The final component to CTS is to adjust according to the level of cost associated with measured customers. Our total measured customer costs (line 13) is a calculation of the metered premium (£6.98 per customer) multiplied by the increasing number of metered customers (outlined in block C of R3). With our assumption remaining that our CTS equals the industry ACTS our total allowed recovery for measured cost is equal to £28.23 per customer in 2015/16, increasing to £31.49 per customer in 2019/20.

Table 22: CTS allowed recovered per measured customer

			2013/14	2015/16	2016/17	2017/18	2018/19	2019/20
10	Total metered costs	£m	3.336	4.056	4.380	4.699	5.010	5.318
11	Customer numbers	000s	478.211	581.409	627.818	673.554	718.208	762.327
12	CTS (metered)	£ / customer	6.976					
13	Assumed industry ACTS	£ / customer	6.976					
14	Efficiency challenge	£ / customer	0.000					
15	Adjustment allowed for recovery cost	£ / customer		6.976	6.976	6.976	6.976	6.976
16	Total allowed recovery for measured cost	£ / customer		28.23	28.96	29.75	30.59	31.49

Section 6. Concerns / Exclusions

Non-Appointed Expenditure

For accounting separation purposes we have continued to exclude operating expenditure associated with meter reading and billing (for Thames Water only) on behalf of sewage companies operating in our water supply region. This element of non-appointed cost is excluded in full – for example we assume our sewage partners cover half of the cyclical read programme.

Given this current arrangement, and following current accounting separation guidance, we are concerned that we are exposed to significant financial risk should either (or both) sewage companies withdraw from the current contract. Given this scenario we would have no choice but to incur the increased cost of meter reading – which would ultimately increase our metered premium for customers and the average cost to serve.

Legacy Depreciation

We have not followed prescribed Ofwat guidance to remove legacy depreciation from our CTS calculation. Our CTS is calculated with no efficiency challenge (as we assume we are average in the industry), and we believe the current Ofwat guidance/worked example incorrectly removes legacy depreciation given this scenario, despite us not including it in our future costs.

Table 23 replicates our 2015/20 calculation and is the sum of retail (Opex) expenditure (line A) plus depreciation not in RCV (i.e. line B and effectively new depreciation for the 2015-20 period). We have at no point included legacy depreciation, and therefore believe it should not be included as a subsequent adjustment to our CTS position.

Table 23: CTS allowed recovered per measured customer

			2015/16	2016/17	2017/18	2018/19	2019/20
A	Operating Expenditure (R3, line 1)	£m	16.10	16.25	16.42	16.57	16.72
B	Allowed depreciation not in RCV (R3, line 2)	£m	0.15	0.42	0.65	0.84	1.03
C	Sub-Total (A+B)	£m	16.24	16.68	17.06	17.41	17.75

We have queried this apparent inaccuracy with Ofwat directly, but have received no individual response.

Doubtful Debt

We have noted within this paper that we have not allowed for any increase in doubtful debt expenditure. Doubtful debts is included within the CTS calculation and if we were to continue the calculation through to the end of the period multiplying the doubtful debt cost per customer for both unmeasured and measured then doubtful debt would increase by £164k by 2020.

Conversely the current adopted linear calculation reduces our doubtful debt cost marginally – falling from £3.3m to £3.2m between 2015/16 and 2019/20. Consequently we have therefore decided not

to change this profile in table R3.

However we remain concerned that doubtful debt cannot be adequately modelled in this manner given the various external influences of debt, and we have therefore included doubtful debt within our change protocol.

Cost Base / Adjustment Line Use

We confirm that our submission of R3 includes expected inflationary costs. We remain uncertain whether the Ofwat financial model will allow any inflationary assumption, and wish to make it clear, for avoidance of doubt, that inflationary cost is included within the adjustment line (13).

Furthermore we remain unclear with the use of the adjustment line (13) within R3, and in particular how this will feed into the Ofwat CTS calculation. We expect all elements of operating expenditure to be included within our cost to serve calculation, and are concerned Opex contained within line 13 is not included within the Ofwat model. To avoid confusion we have included a version of R3 following this section that combines all expected Opex into line 1 (i.e. line 13 is added entirely to line 1). Ultimately, this level of Opex in the revised line 1 is what we expect to be included within the CTS calculation.

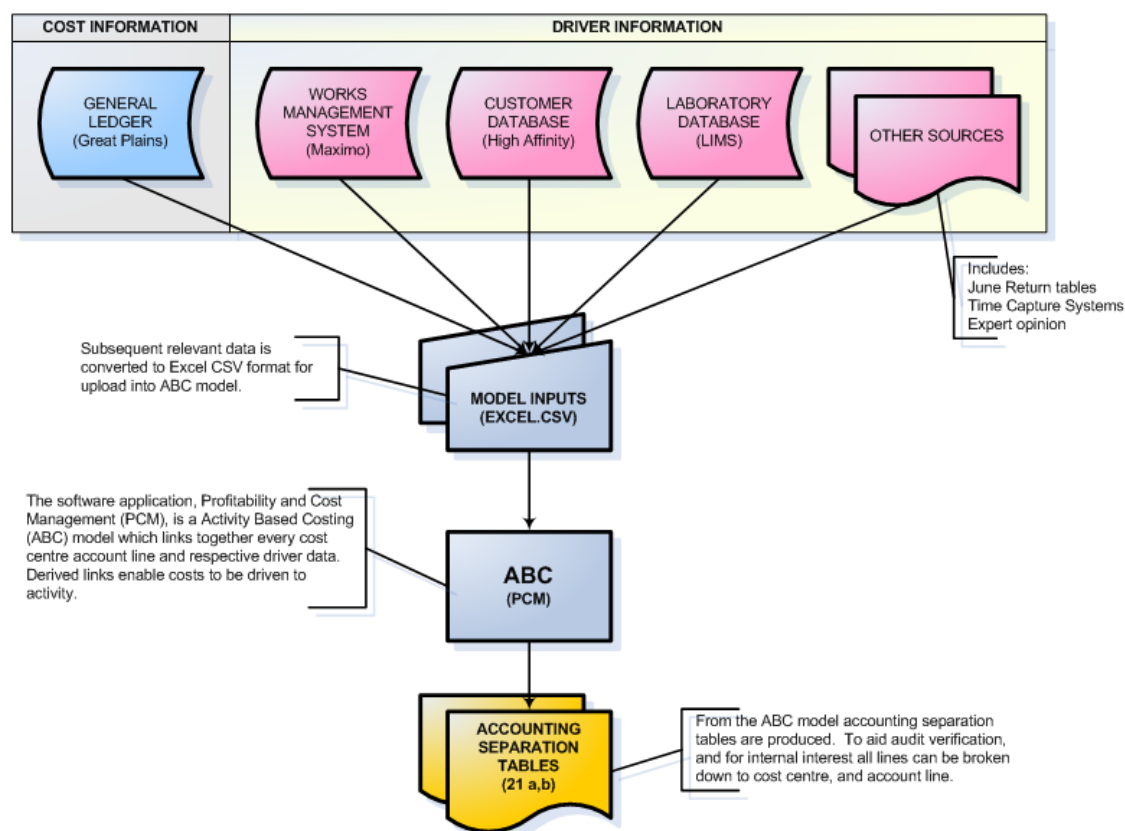
Appendix A: Accounting Separation Methodology

Overall Accounting Separation Methodology

ABC software is used to combine our data inputs required to generate the operating expenditure separation tables. The model holds a complete general ledger account of operating expenditure, and all associated driver data to ensure expenditure is allocated to the correct activity line. The use of a single database to contain ABC data in a safe and contained environment ensures output data is accurate, consistent, and easily verified for audit.

Overview / Data and System Integration

An outline of system integration to produce operating expenditure accounting separation tables is given below.



As the above diagram denotes inputs are either cost or driver related. All costs come from a single source - the general ledger (Great Plains), and are exactly replicated within the ABC model. Where costs explicitly relate to a specific business unit, expenditure has been coded directly to the business unit that consumed the goods or the service. An example of this includes doubtful debt, which is a single account in the General Ledger, and a single line within the retail services table. Chemicals are another example of this allocation method, since these costs can be directly apportioned to the business unit "water treatment". To assist with direct coding labour structures and job descriptions have been used extensively within this process to identify roles (and thereby cost) to specific business units and activity.

Where direct coding is not possible, an allocation is made using an appropriate 'cost driver' that has caused the cost to be incurred. Actual (real) collected data is sought for use as cost drivers, however

in some instances expert opinion has been used and where this is the case alternative future methods are being explored.

Methodology Changes

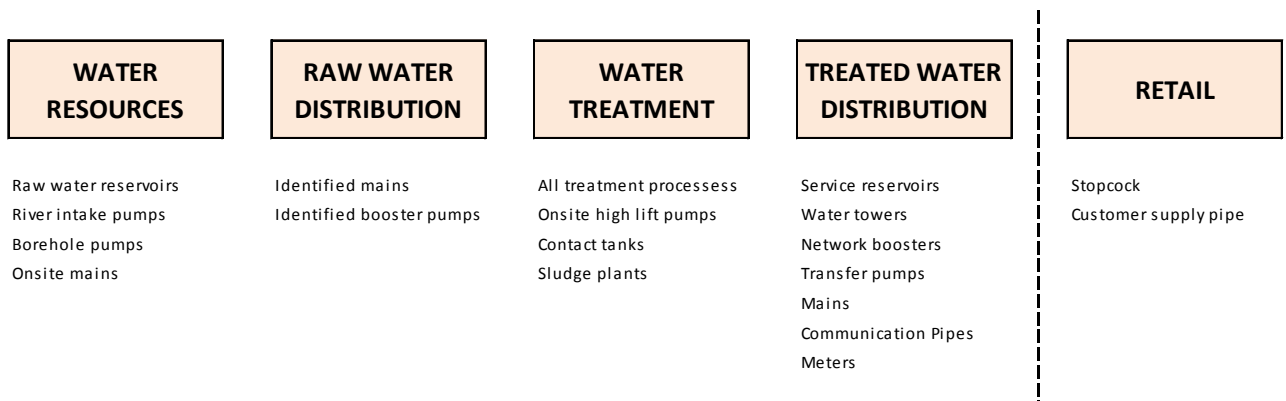
Despite the table formats having changed between the periods, the methodology has largely remained identical. Format changes to the tables are largely contained to consolidation of lines and therefore the methodology preceding has not changed, but simply diverted the allocation of the cost. Additionally we have welcomed Ofwat’s horizontal review of accounting separation and have responded to suggested conclusions to improve consistency between companies.

Whilst the majority of the methodology remains identical following the horizontal audit we have applied changes to scientific services expenditure allocation. In previous periods compliance sampling at the customer tap had been attributed to the retail function. However, from 2012/13 such activity is now treated as wholesale given the activity is test the quality of distributed water. Customer prompted queries resulting in water sampling at the customer tap remains a retail function.

Changes in the allocation of non-appointed meter reading have also been applied in this report year. Previous income recovered from other water companies relating to meter reading on their behalf had been applied to the (2011/12) billing line. From 2012/13 this adjustment is correctly made to the meter reading line in table A8.

Accounting Separation Asset Boundaries

To ensure costs are allocated to the correct business function primary company assets have been allocated to one of five business functions – ranging from water resources to retail as defined in the below diagram.



Allocating assets to the correct business function ensures associated activity and subsequent cost is also allocated to the correct business function. For example high lift pumps situated on a treatment site, regardless of their function (e.g. pumping into distribution), are allocated to the Water Treatment business function. Hence, subsequent activity and cost related to high lifts pumps (e.g. routine maintenance) on treatment sites are also allocated to this business function.

Exceptional Items

Exceptional items related wholly to FRS17 adjustments and total £12.177m for the 2012/13 period. FRS17 adjustments are agreed in conjunction with our auditors, and represent the removal of contributions and the addition of service charges.

Planned improvements

As stated in the above methodology, where possible, actual driver data is sought to allocate cross business function activity. However expert opinion currently exists within the production and leakage areas of the business. For the former this requires expert opinion on direct resource levels between abstraction and treatment, whilst for the latter an element of expert opinion is used to determine direct resourcing of network and customer leakage. Both areas of expert opinion will be removed by utilising a works management system that is currently being implemented, which will record activity (e.g. hours) and therefore provide a robust methodology for future allocation.

Retail Methodology

The overall methodology ethic is consistently applied to both wholesale and retail, however outlined below is methodology specific to the retail function.

Operating expenditure	Line allocation	(non) Household allocation	
A8.1	Customer services	The majority of expenditure allocated to this line is direct from associated cost centres (e.g. customer services, billing). The exception is activity undertaken by our distribution function that perform activities associated to both wholesale and retail. Timesheet analysis enables us to calculate hours spent to each function and is used to apportion cost.	Property numbers
A8.2	Debt management	Doubtful debt management is combination of direct and contractor	Actual debt analysis
A8.3	Doubtful debts	Represents a direct cost allocation.	Actual debt analysis
A8.4	Meter reading	The majority of meter reading is undertaken by an outsourced company and is therefore a direct expenditure allocation. A small internal team remains, and again relevant cost is apportioned to this line.	Metered property numbers
A8.5	Services to developers	A dedicated cost centre results in a direct cost allocation. Cost is largely recharged leaving a marginal expenditure posted to this line.	Non-household

Operating expenditure	Line allocation		(non) Household allocation
A8.6	Other operating expenditure	<p>Includes expenditure such as other direct costs, customer side leaks, scientific services, and general and support items.</p> <p>The majority of cost originates from support services such as HR, IT, and finance. Analysis of employee activity (using job description for example) has been undertaken to appropriately apportion cost between functions. Expenditure relating to the HR and IS helpdesk function have been allocated based on a headcount basis.</p> <p>Customer side leak repairs are undertaken by a mixture of direct and outsourced contractors. Leakage activity between wholesale and retail is currently apportioned using expert opinion, however planned improvements to our works management systems will enable activity in future periods to be apportioned using actual data.</p>	Property numbers
A8.7	Local authority rates	Central government rates are apportioned according to our MEAV allocations.	Property numbers
A8.8	Exceptional items		Property numbers
A8.9	Total Operating Expenditure (excluding 3rd party services)	Calculated sum of above lines	

Appendix B: First Economics Input Inflation

See separate document