December 2014

Setting price controls for 2015-20

Final price control determination notice: policy chapter A5 – household retail costs and revenues

OFWAT

Contents

Overview

This household retail control represents the first separate price control for customer-facing 'retail' services for households.

This document sets out our approach to assessing household retail costs in setting final determinations for the five years from 1 April 2015 and summarises the results of our review of companies' business plans and representations.

Our final determinations

We are allowing £4.0 billion of expenditure for household retail costs across the 18 water and wastewater companies for 2015-20. This number represents a 7% reduction from that proposed in the companies' business plans in December 2013, saving customers £0.3 billion between 2015 and 2020 because of our interventions and changes by the companies.

The table below summarises the estimated allowed revenues, excluding net margins, per company which arise from our household retail price controls. These allowances reflect our approach in allowing companies with costs above the average cost to serve (ACTS) three years to lower their costs to the ACTS during 2015-20.

Table A5.1 Estimated household retail revenue price control excluding net margins (£m, nominal)

Company	2015-16	2016-17	2017-18	2018-19	2019-20
Anglian Water	71.4	74.0	76.0	77.3	78.7
Dŵr Cymru	51.4	49.8	48.3	46.7	46.6
Northumbrian Water	51.3	52.1	52.8	53.3	53.9
Severn Trent Water	102.4	106.2	109.6	111.1	112.7
South West Water	28.1	28.5	28.8	28.9	29.3
Southern Water	58.5	57.5	53.3	49.2	50.5
Thames Water	149.3	150.5	153.9	155.6	160.0
United Utilities	120.3	115.4	108.8	103.4	105.4
Wessex Water	29.4	30.4	31.6	32.6	33.8

Company	2015-16	2016-17	2017-18	2018-19	2019-20
Yorkshire Water	51.8	53.2	54.9	56.7	58.6
Affinity Water	26.5	26.4	26.2	26.0	26.4
Bristol Water	9.6	10.1	10.5	11.0	11.6
Dee Valley Water	2.7	2.8	2.8	2.8	2.8
Portsmouth Water	4.2	4.3	4.4	4.5	4.5
Sembcorp Bournemouth Water	4.4	4.5	4.6	4.7	4.7
South East Water	18.7	19.2	19.7	20.1	20.7
South Staffordshire Water	13.9	14.2	14.7	15.5	15.8
Sutton & East Surrey Water	5.4	5.4	5.6	5.6	5.6

Our approach

This new household retail price control is a total revenue control with annual revenue adjustment factors to reflect differences between actual and expected customer numbers and meter penetration.

Our overall approach to assessing household retail costs and revenues has the following key features.

- **Average cost to serve (ACTS):** household customers are not able to choose their water or wastewater retailer. We have therefore used comparative regulation to derive cost allowances. Unlike the wholesale price control, which has used upper quartile performance to benchmark company efficiency, the household retail price control uses an average efficiency level to set the overall efficiency challenge. We have used an ACTS approach as this price review (PR14) is the first time we have set separate price controls for retail. We made clear in July 2013 in 'Setting price controls for 2015-20: final methodology and expectations for companies' business plans' (our 'final methodology statement') that we see this as part of an evolutionary approach that we hope will enable us to move to an efficient cost to serve over future price controls. In addition to using the ACTS, we have included a three-year glide-path whereby companies whose cost to serve (CTS) is above the ACTS have three years to reduce their CTS to the level of the ACTS. The net impact (that is, the impact net of any adjustments to companies' CTS) of the ACTS efficiency challenge is to reduce customer bills by £278 million.

- **Allocation of costs:** the ACTS approach requires a clear and consistent allocation of costs between the following areas in line with the guidance we have given to the companies: wholesale and retail; household and non-household retail; and metered and unmetered customers.

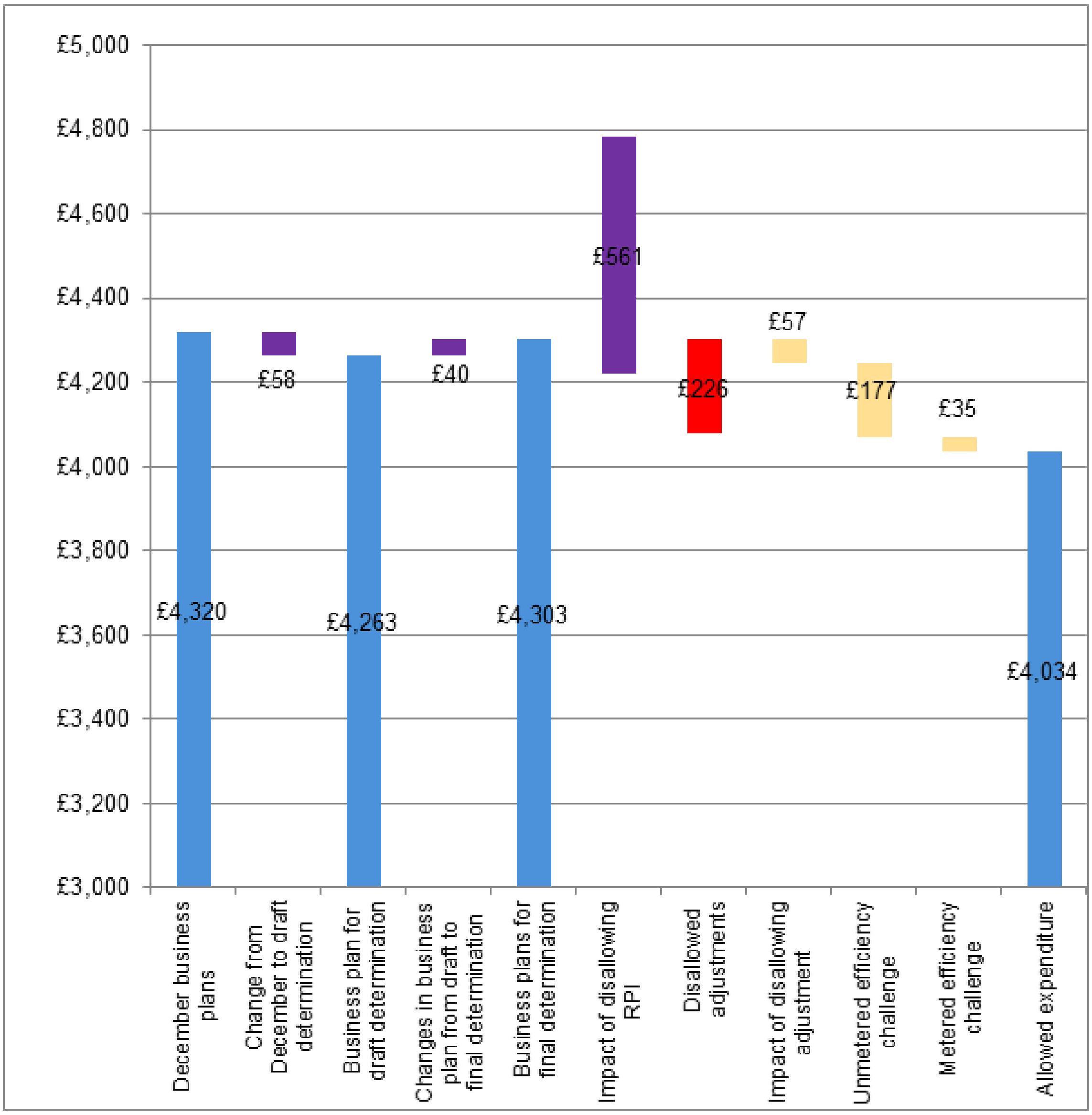
- **Price indexation:** unlike the wholesale price controls, the retail price controls are not automatically indexed to the Retail Prices Index (RPI) as we do not consider that automatic indexation is appropriate for the less asset and capital-intensive retail businesses. This is more consistent with the arrangements that would be expected elsewhere in the economy where retailers do not see prices automatically indexed to RPI. We have required companies to make an evidence-based case to allow additional revenue for future input price pressures in 2014-15 and beyond and have only allowed these changes to household retail upper quartile efficient companies. This is designed to be as consistent as is currently possible with what might happen in a competitive retail market. Our approach has saved customers a further £561 million compared to indexing retail household controls to RPI.

- **Special cost factors:** we have also considered company representations on any special cost factors where a company has claimed that the sector ACTS for 2013-14 is not representative of its particular costs for the period from 2015 onwards. We received company claims across the sector totalling £506 million. These claims mainly related to bad debt and input price pressure. We have accepted £280 million of these company claims. We partially or fully accepted bad debt claims from Dŵr Cymru, Northumbrian Water, South West Water and United Utilities and input price pressure claims from Wessex Water, Bristol Water, Portsmouth Water and Yorkshire Water. We have also accepted new cost claims from Northumbrian Water and Sembcorp Bournemouth Water.

- **Service level protection:** customers are legally protected by the Guaranteed Standards Scheme (GSS), which sets out minimum standards of service and compensation payments for customers who do not receive service of a sufficient standard. In addition, companies are incentivised to deliver high-quality service for customers through a mandated service incentive mechanism (SIM).

Figure A5.1 below shows the difference between the household retail revenues sought in companies' business plan submissions and the allowed household retail revenues.

Figure A5.1 Impact of our overall household retail efficiency challenge (£m, 2013-14 prices)



Note:

All figures taken from companies' plans/our assessments. Figures shown in 2013-14 prices for historic numbers, and nominal prices for allowed expenditure and include all 18 companies. RPI savings figure is an estimate based on our independent advice of forward projections of RPI applied to companies' plans minus input price pressure claims to avoid double counting – this overlaps the companies' June business plans column on the chart as some companies had included an allowance for inflation in their business plans. Disallowed ACTS adjustments include adjustments for pension deficits and new costs requested as adjustments. As rejecting a company affects the ACTS, and hence allowed revenues across the sector, the net impact of disallowed adjustments is shown separately. ACTS efficiency challenges are applied after removing ACTS adjustments.

Key changes since draft determinations

Since the draft determinations we have received representations from all water companies, the Consumer Council for Water (CCWater) and customer challenge groups (CCGs) on a number of household retail issues.

Following consideration of these representations and further analysis, we have made a number of key changes to our draft determinations proposals as set out below.

- The ACTS will be set using 2013-14 costs and price base, consistent with our final methodology statement.
- Wholesale controls will ensure full funding of legacy retail assets[1] at the end of the 2015-20 period; no change has been made to the calculation of the retail allowed revenues in relation to legacy depreciation.
- We have accepted the allocations of costs between retail and wholesale and between household and non-household retail for all companies.
- We have accepted reallocations between base household retail costs and the additional cost to serve metered customers for Dŵr Cymru, Thames Water, United Utilities Water, Affinity Water, South Staffordshire Water, and Sutton & East Surrey Water.
- We have partially accepted two claims from companies that argued that they needed additional revenue to cover higher bad debt costs (that is, the uncollected revenue owed to the company by customers who have not paid their bill). For Northumbrian Water, we have made a partial adjustment for doubtful debt driven by deprivation and for Dŵr Cymru, an adjustment for costs driven by deprivation related to debt management costs.
- We have allowed adjustments for input price pressure for household retail upper quartile efficient companies: Portsmouth Water, Wessex Water and Bristol Water.
- We have allowed material new costs for Northumbrian Water and Sembcorp Bournemouth Water and have introduced performance commitments (PCs) and outcome delivery incentives (ODIs) to ensure customers are protected.

[1] Legacy retail assets are existing assets within the company's asset base (that is, assets used by retail invested in before 1 April 2015).

- We have accepted a proposed shortfall from Thames Water related to their planned but un-delivered investment in a billing system in 2010-15; we have enhanced the ODIs proposed by Thames Water and United Utilities Water for their delivery of new retail investments in 2015-20.

While we have accepted all of the companies' allocations of costs for setting final determinations, we still have some concerns with the assurance provided over the allocations made by Dee Valley Water, South Staffordshire Water and Southern Water. As a result, we will take into consideration this lack of sufficient assurance in determining the company monitoring programme for these companies in the future.

There are a number of aspects of our approach that were challenged by representations to our draft determinations where, following consideration of these representations, our approach remains unchanged. These are discussed further in the relevant sections of this policy chapter, but are summarised below.

- We have retained an un-weighted average of companies' individual costs in our ACTS calculations (rather than a weighted average approach as suggested) to reflect more appropriately each individual company and their management.

- We continue to set an efficiency challenge for the additional cost to serve metered customers.

- Our approach to assessing input price pressure claims, including how we calculate the household retail upper quartile and the use of the household retail upper quartile test to assess input price pressure claims remains unchanged.

A number of companies have also provided company-specific evidence to argue for adjustments to the ACTS and new costs, consistent with our methodology, as part of their draft determinations representations. Our response to these representations is summarised in section A5.3.3. Further detail can be found in the relevant company-specific appendices.

A5.1. Introduction

In this policy chapter, we set out and explain the approach we have applied to the consideration of household retail costs and revenues in setting the household retail price control for the five years from 1 April 2015. We summarise the results of our review of companies' business plans and how we have responded to the issues raised by representations to our draft determinations.

This introduction:

- sets out the structure of this policy chapter; and
- describes the development and refinement of our approach to setting household retail price controls.

A5.1.1 Document structure

In section A5.1.2 below we describe the development and refinement of our approach to setting household retail price controls.

In the remainder of this policy chapter, we then explain how we have assessed efficient household retail costs and revenues.

- Section A5.2 outlines our methodology for assessing the allocation of costs between retail and wholesale activities and between household and non-household retail activities.

- Section A5.3 details our methodology for calculating allowed levels of retail household price control revenue.

- Section A5.4 discusses the mechanisms through which companies will be incentivised to improve overall levels of service during the next price control period.

Within each section, we outline:

- our proposed policy position as set out in our draft determinations;
- the key issues raised by the representations received to our draft determinations; and
- our final position.

Consistent with the final policy position set out in this chapter, our company-specific decisions for the household retail price control are set out in the relevant company-specific appendices in these final determinations.

Further detailed information on how we have used our assessment of relevant household retail costs for each company in setting its price controls is provided in the industry ACTS models (R5) published alongside our final determinations.

We explain how we have arrived at the outcomes we are requiring from companies in the period from 2015-20 in 'Policy chapter A2 – outcomes' (our 'outcomes policy chapter').

We discuss our methodology for establishing the net margin applicable to the household retail control in 'Policy chapter A7 – risk and reward' (the 'risk and reward policy chapter'). We also outline our approach to uncertainty mechanisms in the risk and reward policy chapter.

A5.1.2 Our approach

In July 2013, we modified companies' licences[2] to allow separate binding price controls for wholesale water and wastewater services and household and non-household retail services. The licences specify a maximum duration of five years for retail controls, but do not specify how we will regulate these retail activities. One reason for these changes was to facilitate the retail market reforms that form part of the wider industry reforms set out by the Water Act 2014. This marked a move away from the single price control framework in place at previous price reviews.

We set out the key features of our proposed approach to setting price controls for household retail services in July 2013 in our final methodology statement. These include:

- separate binding retail controls for each company – for household and non-household customers;
- using comparative regulation to derive cost allowances through an ACTS approach;

[2] 'Modification of the conditions of appointment (licences) of all water only and water and sewerage companies', Ofwat, July 2013.

- allowing potential adjustments to the ACTS for material, unavoidable cost differences in factors that are beyond efficient management control such as bad debt and input price pressure;
- that automatic RPI indexation of the price controls is not appropriate for the less asset-intensive retail businesses and companies must make a compelling, evidence-based case for uncontrollable input price pressures to be taken into account; and
- household controls will be total revenue controls with annual revenue adjustment factors to reflect differences between actual and expected customer numbers and levels of metering.

Companies first submitted their business plan proposals to us in December 2013. Our subsequent risk-based review (RBR) enabled us to provide feedback to companies and the revised business plans they submitted reflected a £58 million decrease in retail costs across the sector. This is due to the combined impact of companies removing cost adjustment claims and movements in cost allocations resulting in a reduction in costs being allocated to the household retail control in the revised business plans. The draft determination consultation processes have provided further opportunities for companies to evolve their approach and evidence in line with our final methodology statement – and companies' representations to our draft determinations increased their retail cost proposals by a further £40 million across the sector.

The approach that we have applied to household retail costs and revenues has also evolved through this process. Since we published our final methodology statement, we have issued a number of additional policy documents in order to explain our approach in more detail as shown in the table below.

Table A5.2 Additional policy documents published relevant to household retail costs and revenues

Document name	Publication date	Description/policy content
'Setting price controls for 2015-20 – pre-qualification decisions'	March 2014	• Overview of RBR test applied for retail cost allocation and ACTS adjustments and companies' performance against these tests. • Outlines 'do no harm principle'. • SIM direction of travel for 2015-20.

Document name	Publication date	Description/policy content
'2014 price review cost allocation for retail and wholesale price controls' (our 'guidance on cost allocation')	March 2014	Sets out a standard set of cost drivers for allocating 2013-14 costs between both the wholesale and retail and the household retail and non-household retail parts of the business.
'Setting price controls for 2015-20 – policy and information update'	April 2014	• Sets out equivalence of treatment for June and August draft determinations. • Outcome of the future SIM consultation we initiated in October 2013.
'2014 price review risk-based review – internal methodology' (our 'RBR internal methodology')	April 2014	• Sets out the principles applied when scoring the RBR tests and criteria. • Describes our detailed assessment methodology for each of our RBR tests.
'Service incentive mechanism (SIM) for 2015 onwards – conclusions' (our 'SIM conclusions paper')	April 2014	Summary of consultation responses received and resulting conclusions on the SIM for 2015 onwards.
17 April workshop slides (our 'retail workshop')	April 2014	Workshop slides on retail cost allocation and ACTS adjustments with more detailed responses to specific questions asked.
'Setting price controls for 2015-20, Draft price control determination notice: technical appendix'	April 2014	Our approach to household retail price controls including calculation of allowed retail household price control revenue as part of the draft determinations for enhanced companies.
Email to water companies: allocation of costs related to principal use of assets and associated recharges	June 2014	Worked examples of how companies should allocate the depreciation and recharges associated with assets wholly or partially used by retail in their revised business plans.

Document name	Publication date	Description/policy content
'Setting price controls for 2015-20, Draft price control determination notice: technical appendix A4 – household retail' (the 'household retail technical appendix to our August draft determinations')	August 2014	Restatement of our approach to household retail price controls including calculation of allowed retail household price control revenue as part of the August draft determinations.
'Correcting an error in the retail average cost to serve model' (our 'ACTS error correction note')	September 2014	Note documenting the error in the retail ACTS model and the impact of its correction.

Details of company-specific household retail interventions in our draft determinations can be found in the relevant company-specific appendices to our April, May and August draft determinations.

A5.2. Assessing the allocation of costs

It is important to allocate costs robustly and consistently between retail and wholesale activities, and between household and non-household retail activities to ensure that:

- comparative regulatory tools, such as the ACTS within the household retail control, apply fairly and consistently across companies; and
- there is a level playing field for companies and customers (meaning that they are treated fairly and consistently) when the retail market opens for non-household customers in England in April 2017.

We introduced accounting separation in 2009-10. Since then, we have consulted on and refined our proposed approach for allocating costs between different company activities based on feedback from stakeholders and market participants.

In May 2013, we published our ‘Targeted review of accounting separation cost allocations’, which considered whether companies’ accounting separation data were sufficiently robust for us to set retail price controls at PR14.

We set out our guidance on cost allocation for the purposes of price setting in the July 2013 business plan guidance, ahead of company submissions in December 2013.

We updated our guidance on cost allocation in March 2014 following our review of companies’ December 2013 business plan proposals. We did this to ensure that costs are allocated in a consistent and cost-reflective manner across all companies.

This guidance stated that companies should directly attribute their costs between retail and wholesale, and between household and non-household retail where possible. Where this was not possible, we prescribed a consistent set of cost drivers that companies must use to allocate their costs between retail and wholesale, and between household and non-household retail.

This guidance was further clarified in the specific area of ‘investigatory visits/first visit to the customer’ by our retail workshop on 17 April 2014 and in the area of capital costs and depreciation by the correspondence that we sent to all companies in early June.

A5.2.1 Our draft determinations

We summarised the approach we used to assess companies' allocations of costs in the relevant draft determination documents, including in section A4.2.1 of the household retail technical appendix to our August draft determinations.

In assessing companies' compliance with our guidance we reviewed the cost allocation submissions of the two enhanced companies and the two early draft determination companies between March and May 2014. We then required these companies to provide us with an additional cost allocation submission in June 2014. The purpose of this additional submission was to:

- update their 2013-14 forecast costs in their December 2013 business plan for actual 2013-14 costs;
- provide evidence that their submissions reconciled to the 2013-14 regulatory accounts; and
- address any issues that we identified in producing their draft determinations.

We then reviewed the cost allocation submissions of all 18 companies in June 2014. We identified a number of instances where:

- companies had potentially material cost misallocations (that is, misallocations amounting to greater than 2% of costs according to the thresholds set out in our RBR internal methodology);
- where their assurance over cost allocation was insufficient (that is, where it was not undertaken, was not provided to us or was inadequate in scope); or
- where there were other problems with the information provided (for example, where the company had not provided us with its detailed cost allocation tables or reconciliations between its June and December submission or its June submission and the 2013-14 regulatory accounts).

We issued queries to companies to address gaps in the information they had submitted and, where necessary, to clarify companies' cost allocations. Where query responses from companies were either insufficient or unconvincing we examined the materiality of the potential misallocation.

In the case of the 14 companies receiving a draft determination in August, where we did not have the information to decide whether the issue was material, we used company information and flagged in their draft determination the misallocation issues to be resolved. Where the issue was material and we had sufficient information to perform the reallocation ourselves, we intervened in companies' plans and corrected allocations directly.

We highlighted company-specific issues in the relevant company-specific appendix to our draft determinations for the 14 companies receiving a draft determination in August. We also wrote to nine companies on 30 July 2014 ('PR14 June business plan – concerns regarding quality of data and assurance') highlighting the shortcomings in their cost allocations so that they would have sufficient time to address these shortcomings and submit representations by 3 October 2014.

Areas where company business plans and query responses fell short of the requirements outlined by us were typically:

- the existence, availability, transparency and scope of the assurance undertaken by companies;
- the allocation of doubtful debt costs between household and non-household customers, where a number of companies had allocated these costs using debt write-offs or movement in outstanding debt as a proxy; and
- the allocation of first visit to the customer/investigatory visits between retail and wholesale, where a number of companies had allocated these costs wholly to retail.

A5.2.2 Issues raised by representations

In their representations on their draft determinations, companies made comments regarding the application of our general methodology for the retail household control in certain areas, which are discussed further below.

- Allocation of doubtful debts.
- Price base of company submissions.
- Allocation of costs between base costs and the additional cost to serve metered customers.

A5.2.2.1 Allocation of doubtful debts

In their revised business plans, six companies (Dŵr Cymru, Thames Water, Affinity Water, Portsmouth Water, South Staffordshire Water, and Sutton & East Surrey Water) allocated all or part of their doubtful debts charge using cost drivers that were not in line with our guidance (bad debt write-offs or the movement in outstanding debt). Our guidance stated that doubtful debts should be directly attributed between household and non-household on a customer-specific basis.

We accepted these companies' doubtful debt allocations as a suitable proxy for direct attribution at draft determinations, but requested that they undertake a reasonable cross-check (by comparing an allocation based on write-offs against an allocation based on the movement in outstanding debt) for the information we should use for our final determinations.

A5.2.2.2 Price base of company submissions

Companies were required to submit their June business plan retail tables and, where applicable, their retail tables submitted in October as part of their representations, in 2012-13 prices. This requirement retained consistency with our requirements for companies' December 2013 business plans, as set out in our July 2013 business plan guidance. In the company representations on draft determinations, we received tables in an incorrect price base from four companies (Northumbrian Water, Thames Water, United Utilities and Wessex Water).

A5.2.2.3 Allocation of costs between base costs and the additional cost to serve metered customers

We received representations from seven companies on the allocation of household retail costs between base costs and the additional cost to serve metered customers. Of these:

- five representations included reallocations (relative to their previous business plan submissions) of metered costs in all years;
- one reallocated forecasts of efficiency improvements; and
- one challenged our methodology, but did not provide updated allocations.

A5.2.3 Our final determinations

Our approach to the allocation of costs for the final determinations remains largely unchanged from that applied for our draft determinations, and remains consistent with the guidance we have issued. However, we have accepted representations in the following areas.

- We have accepted that doubtful debt allocation can be based on a proxy of write-offs for five companies for the purpose of setting price controls, versus the direct attribution we expected in our guidance.

- We have accepted the reallocations submitted by six companies as part of their draft determinations representations with respect to the allocation of costs between base costs and the additional cost to serve metered customers.

We discuss our response to the draft determination representations received, and how we have adjusted our final position further below.

A5.2.3.1 Allocation of doubtful debts

We have accepted the allocation of doubtful debt costs included in all the companies' representations. We have accepted the cost allocations based on debt write offs for five companies (Sutton & East Surrey Water, South Staffordshire Water, Dŵr Cymru, Affinity Water and Thames Water). We agree with these companies that this is a more suitable proxy cost driver for the allocation of doubtful debts than the movement in outstanding debt, in the absence of direct attribution.

However, we note that from 2015-16 all companies will need to have the systems in place to be able to directly attribute their annual doubtful debt charge between household and non-household on a customer-type specific basis. We will confirm this in the regulatory accounting guidelines for 2015-16, which we will publish early in 2015 following consideration of responses to other matters covered in our recent consultation on regulatory reporting.

A5.2.3.2 Price base of company submissions

We have rebased all company tables that were submitted in 2013-14 prices into 2012-13 prices. This was to ensure we use a consistent set of inputs for all companies relevant to both the wholesale and retail controls in the appointed businesses for our modelling.

In order then to set the household retail price controls in nominal prices using actual audited 2013-14 retail costs, as discussed in section A.5.3.3 below, we then rebase all inputs within the specific household retail control model to 2013-14 prices. We have been able to do this for our final determinations following clarification of the allocations of relevant actual 2013-14 costs concerned during the draft determination process, as set out above.

We have considered the price base of allowed input price pressure adjustments separately. To ensure that the adjustments for input price pressure only account for inflation after 2013-14, we subtracted the value of the adjustment included in the companies' business plans in 2013-14 from the adjustment claim for each subsequent year. However, all input price pressure adjustments that we are allowing have a zero value in 2013-14. This implies that all of the allowed adjustments only cover inflation from a 2013-14 price base. The allowed adjustments therefore have the same value in nominal terms as was included in companies' business plans.

A5.2.3.3 Allocation of costs between base costs and the additional cost to serve metered customers

Our approach to cost allocation for retail has evolved over the course of PR14. This reflects the fact that, while giving companies' ownership of their cost allocations is important for developing the approach to cost allocation, when we implement a comparative efficiency analysis approach to setting price controls, we need to have data that is consistently defined across all companies.

However, our cost allocation guidance is relatively less prescriptive for the allocation between base costs and the additional cost to serve metered customers than it is for the allocation of costs between wholesale/retail and household/non-household. Companies' allocation of these costs was therefore less consistent in this area than for other cost allocation areas.

On balance, we consider that the reallocated costs provided by companies in their representations result in a more consistent view of the allocation of costs between metering and non-metering related activities for the sector. Using these allocations will therefore result in more appropriately targeted efficiency challenges for companies. We have therefore accepted reallocations in this area for all six companies.

In addition, we discussed at a company workshop the development of the guidance on the allocation of these costs for ongoing reporting purposes in the next price control period as part of our ongoing work on the regulatory accounting guidelines (RAGs).

A5.3. Calculating retail household price control revenue

Our approach to calculating retail household price control revenue seeks to protect customers by:

- challenging relatively inefficient companies to reduce their costs; and
- avoiding passing onto customers in bill increases unnecessary or poorly justified cost increases proposed by companies.

We have done this by establishing the ACTS for the sector and challenging companies to achieve a CTS at or below this level. For companies where their CTS is above the ACTS, we have allowed a three-year glide-path for the company's costs to reach the ACTS within the next control period in line with our final methodology statement. For companies whose costs are below the ACTS, their allowed retail revenue is based upon their own forecast CTS.

We have used an ACTS approach as PR14 is the first time we have set separate price controls for retail. But we made clear in July 2013 in our final methodology statement that we see this as part of an evolutionary approach that we hope will enable us to move to an efficient cost to serve over future price controls.

Any allowed adjustments, for example, to reflect material, unavoidable cost differences in bad debt driven by deprivation that are beyond efficient management control, are added onto the allowed revenue per customer in each year after the efficiency challenge has been applied.

Also, unlike the wholesale price controls, the retail price controls are not automatically indexed to RPI as we do not consider that automatic indexation is appropriate for the less asset and capital-intensive retail businesses. This is more consistent with the arrangements you would expect elsewhere in the economy where retailers do not see prices automatically indexed to RPI. We have required companies to make an evidence-based case for additional revenue for future price pressures in 2014-15 and beyond and have only allowed these changes to household retail upper quartile efficient companies. Furthermore, for those upper quartile companies that have provided sufficient and convincing evidence that they are facing input price pressure costs, we have only allowed for a reasonable amount of input cost pressure based on a bottom up assessment of the input cost pressures that they are likely to face in their retail businesses, rather than simply allowing RPI. This is designed to be as consistent as is currently possible with what might happen in a competitive retail market. This has brought further downward pressure on customers' bills.

Our overall approach to calculating retail household price control revenue remained unchanged throughout our draft determinations and has been used for these final determinations; it is outlined further in annex 1.

A5.3.1 Our draft determinations

We provided details of our industry-wide methodology for calculating retail household price control revenue in the relevant draft determination documents, including in section A4.2.2 of the household retail technical appendix to our August draft determinations. This built upon the information already published in our final methodology statement. As set out above we have retained this approach for our final determinations and it is restated in annex 1.

In this section, we therefore focus on areas where we have intervened in companies' specific plans under the following headings.

- Adjustments to the ACTS.
- New costs.
- Base year costs.

While our interventions are company specific, many companies submitted claims in the same areas and therefore our overall approach to interventions is discussed here. Full details of interventions for specific companies are provided in the relevant company-specific appendices.

A5.3.1.1 Adjustments to the ACTS

Our final methodology statement confirmed that companies could seek, in their business plans, additional adjustments to their ACTS as the basis for their household retail price controls if they were able to demonstrate with sufficient and convincing evidence that the costs:

- were material to the company;
- were driven by factors beyond efficient management control (having taken all the possible steps to control those costs); and
- impacted the company in a materially different way to other companies.

As part of our draft determinations, we considered a number of requests for adjustments to the ACTS with respect to:

- **levels of bad debt**, such as bill size, levels of local deprivation or impacts of the Thames Tideway Tunnel (TTT); or
- **input price pressure** (automatic RPI indexation is not applied to the household retail control).

Companies used a range of analytical approaches to make the case for an adjustment. In the majority of cases, we did not accept these requests in our draft determinations as the evidence provided was insufficient and/or unconvincing in relation to the criteria we set out for adjustments to the ACTS. However:

- three companies received an adjustment for factors affecting their levels of bad debt (South West Water, Dŵr Cymru and United Utilities); and
- one company received an adjustment for input price pressures (Yorkshire Water).

The costs included in bad debt adjustments that we disallowed were added back into companies' base CTS for the calculation of the ACTS. The only exception to this is where part of a bad debt claim related to the indexation of bad debt costs – these costs, which are akin to input price pressure claims, were not added back on to base costs.

A5.3.1.2 New costs

We allowed companies to make a case in their business plans for modifying their CTS to account for forecast 'new costs' if they considered that 2013-14 costs were not representative of the costs to be remunerated in price controls from 2015. We noted that this ensures we do not assess cost increases driven solely by growth in customer numbers and new connections or the roll out of metering.

To calculate new costs we accounted for growth in customer numbers and increased levels of metering among customers. If new costs were found to be material, companies were required to demonstrate with sufficient and convincing evidence that:

- the need for the cost is justified;
- the new costs reflect the most cost-beneficial solution to address the need;
- the cost estimates are robust; and
- customers are protected.

In general, claims for new retail costs needed to satisfy all of these elements to be accepted, but in some cases we used our regulatory judgement. This framework is consistent with how the wholesale control treats new costs.

We also made clear that, if costs are immaterial, or material but well justified, then we would not change forecast costs. However, if new costs are material and are not justified, we would reduce the company's base retail operating expenditure (opex) forecasts for 2015-20 to disallow new costs above the materiality threshold.

In this regard, a modification is made to the company's CTS in 2013-14 for the purpose of calculating the ACTS.

Our materiality threshold for new costs was set at 2.25% of household retail opex plus depreciation. This is consistent with the materiality threshold for other household retail adjustments. This was set to conform to the reasonable expectations of companies and be broadly consistent with the 0.5% totex materiality threshold used in the wholesale controls.

We have allowed new costs up to the materiality threshold for any company proposing new costs. We consider this to be a proportionate approach that has allowed companies to include limited, immaterial cost increases in their business plans without the need for a full and detailed review of the evidence of all future immaterial new costs.

Allowing cost increases up to the materiality threshold for those companies that have material new costs but have not met the evidence bar required provides consistency of treatment between these companies and companies with new costs below the materiality threshold. This is a proportionate approach as the 'allowed' new costs feed through into the calculation of the ACTS, and so new costs will be subject to an efficiency challenge if they are inefficient even if they pass the evidential gates.

No interventions were made where new cost increases were not material and not related to previously-funded investments, or where costs were falling.

In our draft determinations:

- we concluded that one company (Anglian Water) had provided sufficient evidence to justify material new costs in its household retail control;
- three other companies (United Utilities, Severn Trent Water and Thames Water) also had new cost allowances included in their proposed price controls but we highlighted areas where we required further evidence to validate these proposals ahead of final determinations – we accepted these new costs for

the draft determinations on the condition that further supporting evidence was provided; and

- all other companies' business plan claims for material increases in their household retail costs were adjusted down to the materiality threshold, as the evidence was insufficient to support the claims for material new costs to be included in price controls.

A5.3.1.3 Base year costs

In the case of Southern Water, we also intervened to use the company's costs per customer for 2012-13 instead of those provided for 2013-14 as there were a number of one-off costs in 2013-14 that did not appear to be representative of ongoing costs relevant for setting price controls in the 2015-20 period. This issue is addressed in Southern Water's company-specific appendix.

A5.3.2 Issues raised by representations

We received a number of representations on industry-wide issues of methodology.

- An error in the ACTS model.
- Calculating the ACTS using an unweighted average.
- The price base for setting allowed revenues.
- Our treatment of legacy depreciation.
- Our approach to defining materiality.
- Our approach to assessing if companies are impacted in a materially different way by input price pressures.
- The calculation of the efficiency challenge for the additional cost to serve metered customers.

We also received a number of representations in relation to the following company-specific issues, which are discussed further in the relevant company-specific appendices.

- Adjustments to the ACTS.
- New costs.
- Base year costs.

A5.3.2.1 Error in the ACTS model

Respondents to our August draft determinations identified an error in the 'New costs and adjustments' sheet of the 'Retail average cost to serve' model. Because of this error, the economies of scope factor (1.3) had been applied twice to the number of unmetered dual service customers. This resulted in reduced allowed new costs, which had the knock on effect of reducing the unmetered ACTS and the resulting allowed revenues for some companies.

A5.3.2.2 Calculation of the ACTS using an unweighted average

Dŵr Cymru considered that our methodology for calculating the ACTS was unfair to larger water and sewerage companies (WaSCs), because smaller water only companies (WoCs) tend to serve low cost, affluent areas and we use an unweighted average to calculate the ACTS – that is, we give equal weight to the CTS of all companies. Dŵr Cymru argued that this reduced the ACTS to the detriment of larger companies.

A5.3.2.3 Price base for setting allowed revenues

We received representations from eight companies on our use of cost data in 2012-13 prices to set the draft determinations for household retail. The representations argued that we should use 2013-14 prices as the basis for setting these controls as, unlike wholesale controls, retail controls are not linked to RPI.

A5.3.2.4 Legacy depreciation

Four companies raised concerns in their draft determination representations about our treatment of depreciation for assets used by retail which were invested in before 1 April 2015 (‘legacy depreciation’).

Thames Water asked us to reconsider our guidance on the allocation of depreciation on a principal use basis. They argued that if tables W3 and S3 are amended to reflect allocations on a principal use basis, the wholesale price control would be underfunded.

In addition, two companies suggested that companies with above average levels of legacy depreciation are treated unfairly by the ACTS calculation.

The full value of their legacy depreciation net of recharges is subtracted from their allowed revenues in retail. However, because the ACTS, which is used to set their allowed revenues, includes only the average level of legacy depreciation, they argue that they are underfunded by the difference between the average and their actual legacy depreciation.

South West Water made a representation about the presentation of retail costs and revenues in the regulatory accounts. They argue that because legacy depreciation costs will still appear in reported retail costs, but the revenue will not appear in retail (as it is funded in the wholesale controls through the run off of the RCV) the household retail business will appear unprofitable in the regulatory accounts.

A5.3.2.5 Materiality

We received one representation (from Thames Water) objecting to our approach to materiality. The representation argued that 2.25% of household retail operating expenditure plus depreciation represents a relatively high hurdle.

A5.3.2.6 Assessing if companies are impacted in a materially different way by input price pressures

Companies that requested adjustments to the ACTS for input price pressure were required to submit evidence on their relative efficiency to demonstrate that they are efficient compared both to companies within and beyond the water sector providing relevant services. This is needed in order to demonstrate that companies are affected in a materially different way to the average company by input price pressure.

We required that companies provided comparative benchmarking evidence that demonstrated their efficiency relative to service providers beyond the water sector. We also required companies to show their existing relevant costs are demonstrably efficient relative to other companies in the sector.

To analyse relative efficiency within the sector, we assessed whether the unmetered (base) costs were upper quartile efficient for unmetered (base) costs within the household retail control, aligned with our approach to assessing cost claims for the wholesale controls. We calculated this household retail upper quartile position using a method consistent with the approach used in the wholesale controls, by comparing ‘efficiency scores’ equal to companies’ unmetered CTS divided by the industry ACTS for unmetered costs.

Wessex Water made a representation arguing that we should assess whether companies are upper quartile efficient using a company-specific value for the economies of scope, instead of the relevant average value of 1.3 to calculate the unmetered CTS. Doing so would affect our assessment of the relative efficiency of WaSCs for the purpose of assessing whether to allow input price pressure adjustments.

Thames Water made a representation asking us to reconsider our approach to input price pressure. Thames Water states that our view that allowing input price pressure for upper quartile efficient companies that meet the evidential requirements recognises that input price pressure is unavoidable for these companies. They believe that, by extension, these price pressures must therefore exist for all companies. We recognise that all companies will face input price pressures, but we consider that the impact on companies that are not household retail upper quartile efficient can be mitigated through increasing efficiency. Therefore, efficient companies are affected by input price pressures in a materially different way to inefficient companies given the limited scope to mitigate their impact through efficiency savings.

A5.3.2.7 Calculation of the efficiency challenge for the additional cost to serve metered customers

Two companies made representations on our approach to setting the efficiency challenge for the additional cost to serve metered customers.

Dŵr Cymru argued that the partitioning of costs between unmetered costs and the additional cost to serve metered customers in building up the ACTS inputs to the household retail controls resulted in the company being set an efficiency target beyond the ACTS.

Wessex Water made a representation against setting any efficiency challenge on the additional cost to serve metered customers. The company argued that the efficiency challenge we proposed in this area was based on data which was insufficiently robust, due to the variances in the way that costs have been allocated between base costs and the additional cost to serve metered customers across companies. Wessex Water's representation proposed that we instead impose no efficiency challenge for the additional cost to serve metered customers.

A5.3.3 Our final determinations

Our overall approach to calculating retail household price control revenue has remained unchanged for our final determinations and is outlined further in annex 1.

Following consideration of the representations summarised above, we have made the following adjustments to the application of our approach in the final determinations.

- We have corrected the error identified in the ACTS model. We published further details of the correction in our 'ACTS error correction note', as well as our corrected models, in September 2014. These corrected models have been applied for our final determinations.

- Following the cost adjustments and reallocations for final determinations, we have now set the retail controls based on companies' resulting actual allocated 2013-14 costs, consistent with our final methodology statement (rather than deflating these to the 2012-13 price base on which business plan submissions were required).

- The wholesale controls will be adjusted to ensure full funding of legacy retail assets in line with our final methodology statement. We address the issues raised by representations further in the sections below.

A5.3.3.1 Calculation of the ACTS using an unweighted average

We have made no change to our methodology for calculating the ACTS. We considered companies' views on how to account for the differences between WaSCs and WoCs in finalising our final methodology statement. We concluded that an unweighted average was the best approach as it more appropriately reflects each individual company in the ACTS. This approach avoids the average being significantly influenced by a small number of large companies that may not be the most efficient retailers and helps our efficiency challenge to focus on management practises (because each company and its management represent a single data point in the calculation).

A5.3.3.2 Price base for setting allowed revenues

In our final methodology statement we stated that companies should base their business plans on their actual 2012-13 retail costs as per their regulatory accounts, but that we would set the retail controls based on 2013-14 data, as actual 2013-14 cost information would be available when we set the controls.

In the draft determinations we set the retail controls using companies' available 2013-14 costs, but expressed in 2012-13 prices by deflating by the difference between 2012-13 and 2013-14 RPI. This helped provide a degree of comparison between the retail and wholesale controls within the appointee's regulated activities, as the wholesale controls were also presented in 2012-13 prices.

We agree with the representations that deflating companies' costs in this way would not, however, be appropriate for final determinations. We have therefore set the retail household controls based on companies' non-deflated actual allocated 2013-14 costs (prior to any subsequent adjustments).

A5.3.3.3 Legacy depreciation

We have not changed our approach to funding legacy depreciation for household retail assets for these final determinations – the funding for these costs will be provided by the wholesale controls in line with our final methodology statement, net of any recharges funded by the retail controls.

The depreciation included in the final determination wholesale cost thresholds is calculated using historic cost data, for which depreciation was not allocated on a principal use basis. The companies' view of these cost thresholds should be on the same basis, as our guidance for tables W3 and S3 has not been changed to require allocation of depreciation on a principal use basis. Therefore final determinations for wholesale should not be affected by the allocation of legacy depreciation on a principal use basis.

However, to ensure that companies are fully funded for legacy depreciation, the wholesale costs for the true up of cash totex menus in the next price review would need to include the appropriate funding for legacy depreciation. We will take this into account when setting out the rules for calculating the totex menu true up. This will be addressed in the PR14 reconciliation document that will be published early in 2015. The value of importance that is affected by this is the under or outperformance on the menu that the company will receive at the time the true up is made.

We have not made any changes to our methodology in relation to the treatment of companies with above average legacy depreciation. We do not consider that there is a methodological issue with our approach. When the methodology set out above is followed, depreciation of legacy retail assets will be fully funded in the wholesale controls.

Subtracting only the average legacy depreciation from the allowed household retail revenues for companies with above average legacy depreciation would result in part of that depreciation being funded in the household retail price control. Although depreciation of legacy retail assets is part of total household retail expenditure, it is being fully funded in the wholesale price control. It should therefore not be part funded in the retail price control. To do so would mean that customers would pay twice for the same depreciation.

Companies have always had a choice about the balance between operating expenditure (opex) and capital expenditure (capex) needed to run their business, and about when they make any capex investments. We have designed the household retail methodology to minimise the difference in funding between opex and capex solutions (for example, contracting out or owning and operating systems), following the same principle as has resulted in the total expenditure (totex) approach for wholesale, by including both opex and depreciation as allowed costs in the ACTS.

Similarly, we treat depreciation of legacy assets and new assets equally by including both in the ACTS to avoid distortions that might otherwise arise from the timings of companies' different investment decisions. The only difference is that the depreciation of legacy retail assets is funded in the wholesale control as all the legacy regulatory capital value (RCV) is remunerated through the wholesale controls, and the depreciation of new retail assets is funded in the retail control. It would therefore be inconsistent with our overall approach to alter our methodology so that companies with higher levels of legacy depreciation relative to new depreciation for retail assets ended up with higher overall revenues simply because of when the investment was made and hence which control is funding it.

We will address South West Water's concern that household retail will appear unprofitable in the regulatory accounts by requiring the companies to include a memorandum line in the regulatory accounts to show the full income for retail inclusive of the legacy depreciation funded in wholesale.

A5.3.3.4 Materiality

Our materiality threshold for new costs was set at 2.25% of household retail operating expenditure plus depreciation. We consider that this approach to materiality is proportionate and reasonable. It was set to conform to the reasonable expectations of companies and be broadly consistent with the 0.5% totex materiality threshold used in the wholesale controls, when considered at the appointee level. We have therefore made no change to our definition of materiality.

A5.3.3.5 Assessing if companies are impacted in a materially different way by input price pressures

As stated above, we assessed companies that requested adjustments to the ACTS for input price pressure to establish if they were upper quartile efficient in household retail compared to other companies within the water sector. We also considered their efficiency compared to companies beyond the water sector. This was necessary to establish that companies are affected in a materially different way to the average company by input price pressure.

We have made no change to our approach to assessing whether companies are already efficient relative to other companies in the sector providing retail services. We consider that our approach to assessing household retail upper quartile efficiency for this purpose is appropriate and consistent.

Given this, the same approach to economies of scope should be used to calculate both the ACTS and the household retail upper quartile estimates of costs within the sector, as both calculations use the same data to analyse and benchmark the relative efficiency of companies in the sector in this area of service provision.

No companies have provided an alternative approach to calculating an 'economies of scope' factor which we consider is more robust than our approach which results in a factor of 1.3 and there is broad acceptance that there are significant scope economies associated with the provision of two services. We therefore consider that this industry-wide figure should also be used for the calculation of the household retail upper quartile, for consistency.

While we agree with Thames Water that all companies potentially face input price pressures, we disagree that allowing household retail upper quartile efficient companies an allowance for these costs but not allowing them for other companies is inconsistent. We have required companies to demonstrate that they are efficient compared to companies within and beyond the water sector in order to be allowed an input price pressure adjustment as this demonstrates that they are affected by input price pressure in a materially different way to other companies and that they are less likely to be able to absorb those cost pressures through further efficiency improvements. So while we recognise that all companies will face input price pressures, we consider that the impact on companies that are not household retail upper quartile efficient is avoidable – through increasing efficiency.

A5.3.3.6 Calculation of the efficiency challenge for the additional cost to serve metered customers

We have made no change to our basic approach to calculating the efficiency challenge for the additional cost to serve metered customers.

We agreed with the industry view – provided in response to our 2013 methodology consultations – that automatic adjustments to allowed retail household revenues for metering levels should be made as the level of meter penetration varies significantly across the sector. To not treat metering separately would treat companies with higher meter penetration and hence higher associated costs unfairly.

We therefore set out in our final methodology statement that we would base our revenue allowances for metering costs on the lower of average or companies' actual additional costs to serve metered customers.

Our methodology allows efficiency comparisons at a more disaggregated level, which will give a more accurate measure of the relative efficiency of each company. This is because, by using more disaggregated data, information about the relative efficiency of companies at providing different aspects of customer service is not lost through aggregation.

Although we acknowledge the representations that companies' business plan allocations of costs in this area were variable, following our draft determinations we have received and accepted a number of further representations from companies in relation to the allocation of these relevant costs between base costs and the additional cost to serve metered customers. As a result of these further refinements and adjustments, we consider that the allocation of these costs is now more robust than the business plan allocations that we used to set the draft determinations.

We therefore consider that our existing approach, now applied using the latest available updated information, is sufficiently robust that we should continue to use it to set an efficiency challenge for the additional cost to serve metered customers in line with our methodology. Doing so will result in a better outcome for customers than setting no efficiency challenge for the retail costs of metering.

In addition, we will update the guidance on the allocation of these costs for ongoing reporting purposes in the next price control period as part of our ongoing work on the RAGs.

A5.3.3.7 Adjustments to the ACTS

Our final position on companies' specific requested adjustments to the ACTS is summarised below.

- **Bad debt adjustments:** we continue to allow an adjustment for South West Water and United Utilities (consistent with our draft determinations). We have also allowed an adjustment for Northumbrian Water in response to a new claim they raised in their representations, and we have increased the adjustment from the level allowed in our draft determinations for Dŵr Cymru in response to additional evidence they submitted in their representations.

- **Input price pressure adjustments:** we have continued to allow an adjustment for Yorkshire Water (consistent with our draft determinations). We have also allowed adjustments for Wessex Water, Bristol Water and Portsmouth Water in response to additional evidence they submitted in their representations demonstrating that they were affected in a materially different way because they have limited scope to absorb input price pressure through further efficiency gains. They have provided further evidence that they are efficient compared to companies outside the water sector and they are upper quartile efficient within the water sector. When we have made adjustments, we have done this on the basis of bottom up calculations from inflation rates for different cost areas, as opposed to RPI indexation.

Further information on our assessment of the individual adjustments concerned can be found in the relevant company-specific appendices.

A5.3.3.8 New costs

Following the corrections made to the ACTS model set out above, only two companies (Northumbrian Water and Sembcorp Bournemouth Water) provided claims for new costs which were material according to our materiality threshold. Both of these companies have provided us with sufficiently convincing evidence to support these new costs that we have allowed the claims in full, although, as stated in section A2.4.3.2 of the outcomes policy chapter we have introduced incentives related to the associated planned investments to safeguard customers. These incentives penalise companies for late or non-delivery of approved investments.

We have also accepted the new costs for the two companies (Thames Water and United Utilities) with planned billing system investments that also included billing system investments in their PR09 business plans. We have accepted proposed outcomes relating to these investments and a proposed shortfall for Thames Water related to this.

Further information on our assessment of companies’ new costs can be found in the company-specific appendices.

A5.4. Overall levels of service

As well as protecting customers through limits on the prices they pay, we also need to ensure that companies are incentivised to maintain household retail service levels and improve them in line with customers' expectations through a mandated GSS and SIM.

A5.4.1 Our draft determinations

Customers are protected by the GSS, which sets out minimum standards of service and compensation payments for customers who do not receive service of a sufficient standard.

In addition, the existing SIM provides incentives for companies to improve their retail services to customers. As a comparative incentive mechanism, SIM works to encourage the best companies to maintain good service and the poorer performers to improve. The overall effect has been to improve industry customer service levels considerably in the period 2010-15. For further information, see 'Policy chapter A4 – reconciling 2010-15 performance'.

We propose to build on the success of the SIM to date by adapting the existing mechanism for the five years from 1 April 2015. We set out our proposals for this incentive mechanism in our SIM conclusions paper in April 2014, where we explained how we have adapted the SIM for the period from 2015 onwards. In our draft determination proposals, including in section A4.2.3 of the household retail technical appendix to our August draft determinations, we confirmed our intention that all household customers would continue to receive additional service level protection through the industry-wide SIM.

In addition to these industry-wide incentives, Thames Water also proposed its own household retail outcome performance commitments (PCs) and outcome delivery incentives (ODIs), as outlined in its company-specific appendix in our draft determinations. Our general policy approach to outcomes is discussed in the outcomes policy chapter.

A5.4.2 Issues raised by representations

Thames Water made a representation on the changes we proposed to its proposed PCs and ODIs in its draft determination.

In its representation, United Utilities also proposed an outcome and associated PC and ODI for the delivery of its billing system investment.

A5.4.3 Our final determinations

As well as the outcomes that companies had included in their business plans, we have also included PCs and ODIs for the two companies with allowances for material new costs (Northumbrian Water and Sembcorp Bournemouth Water) in their final determinations. This is to protect their customers from the risk of paying for investments that are not then delivered.

We explain how we have arrived at the outcomes we are requiring from companies in the period from 2015-20 in the outcomes policy chapter.

Annex 1: Calculating retail household price control revenue

Our final approach to calculating the revenue controls for household retail services is consistent with our final methodology statement and the approach applied to our draft determinations and is outlined in detail below.

First we calculate companies' own costs to serve (CTS) in 2013-14 per unique customer for unmetered (unmeasured) customers. For this purpose, we exclude metering costs, as these are not relevant for the CTS of unmetered customers. We may also exclude some other company-specific adjustments from a given company's CTS, if it has provided sufficient and convincing evidence through its business planning submissions that these costs should be excluded.

We also assess whether the company has provided sufficient and convincing evidence to support the inclusion of additional new costs (including depreciation for new assets) in its calculated CTS. This is because the 2013-14 costs will not necessarily be representative of efficient costs to serve in the 2015-20 period. We isolate the company's new costs by taking into account increases in customer numbers and metering. This ensures that we do not assess material cost increases driven solely by growth in customer numbers and new connections or the roll out of metering, as the form of control already automatically allows additional revenues for such growth.

If costs are immaterial, or material but well justified (see below), then we do not change the company's own forecast of costs. If new costs are material but are not justified, we reduce the company's base retail opex forecasts for 2015-20 to disallow planned new costs above the materiality threshold from the price controls. A modification is therefore made to the company's CTS in 2013-14 for the purpose of calculating the ACTS.

The definition of 'unique customers' for the purpose of deriving each company's CTS for unmetered customers includes a specific industry adjustment to account for the economies of scope benefits associated with providing both water and wastewater household retail services rather than separate water and wastewater retail services. This adjustment factor is set at 1.3. This is based on an analysis we carried out before publishing our final methodology statement. We have not seen sufficient and convincing evidence to suggest that there is a better figure or approach to use, so we have continued to use it in our assessments for these final determinations.

Adjusting the number of customers for economies of scope

Unique customers (adjusted for economies of scope)
= (1.3 x number of water and wastewater customers)
+ number of water only customers + number of wastewater only customers

On this basis, the calculation of each company's CTS for unmetered household customers is set out below.

$$\text{Unmeasured CTS} = \frac{\text{(operating expenditure – metering costs + depreciation + modification for new costs)}}{\text{(number of customers (adjusted for economies of scope))}}$$

Calculating modified cost to serve for unmetered customers

Next, we calculate the retail ACTS for these unmetered household customers across all companies using the modified 2013-14 CTS as set out above for each company. We calculate this as an unweighted average – that is, a simple average across all companies' CTS which is not weighted to account for different-sized companies. This ensures that the ACTS efficiency challenge reflects evenly the activities of different companies' management to keep these costs down, and avoids weighting the average towards the largest companies (and their management practices).

We then compare each company's CTS for each year from 2015-20 with the ACTS to provide an efficiency challenge.

- If a company's CTS is below the ACTS in any given year, then its allowed household retail revenue will be based on its own forecast CTS in that year.

- If a company's CTS is above the ACTS in 2018-19 and 2019-20, then its allowed household retail revenue will be based on the ACTS for those years.

- If a company's CTS is above the ACTS in 2015-16, 2016-17, or 2017-18, then its allowed household retail revenue will be based on the lower of:
  - the ACTS, with a straight line three-year glide-path down from actual costs in 2013-14 to the ACTS in 2018-19; and
  - its forecast CTS in that year.

- If a company's CTS is above the ACTS in some years and below the ACTS in other years, then its allowed household retail revenue will be based on the lower of

- the ACTS with glide-path as described above; and
- actual costs in each year.

This approach reflects the commitment in our final methodology statement to a three-year glide-path to the ACTS. After the efficiency challenge has been applied, any allowed adjustments (see section below) are added on to the allowed revenue per customer in each year.

These efficiency challenge rules are summarised in the following equation.

Efficiency challenge rule summary – unmetered

Allowed unmeasured CTS
= lesser of ((glide path (if above ACTS) or ACTS (if below ACTS)) AND forecast CTS)
+ allowed adjustments per customer

Once we have applied the efficiency challenge consistently to companies based on their retail costs, we then:

- remove depreciation related to pre-2015-20 assets (which will be remunerated by the opening RCV used for setting wholesale controls);
- add back any allowed adjustments; and
- add on any other costs not subject to the ACTS efficiency challenge, for example the allowance for pension deficit recovery costs for household retail, and outcomes costs specific to household services that are not related to industry-wide delivery incentives – such as SIM and the GSS.

This produces an allowed retail cost per unmetered customer for each company.

A separate but consistent process is followed to derive the additional CTS for metered (or measured) household customers. This allows us to reflect the additional costs of providing retail services to metered customers, and avoids creating a disincentive to increase meter penetration because these additional costs cannot be recovered.

The additional metering CTS for each customer is calculated for:

- water only customers for WaSCs and WoCs;
- wastewater only customers for WaSCs; and
- water and wastewater customers for WaSCs.

This is calculated as the total additional costs of metering for each customer type divided by the number of customers.

The additional metering ACTS for each class of customers (water only, wastewater only, and water and wastewater) is then calculated as the unweighted average of the additional metering CTS for that customer class.

Each company's additional metering CTS for each year from 2015-20 is compared with the additional metering ACTS for that type of metered customer to provide an efficiency challenge.

- If a company's additional metering CTS is below the additional metering ACTS in any given year, then its allowed household retail revenue will be based on its own forecast additional metering CTS in that year.

- If a company's additional metering CTS is above the additional metering ACTS in 2018-19 and 2019-20, then its allowed household retail revenue will be based on the additional metering ACTS for those years.

- If a company's additional metering CTS is above the additional metering ACTS in 2015-16, 2016-17, or 2017-18, then its allowed household retail revenue will be based on the lower of:
  - the additional metering ACTS, with a straight line three-year glide-path down from actual costs in 2013-14 to the additional metering ACTS in 2018-19; and
  - their forecast additional metering CTS in that year.

- If a company's additional metering CTS is above the additional metering ACTS in some years and below the additional metering ACTS in other years, then its allowed household retail revenue will be based on the lower of:
  - the additional metering ACTS with glide-path as described above; and
  - actual costs in each year.

On the above basis, the calculation of each company's additional metered CTS is set out below.

Calculating additional metered CTS

$$\text{Additional metered CTS} = \frac{\text{total metering cost}}{\text{number of unique metered customers}}$$

These efficiency challenge rules are summarised in the following equation.

Efficiency challenge rule summary – metered

Allowed additional metered CTS
= lesser of ((glide path (if above ACTS) or ACTS (if below ACTS)) AND forecast additional metered CTS)

The total allowed retail cost per metered customer, for each of the three groups, is then the allowed additional CTS calculated as set out above plus the allowed retail cost per unmetered customer as set out earlier.

Calculating total allowed retail cost per customer

Total allowed retail cost per metered customer
= allowed additional CTS + allowed unmeasured CTS

Having calculated the allowed retail cost of serving each customer type in each year, we then calculate the allowed net margin per customer. This is set based on the allowed retail costs per customer and the allowed wholesale revenue per customer (which is a cost incurred in providing retail services, recovered in household bills). So, for each customer type, the total allowed household retail service revenue per customer is as follows.

Calculating total allowed household retail service revenue per customer

Allowed household retail revenue per customer by customer type
= [(allowed retail cost per customer by customer type
+ allowed wholesale revenue per customer by customer type)/(1
– household retail net margin)]
– allowed wholesale revenue per customer by customer type

The final step in calculating the total allowed household retail revenue estimated during the price review is to multiply the total allowed household retail revenue per customer by customer type by the estimated number of unique customers of each customer type, for each year (that is, this includes an adjustment for economies of scope).

Revenue modification

As we set out in our final methodology statement, we will make an automatic modification to allowed household retail service revenues in each year of the price control to account for the difference between actual and forecast customer numbers in that year. We will make this modification to allowed household retail revenues using the equation below, and the modification factors and forecast customer numbers set out in each company-specific final determination.

Modifying allowed household retail revenue services for actual customer numbers

Revenue modification (2015-16 to 2019-20)

$$= \sum_{y=1}^{5} \sum_{c=1}^{4} (\text{actual customer numbers}_{y,c} - \text{forecast customer numbers}_{y,c}) \cdot \text{modification factor}_{y,c}$$

Where

- **y** = years (2015-16 to 2019-20),
- **c** = customer type (un-metered, metered water only, metered wastewater only, metered water and wastewater),
- **customer numbers** are defined in unique customers – that is, each water and sewerage customer is weighted as being 1.3 unique customers,
- **forecast customer numbers** and **modification factors** are as set out in each company-specific determination.

Total estimated allowed revenues are based on the projected numbers of customers and meter penetration set out in companies' business plans. If actual customer numbers or meter penetrations differ from these projected values, then a modification will be made to allowed household retail revenues to account for this.

These modification factors include an allowance for the net margin. This allowance is based on forecast nominal wholesale charges paid by retailers to provide services to household customers. These modification factors will not be updated for differences between forecast and actual nominal wholesale charges. This is because doing so would make the calculation of these modification factors, each year, considerably more complex and less transparent. We consider that setting these modification factors out in advance and not varying them for changes in actual wholesale charges from year to year is a more proportionate approach.

For example, consider the case where the number of unmetered water only customers in a given year is lower than projected in the business plan, and the number of metered water only customers is higher than projected, as a result of a more rapid meter roll out than anticipated. We would make a downward adjustment for revenue for unmetered water only customers, and a more than offsetting upward adjustment for metered water only customers, using the factors already set out in the company's final determination.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We are responsible for making sure that the water sector in England and Wales provides customers with a good quality and efficient service at a fair price.

OFWAT

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