April 2014

Setting price controls for 2015-20

Draft price control determination notice: technical appendix

Contents

A1 Outcomes

Outcomes are one of the key innovations in PR14.

As we set out in 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans' (our 'final methodology statement'), we expected companies to submit business plans for 2015-20 price controls that focused on outcomes rather than outputs. The outcomes focused approach is designed to start to move away from a culture of regulatory dependency that the review of Ofwat and consumer representation in the water sector (the 'Gray review') identified. The new framework ensures that companies are incentivised to deliver efficiently what customers and society need, want and are willing to pay for and helps to legitimise their role in providing important public services.

The focus on outcomes (for example, delivering customers clean and safe water) will deliver a number of clear benefits. Companies are encouraged to engage directly with their customers and take ownership of their business plans. It allows companies more freedom to innovate and find more sustainable and longer-term solutions that deliver lower whole-life costs.

The outcomes framework has three distinct elements.

Companies have been required to engage directly with their customers to develop a set of **outcomes**, together with the associated **performance commitments** (PCs) and **outcome delivery incentives** (ODIs). The PCs set out in detail the levels of performance that the companies commit to achieve within the five-year period from April 2015 to March 2020. The incentives set out what happens if companies over or under deliver against the committed performance levels. The incentives give the best performing companies the opportunity to earn improved returns from financial rewards. The incentives also ensure that customers are protected against poor performance.

With the exception of two specific minimum industry requirements on leakage and the service incentive mechanism (SIM), for enhanced companies the framework leaves almost all decisions about the details of the outcomes proposals in business plans up to companies, based on their own customer engagement and the inputs of the customer challenge groups (CCGs). These include the specific performance commitments and delivery incentives they propose. This is consistent with companies taking ownership of their plans and engaging directly with their customers.

We set out a framework for these choices, which companies had to take into account when designing the incentives, in our final methodology statement. This gives companies a choice of three incentive types (penalties and rewards; penalty only or non-financial) and also considerable flexibility in how the incentive is calibrated. This includes the possibility to use limits on incentives (caps on penalties and collars on rewards) as well as neutral zones or dead bands within which the incentive is 'switched off'. Following our initial review of the companies' business plans, we provided further guidance over the alignment of performance commitments with effective financial incentives in our further risk and reward guidance.

Companies embraced many aspects of the outcomes-based approach.

We examined these areas in the risk based review. In 'Setting price controls for 2015-20 – pre-qualification decisions' (our 'pre-qualification decision document') that companies had shown substantial progress in moving towards an outcomes based approach, with some companies showing examples of exceptional practice. This assessment contributed to our decision that both South West Water and Affinity Water should be pre-qualified to be considered for enhancement.

However, in 'Setting price controls for 2015-20 – risk and reward guidance' (our 'risk and reward' guidance), we noted in that companies in general had more work to do to improve their ODI proposals and fully align them with value for money performance commitment proposals. In line with this, and following further engagement and consideration, both South West Water and Affinity Water provided us with updated business plan information on outcome delivery incentives and associated performance commitments on 17 March, following the conclusion of the pre-qualification process.

In 'Setting price controls for 2015-20 – decisions on enhanced companies and next steps' (our 'enhanced company decision document') that based on this (and other) further information we had decided that these two companies would be enhanced and fast tracked for draft determinations. Accordingly, their performance commitments and associated ODIs have now been reflected in these draft determinations as set out in the company-specific appendices for South West Water and Affinity Water.

We expect other companies to provide similar updated information on outcomes, focused on the areas identified as needing to be addressed by our risk-based review (RBR) assessment. We expect this updated information to form part of the wider update of their business plans ahead of a June or August draft determination.

Today, we set out for both South West Water and Affinity Water the full set of performance commitments and associated incentives in the draft determinations. These reflect the companies' own proposals. **Companies must be transparent on how they are performing against their outcomes.**

In making this draft determination, we are requiring South West Water and Affinity Water to set out for their customers how they will demonstrate that they are delivering the outcomes and performance commitments specified the company-specific appendices and how they will assure customers that is the case. In time, we may develop further information requirements with regard to outcomes, as we review and change current requirements relating to performance indicators and each company's annual risk and compliance statement.

Where appropriate, we will make adjustments at the next price review to reflect company delivery against their performance commitments.

At the next price review, in making our determinations, we will implement any adjustments that are required following application of the outcome delivery incentives stipulated in the company-specific appendices.

Companies remain responsible for meeting their duties.

Bespoke performance commitments and outcome delivery incentives do not take the place of the companies' legal obligations as water or sewerage undertakers. It is each company's duty to carry out all the company's functions and obligations set out in the Water Industry Act 1991 (WIA91), other relevant legislation and its instrument of appointment within the funding package we have arrived at in making this determination. Outcomes and performance commitments will typically be underpinned by statutory duties, such as the general water supply duty in section 37 of the WIA91 and the general wastewater duty in section 94 of the WIA91. We expect companies to perform all of their functions in an economically efficient manner and companies should similarly to seek to achieve their outcomes and specific performance commitments economically. If a company fails to carry out its obligations within the price control period 2015-20, it is open to us to take action before the next price review to protect the interests of customers.

A2 Wholesale water and wastewater costs

A2.1 Setting initial cost thresholds

As we set out in our final methodology statement, we have used a total expenditure (totex) based approach to assessing efficient wholesale expenditure.

For the RBR stage of PR14, we compared the water and wastewater wholesale expenditures proposed by companies in their December business plans with a set of initial cost thresholds. We described our approach to setting these initial cost thresholds in Appendix 5 of the policy and information update document and the detailed supporting information published on the wholesale cost assessment on 4 April.

In outline, we derived a series of econometric and unit cost models using historical data provided to us by the water companies. We then prepared forecasts of the variables used in each of our wholesale cost assessment models (that is, the explanatory or exogenous variables) for AMP6 for each company. We used these forecasts along with the coefficients from the econometric and unit cost models to derive base forecasts of totex for AMP6 for each company, which we call the basic cost threshold (BCT).

To ensure that these BCTs represented reasonably efficient costs, we adjusted the cost forecasts so that they reflected an initial estimate of upper quartile efficiency.

We then made adjustments to these base forecasts for a number of reasons, including company-specific arguments set out in business plans and our own policies for particular cost areas, such as defined benefit pension deficit recovery and business rates, to derive our initial cost thresholds.

A2.2 Moving to menu and wholesale cost baselines

For the purpose of this draft determination, we needed to calculate menu and wholesale cost baselines. To do this, we have drawn upon the analysis we undertook to calculate the initial cost thresholds, complemented by a number of additional considerations.

As we explained in 'Outcomes of the risk-based review and next steps', there are three broad considerations to take into account when modifying these initial cost thresholds, consistent with protecting customers' interests, so that they can form the basis of menu and price control baselines.

- Making any further adjustments to take account of representations from companies and other stakeholders, and as a result of our further quality assurance process.

- Considering whether it is appropriate to consider companies' own forecasts for relevant explanatory variables – in particular, for those companies with business plan forecasts of costs below our initial upper quartile cost thresholds. This includes the two enhanced companies – South West Water and Affinity Water.

- Adapting the initial cost thresholds to ensure that menu baselines include appropriate cost performance incentives, including in relation to pension deficit recovery costs, business rates and transition spending.

A2.3 Further adjustments

We have made some further changes to the BCTs used for the purpose of draft determinations as a result of our continuing quality assurance process.

- We have adjusted some of the wastewater model coefficients as a result of our continuing quality assurance work. We have amended the non-normalised coefficients of the random effects econometric models used for projecting wastewater base and treatment expenditure, and of the unit cost models used for projecting sanitary determinands and UV disinfection expenditure.

- We have corrected the projection of the explanatory variable for the wastewater enhancement model relating to private sewer blockages and collapses.

- Based on the December 2013 update from the Environment Agency, we have updated our view of the NEP Phase 4 Chemicals Investigation Programme.

- We have updated our upper quartile calculations for both water and wastewater following the changes to some models as a result of our quality assurance process, bringing the base data for these calculations better into line with that used to estimate the models, and increasing the precision of these estimates.

These changes are described in more detail in section A2.9 below. Where appropriate, we have also made consequential changes to unmodelled costs and implicit allowances used in translating the BCTs to menu and wholesale cost baselines.

A2.4 Use of company forecasts for certain explanatory variables

When we published the outcome of the RBR, we explained that the thresholds for wholesale costs were for this purpose only and that we would provide further information on how these initial thresholds would develop into baselines for price setting.

The RBR initial thresholds serve to challenge companies whose business plans sit above these levels to provide more evidence or to challenge their plans harder on efficiency. It is only after this process is complete that we will develop a baseline for price setting. Where the expenditure within companies' business plans is below our cost thresholds we equally need to consider whether the threshold is an appropriate baseline for setting prices. This approach will help to ensure that customers' interests are protected.

In the RBR, the cost thresholds were calculated on the same basis for all companies on the basis of independent projections of model explanatory variables made by Ofwat/Jacobs for each company, rather than the forecasts made by companies in their own business plans. While this consistent approach to the derivation of independent projections for all companies was appropriate in the risk-based – where the purpose of the cost thresholds was to help filter business plan totex forecasts consistently between those where there were areas of significant concern and others where they were not – it is not necessarily appropriate in setting menu baselines when we have gained sufficient confidence in the basis of individual companies' plans, as we have for both enhanced companies.

For South West Water, using the company's own business plan forecasts of the relevant explanatory variables to calculate the water menu baseline results in the baseline being significantly lower than our initial RBR threshold. Broadly, it halves the difference between the initial RBR cost threshold and South West Water's own business plan forecast level of the totex concerned. Adopting a consistent approach for Affinity Water makes only a modest difference to the menu baseline. No company has proposed wastewater expenditure significantly below our initial cost thresholds.

We propose to use the projections of explanatory variables for the water wholesale service provided in the plans for the two enhanced companies as inputs to our cost models (while preserving the upper quartile cost efficiency challenge used in the RBR). This is on the basis that, for these two enhanced companies, we have relatively high confidence that these cost driver projections are aligned with the companies' delivery commitments to customers.

For the avoidance of doubt, the use of company forecasts of explanatory variables in this way for setting the menu baselines may not be appropriate for other companies. We will consider, on a case by case basis, the extent to which we may need to adapt our initial cost thresholds for use in menu baselines, in particular where other companies' December 2013 business plan forecast levels of totex were significantly below the initial RBR cost threshold levels.

A2.5 Other issues

There are a number of important issues associated with translating BCTs into baselines and making sure that the final price control includes appropriate cost sharing incentives. These include the treatment of issues such as pension deficit recovery costs, business rates and transition spending. Further information in relation to these matters is set out in section A2.9 below.

A2.6 Menu regulation

The approach to menu regulation for the enhanced companies was summarised in our enhanced company decision document. Table A1 reproduces the enhanced menu from this document and we confirm that this is the menu we used for the draft determinations for South West Water and Affinity Water, with the menu choice represented by 100 reflecting the menu baselines described above.

Table A1 Enhanced menu for South West Water and Affinity Water

Company menu choice	80	85	90	95	100	105	110	115
Cost sharing rate	59%	58%	57%	56%	55%	54%	53%	52%
Allowed expenditure	95.00	96.25	97.50	98.75	100.00	101.25	102.50	103.75
Additional income	2.55	1.95	1.33	0.68	0.00	-0.70	-1.43	-2.18
Actual expenditure	Reward/penalty							
70	17.3	17.2	17.0	16.8	16.5	16.2	15.8	15.4
80	11.4	11.4	11.3	11.2	11.0	10.8	10.5	10.2
85	8.5	8.5	8.5	8.4	8.3	8.1	7.9	7.6
90	5.5	5.6	5.6	5.6	5.5	5.4	5.2	5.0
95	2.6	2.7	2.8	2.8	2.8	2.7	2.6	2.4
100	-0.4	-0.2	-0.1	0.0	0.0	0.0	-0.1	-0.2
105	-3.4	-3.1	-3.0	-2.8	-2.8	-2.7	-2.8	-2.8
110	-6.3	-6.0	-5.8	-5.6	-5.5	-5.4	-5.4	-5.4
115	-9.3	-8.9	-8.7	-8.4	-8.3	-8.1	-8.1	-8.0
120	-12.2	-11.8	-11.5	-11.2	-11.0	-10.8	-10.7	-10.6
125	-15.2	-14.7	-14.4	-14.0	-13.8	-13.5	-13.4	-13.2
130	-18.1	-17.6	-17.2	-16.8	-16.5	-16.2	-16.0	-15.8
140	-24.0	-23.4	-22.9	-22.4	-22.0	-21.6	-21.3	-21.0

Note:

All figures, except for the cost sharing rate represent percentages of our baseline expenditure amount. Cells highlighted in blue represent the maximum reward that can be obtained for a given level of actual expenditure.

A2.7 Menu and wholesale cost baselines

For setting wholesale price limits for both the water and wastewater services for the two enhanced companies, we have set two cost baselines, the overall wholesale cost baseline for the wholesale service concerned, which includes all allowed totex for the period 2015-16 to 2019-20, and a menu baseline which is the expenditure included within the scope of the cost performance incentives in the menu. We explain the baseline process further in section A2.8.

We show the derivation of the overall wholesale cost baselines and the associated menu baselines used in our draft determinations for the two enhanced companies in table A2 (all figures in 2012-13 prices).

Table A2 Deriving the wholesale and menu baseline from the basic cost threshold

	South West – water (£m)	South West – wastewater (£m)	Affinity – water (£m)
Basic cost threshold	591.4	789.9	1,015.0
Policy additions[1]	131.6	51.4	89.6
Unmodelled costs adjustment	0.0	-9.5	-10.0
Deep dive[2] additions	18.0	67.9	0
Wholesale cost baseline	741.3	899.8	1,094.6
Menu baseline[3]	693.6	880.8	1,075.4

Notes:

1. The policy additions are business rates; pension deficit recovery costs; open market costs and third party costs.
2. We made additions to our cost thresholds where South West Water and Affinity Water made cases for making an addition for special cost items to our basic cost threshold. We called the process of looking at these cases in detail a deep dive.
3. Menu baseline is equal to wholesale cost baseline less pension deficit recovery costs, third party costs and market opening costs. related to 2014-15.

We used these baselines, together with the expenditure in companies' plans, to calculate the allowed expenditure numbers which we include in price limits for the draft determinations for each company, based on given menu choices, using our financial modelling suite. This process is set out for each company in the company-specific appendices.

A2.8 Detailed information on wholesale costs

A2.8.1 Menu and price control cost exclusions

In our final methodology statement, we explained that we would consider excluding expenditures from general menu-based cost performance incentives "only where costs are material, outside the control of management and uncertain." This was reinforced in our risk and reward guidance, which stressed that in general it was for companies to manage risks and that extra protection would only be given in special circumstances – such as those that may relate to business rates.

We have summarised our initial proposals for the principles for menu and price control exclusions below.

- Where items are excluded from the menu (as we have reflected for defined benefit pension deficit recovery costs, or PDRCs – as discussed below) then in general they will still need to be funded in price limits to allow the recovery of an efficient allowance for costs.

- As noted in our risk and reward guidance, an exception to the principle of no extra protection from cost sharing incentives may apply to business rates in the wholesale water service because companies have relatively little control over the level of business rates and this level is subject to significant uncertainty in the coming control period.

- Any non-cash items in the totex thresholds (such as any allowed recovery of transition spending in 2014-15) will either need to be excluded from the menu, or special arrangements made in relation to reconciling the menu against actual spending during AMP6 at the end of the price control period.

Below, we discuss the cost items that may require special treatment for the two enhanced companies and the proposals we have developed for these draft determinations.

A2.8.2 Defined benefit pension deficit recovery costs (PDRCs)

Consistent with IN13/17, 'Treatment of companies' pension deficit repair costs at the 2014 price review', we intend to fund only a fixed pre-set level of PDRCs. Accordingly, allowances for PDRCs have been excluded from the menu baselines derived for these draft determinations, as otherwise the affected companies could potentially recover more or less than was envisaged via the cost sharing that occurs automatically with a menu-based mechanism. Allowances for PDRC have been reflected in our cost thresholds, and are also reflected in the overall wholesale cost baselines, so that price limits will ensure that the relevant costs are recovered.

A2.8.3 Business rates

There is significant uncertainty about the future level of business rates given the forthcoming revaluation in 2017. As a consequence, simply including these costs in the menu baselines, and hence subjecting them to the general cost sharing incentive rates in the menu, might not provide companies with sufficient protection from this significant level of uncertainty. In our risk and reward guidance, we said that the extent of uncertainty is greater in relation to wholesale water costs than wholesale wastewater costs, and that, in accepting our risk and reward guidance, companies could propose an associated uncertainty mechanism for wholesale water service business rates.

In accepting our risk and reward guidance, the two enhanced companies confirmed that they wished to include the uncertainty mechanisms for business rates that they set out in their business plans as they related to the wholesale water service

We propose that water business rates should be a notified item for PR14 and, as such, could qualify for an interim determination, which allows price limits to be adjusted between periodic reviews. The formal interim determination mechanism is set out in each company's licence. Both companies proposed broadly similar proportions of cost risk be passed through to customers or be retained by the company itself. The proposed notified item would not apply to South West Water's wholesale wastewater costs.

Based on these proposals, and consistent with our accepting these companies business plans in the round, we have included a standardised allowance for business rates costs in the enhanced company menu baselines, together with the proposed supplementary cost sharing mechanisms for wholesale water service business rates as described in the section on risk and reward in the relevant company-specific appendices.

Our RBR initial cost thresholds included the companies' forecasts of business rates, as derived from their business plans, in order that the comparisons with our own assessments of totex would not be distorted by companies taking different views of the underlying uncertainty, and proposing different mechanisms to deal with it. In setting menu baselines for the two enhanced companies we have now included standardised allowances for business rates as they relate to the two companies.

A2.8.4 Third party costs

We have excluded these costs from our enhanced company menu baselines, as changes in costs from the business plan projections should be offset by changes in actual associated revenues, which are not covered by the cap on allowed wholesale revenues set out in companies' licences. A base level of these projected costs and associated projected revenues has been included as part of the 'single till' of costs and revenues used for our draft price control determinations, reflected in the financial model.

A2.8.5 Transition expenditure

Transition expenditure is incurred in 2014-15 and so is a non-cash item in the totex forecasts relevant for determining the relevant allowed revenues in AMP6. If 2014-15 expenditure is included in the AMP6 menu baseline, a special reconciliation arrangement will need to be put in place to reconcile allowed expenditure and actual spending at the end of the price control period. For these draft determinations of enhanced companies, we have included transition expenditure in the menu baselines on this basis.

A2.8.6 Market opening costs

We have agreed to make an allowance for these costs in the allowed wholesale revenues recovered via non-household charges between 2015 and 2020. This allowance is included in the menu baseline. We have also decided to allow the recovery of the 2014-15 allowance for these costs in the 2015-20 price control period (that is, analogous to transition expenditure, as discussed above). For the draft determinations, we have excluded this 2014-15 allowance from the menu baselines.

A2.8.7 Gross/net adjustments

Connection and infrastructure charges and the associated revenues form part of the wholesale price controls. In our assessment of efficient wholesale costs, because we use historical reported expenditure which was net of cash receipts from connection and infrastructure charges, our forecasts of efficient expenditure including connection and infrastructure totex are also on this same net basis. Some companies, including South West Water but not Affinity Water, recover these charges as revenue and their business plan forecasts of totex accordingly included connections and infrastructure expenditure without netting off the associated cash receipts.

For draft determination baselines, we have treated these costs on a consistent basis as between the two enhanced companies irrespective of their revenue accounting policies. We have done this by adjusting the cost baselines for water and wastewater for South West Water by reducing their baseline by the expected amount of infrastructure and connection charges in the period, and therefore our wholesale cost baselines and menu baselines are on a net basis for both companies.

A2.9 Changes to wholesale cost models

In section A2.3 we explained that for the purpose of draft determinations we had made some changes to the BCTs used for the RBR. These changes reflect the outcomes of both our own ongoing assurance process and feedback from stakeholders on the information we released following the RBR, who have provided us with relevant comments on the RBR approach.

In this section, we summarise the resulting changes that we have made to our wholesale cost assessment models since we published the relevant RBR material on 4 April, and the impact these changes have had on the outputs of the wholesale cost modelling we have used for these draft determinations.

Overall most modelling changes have had a limited impact on the relevant cost thresholds. The combined effect of the changes described in this section on the basic cost thresholds (BCTs) for South West Water and Affinity Water is set out in table A3.

Table A3 Total impact of wholesale cost modelling updates since RBR on South West Water and Affinity Water basic cost thresholds for water and wastewater

	BCT for RBR, published 4 April (£m)	BCT for DD, published 30 April (£m)
South West Water (water)	654.488	591.433
South West Water (wastewater)	768.925	789.921
Affinity Water (water)	1014.873	1014.956

Tables A4 and A5 summarise all the updates to the wholesale water and wastewater cost models respectively, with the changes explained in more detail in the subsequent sections. The more material changes for the enhanced companies are:

- As we explained in section A2.4, we used the companies' own business plan forecasts for relevant cost driver variables to update the estimated basic wholesale water cost thresholds used in these draft determinations for South West Water and Affinity Water. This change is the most material of those made relative to wholesale cost modelling used for the RBR thresholds, and is a specific approach that we have used for these two draft determinations. It reflects our view that these two business plans were of a sufficiently high quality for the purpose, given the modelling approach being used to assess the relevant wholesale water costs. For later draft determinations, we may take a different approach depending on the specific circumstances.

- For wholesale wastewater costs, our updates to the modelling of the private sewer cost variables were material: for South West Water they increased the BCT by around £8 million.

- The other material change to the modelling of wholesale wastewater costs relative to the basis of the RBR costs thresholds was our refinement in the application of the upper quartile efficiency assumption.

Table A4 Summary changes to the water cost models

Change	Details	Model changed	What is affected?	Materiality
1. Econometric model alpha factor corrections	Corrected minor differences to the alpha factor between CEPA's final model specification and those used in Model PL14S003.	Econometric model parameters in PL14W003	Basic cost threshold appendix E – each company's model W003	Low
2. Upper quartile	We re-ran the upper quartile calculation with the changed alpha factors and increased the decimal points from 0 to 2, which changed the upper quartile efficiency assumption from 94% to 93.47%.	PL14W003	Basic cost threshold document (page 3) Basic cost threshold appendix E – each company's model W003	Low
3. Use of company variables	We used the company forecast variables in the basic cost threshold feeder model for the water service of enhanced companies	PL14W003	Basic cost threshold appendix E – each enhanced company's model W003E	High
4. Unmodelled uplift	Due to the above changes in modelled totex from alpha factor and upper quartile adjustments, the £m amounts of unmodelled uplift changed. This in turn also affected how much we changed the unmodelled amounts when using company numbers instead of our allowance.	PL14W011	Each company's model W011 enhancement	Low

Table A5 Summary changes to the wastewater cost models

Change	Details	Model changed	What is affected?	Materiality
1. Econometric model coefficients	Minor errors in some of the coefficients used in Model PL14S003.	Econometric model coefficients in PL14S003 (botex RE and treatment RE)	Basic cost threshold appendix B – CEPA report Basic cost threshold appendix E – each company's model S003	Low
2. Sanitary determinand unit cost model	In developing model coefficients, we had used the wrong population equivalent for one company. Correcting this error resulted in updated model coefficients.	Sanitary determinand unit cost model	Basic cost threshold appendix C – enhancement modelling Basic cost threshold appendix E – each company's model S003	Low
3. UV unit cost model	Following a late August data query and response from SRN, we failed to update the affected model input for population equivalents. We have now corrected the population equivalent used in the unit cost model, which has changed the model coefficients.	UV unit cost model	Basic cost threshold appendix C – enhancement modelling Basic cost threshold appendix E – each company's model S003	Low

Change	Details	Model changed	What is affected?	Materiality
4. Upper quartile	The upper quartile threshold has moved from 88% to 89.60% as a results of: 1. The corrections to the estimated coefficients as set out above in this table. 2. A refinement to our calculation, whereby the upper quartile relating to the base models is the average of the upper quartile as obtained from using five years' data and the upper quartile as obtained from using seven years' data. 3. Increasing the decimal points from 0 to 2.	PL14S003	Basic cost threshold document (page 3) Basic cost threshold appendix E – each company's model S003	High
5. Sewerage NEP Chemicals Investigations Programme	NEP Phase 4 (December 2013) reflected an increased ambition of CIP2 from Defra. We have updated our view of the affected totex in line with the revised information from the Environment Agency.	Input line in PL14S003	Basic cost threshold Appendix A – base data spreadsheet Basic cost threshold appendix E – each company's model S003	High

Change	Details	Model changed	What is affected?	Materiality
6. Private sewers volume variable forecast	Change in forecast variables: the number of blockages cleared and number of collapses repaired are now assumed to be the same for each year of AMP6 and equal to the [annualised] 18-month average of the actual data reported in companies' August submissions for the period Oct 2011 to March 2013.	Forecast variable in PL14S003	Basic cost threshold Appendix D – exogenous variables Basic cost threshold appendix E – each company's model S003	High
7. Unmodelled uplift percentage	We corrected our earlier assumption of NEP Discharge Relocation being an 'unmodelled' category to 'non-recurring' in the calculation of the unmodelled uplift percentage. The allowance of recurring totex reduced from 3.95% of modelled totex in RBR to a lower recurring allowance of 3.77% as a result.	Model PL14S003 and knock on to PL14S011 umodelled allowances.	Basic cost threshold appendix C – enhancement modelling (page 10) Basic cost threshold appendix E – each company's model S003 Each company's model S011	High

Below, we set out the detail of the changes to the water and wastewater cost models summarised in the tables above. For each change, we have specified the source of the original numbers used for the basic cost thresholds used in the RBR, and our revised figures used for the enhanced company draft determinations.

A2.9.1 Water – econometric model alpha factor corrections

We published detailed information about the model alpha factors in appendix B to the BCT feeder model document, which is a report by CEPA called 'Cost assessment – advanced econometric models'.

In table A7.2 of annex 7 of this document, there is a list of alpha factors for the water econometric models. In our BCT models in the RBR, we used an alpha factor for model WM6 (Totex refined translog RE model) that was not aligned with the above final CEPA report. Specifically, we have used an alpha factor value of 102.0% instead of 101.7%. We have now adjusted the BCT models with the correct alpha factor for the purpose of these draft determinations.

A2.9.2 Water – upper quartile

As a result of changing the alpha factor for our WM6 model as described above, we recalculated the upper quartile efficiency. We also moved from using 0 decimal places to 2 decimal places when applying the upper quartile efficiency assumption to cost data.

We published information on 4 April about the upper quartile on page 3 of the BCT feeder model description.

We stated there that: "We made upper quartile efficiency adjustments of 6% in water and 12% in wastewater." For these South West Water and Affinity Water company draft determinations, the revised water upper quartile adjustment is now 6.53%.

A2.9.3 Water – use of company variables

For the wholesale water cost assessments for the two enhanced companies, we used the companies' business plan forecasts of cost driver variables rather than our own forecasts of these variables, as described in the technical appendix.

A2.9.4 Water –unmodelled uplift amounts

We described how we calculated the unmodelled uplift percentage for the purpose of deriving the RBR cost thresholds in section 3 of 'Appendix C: Enhancement modelling' of the BCT feeder model description.

For the purpose of these draft determinations of the wholesale water costs, this unmodelled percentage uplift is unchanged. However, due to the changes in the totex models, and the resulting modelled amounts calculated, as described above, the values of the unmodelled uplifts for each of the enhanced companies has been updated accordingly. These updates are published on the 'Unmodelled calc' tab in the populated company BCT models here:

- Basic cost threshold water model: South West Water.
- Basic cost threshold water model: Affinity Water.

A2.9.5 Wastewater – econometric model coefficients

We published detailed information about the model coefficients in Appendix B to the BCT feeder model document, which is a report by CEPA called 'Cost assessment – advanced econometric models'.

In annex 8, CEPA list the non-normalised coefficients. Small errors for the non-normalised coefficients were found in two of the sewerage models, Model SM5 and Model SM9. We corrected them in our model and in the CEPA report. The changes are set out in table A6 and A7 below.

Table A6 Model specification SM5 (treatment totex RE)

Variable	SM5 as published on 4 April	SM5 updated for enhanced company DD 30 April
Density	70.3423	70.342
Load	14.1175	14.1174
Density^2	-2.87877	-2.87878
Load^2	0.0846	0.08459
Load x Density	-3.59439	-3.59437
Time trend	0.02331	0.02331
Regional wage	1.28032	1.28032

Variable	SM5 as published on 4 April	SM5 updated for enhanced company DD 30 April
Constant	-244.736	-244.735

Table A7 Model specification SM9 (Base totex RE)

Variable	SM9 As published on 4 April	SM9 updated for enhanced company DD, 30 April
Density	49.3735	49.375
Load	9.58371	9.58419
Density^2	-2.64728	-2.64722
Load^2	0.00753	0.00754
Load x Density	-2.0676	-2.06775
Time trend	0.02429	0.02429
Regional wage	1.19874	1.19874
Proportion of load treated in Bands 1-3	0.15554	0.15554
Constant	-171.011	-171.018

B2.9.6 Wastewater – sanitary determinand unit cost model

The data used to derive the relevant RBR cost thresholds using the sanitary determinand unit cost model was published in 'Appendix A: Model data input sets: wastewater data inputs' of the BCT model description.

We have now corrected an error in the sanitary determinand volume driver for Wessex Water, and used a value of 182 rather than 92.7, which resulted in changed model coefficients. Our model coefficients (before the correction) were published in section 4 of 'Appendix C: Enhancement modelling' of the BCT feeder model description.

The impact of our changes on the relevant model coefficients for these draft determinations is summarised in table A8 below.

Table A8 S7 Reduction in sanitary determinands (S3015)

Industry (regionally neutral) £m unit cost	Published 4 April	Updated for DD 30 April
Weighted industry average unit cost	0.0903	0.0881
Un-weighted industry average unit cost	1.0073	0.9865
Linear regression model industry fixed cost	14.1176	13.2919
Linear regression model industry variable cost	0.0547	0.0554
Log regression model industry fixed cost	-0.0180	-0.0599
Log regression model industry variable cost	0.6541	0.6523
Alpha Factor	0.8559	0.9021
Infrastructure or non-infrastructure model?	Non-infrastructure	Non-infrastructure

A2.9.7 Wastewater – UV unit cost model

The data used to derive the relevant RBR cost thresholds for the Ultraviolet disinfection unit cost model was published in 'Appendix A: Model data input sets: wastewater data inputs' of the BCT model description.

We have now corrected an error in the UV volume driver for SRN in those data, and used a value of 288 rather than 323, which has resulted in changed model coefficients. Our model coefficients (before the correction) were published in section 4 of 'Appendix C: Enhancement modelling' of the BCT feeder model description.

The impact of our changes on the relevant model coefficients for these draft determinations is summarised in table A9 below.

Table A9 S8 UV disinfection (S3016)

Industry (regionally neutral) £m unit cost	Published 4 April	Updated for DD 30 April
Weighted industry average unit cost	0.0424	0.0438
Un-weighted industry average unit cost	0.0777	0.0781
Linear regression model industry fixed cost	3.2750	3.0371
Linear regression model industry variable cost	0.0220	0.0242
Log regression model industry fixed cost	-1.2668	-1.3238
Log regression model industry variable cost	0.6111	0.6256
Alpha Factor	1.1186	1.1244
Infrastructure or non-infrastructure model?	Non-infrastructure	Non-infrastructure

A2.9.8 Wastewater – upper quartile

As a result of changing our cost models as described above we had to recalculate the affected estimate of upper quartile efficiency. Also as noted above we revised the basis of our calculation by taking the average of the results from a calculation using five years' data and one using seven years' data for the base models. We also moved from using 0 decimal places to 2 decimal places when applying the upper quartile efficiency assumption to cost data.

We published information on 4 April about the upper quartile on page 3 of the BCT feeder model description.

We state there: "We made upper quartile efficiency adjustments of 6% in water and 12% in wastewater." For these enhanced company draft determinations, as a result of the changes described above, the wastewater upper quartile adjustment has now moved from 12% to 10.40% (that is, from 88% to 89.60% of average costs).

A2.9.9 Wastewater – Sewerage NEP Chemicals investigations Programme

In December 2013 we received information about Phase 4 of the National Environment Programme (NEP4) from the Environment Agency. This indicated that there would be an increased scope for the Chemicals Investigations Programme. For the purposes of deriving cost thresholds in the RBR we used prior information about the lower scope of this programme reflected in NEP Phase 3 information from the Environment Agency to inform our view of costs. For the purposes of these draft

determinations, we have now updated our cost assessment to reflect the later NEP4 information, to account for the proposed increased scope of these investigations.

We published cost assumptions for phosphorus removal and chemical investigations on 4 April in 'Appendix A: Model data input sets: wastewater data inputs' of the BCT model description.

On the tab S13 and S14 we published the following information as it related to the affected costs for South West Water:

Table A10 Tab S13 and S14

Company	Forecast cost, £m
SWT	3.993

For enhanced company draft determination we have increased these costs by £0.885m to:

Table A11 Updated costs for Sewerage NEP Chemicals investigations Programme and P removal investigations

Company	Forecast costs updated for DD 30 April, £m
SWT	4.878

A2.9.10 Wastewater – private sewers volume variable forecast

We published the forecast volume drivers we used for deriving our wholesale wastewater cost thresholds for the RBR in appendix D of the BCT feeder model description, called 'PR14 Forecast of Exogenous Variables' by Jacobs.

Table 1 on page 5 lists the relevant wastewater volume variables, including the two which were used to forecast expenditures for the transferred private sewer network. Relevant historic costs in the companies' August data submissions were only available for an eighteen month period since October 2011, when companies assumed responsibility for private sewers. For the purpose of these draft determinations, we have changed the forecast method for these expenditures from that published on 4 April, as set out in table A12 below.

Table A12 Updated wastewater volume variables

Variable reference number	Description and unit of measure	Forecast method published 4 April	Forecast method for DD 30 April
S6005	Number of blockages cleared (nr)	Historical average forecast based on 10-11 to 14-15 data	Historical average forecast based on 18 months' data 2011-12 to 2012-13
S6006	Number of collapses fixed (nr)	Historical average forecast based on 10-11 to 14-15 data	Historical average forecast based on 18 months' data 2011-12 to 2012-13

For South West Water, this change in approach has changed the relevant forecast variables used to derive the BCT in its draft determination as follows:

Table A13 Impact of update to wastewater volume variables for South West Water

Variable reference number	Description and unit of measure	Forecast variable published 4 April	Forecast variable updated for enhanced company DD 30 April
S6005	Number of blockages cleared (nr)	18,759	26,767
S6006	Number of collapses fixed (nr)	377	530

A2.9.11 Wastewater – unmodelled uplift percentage

We corrected our RBR assumption that 'NEP Discharge Relocation (S3017)' was in the 'unmodelled' category of expenditure, by reclassifying as 'non-recurring', due to there being no anticipated discharge relocation schemes in the AMP6 NEP.

We describe how we calculated the unmodelled uplift percentage for the RBR cost thresholds in section 3 of 'Appendix C: Enhancement modelling' of the BCT feeder model description,

In paragraph 3.3 we state: “For water the unmodelled allowance is 8.40% of modelled totex, and for wastewater it is 3.95%.” Based on the reclassification set out above, our updated value for wholesale wastewater expenditures in AMP6 used for these draft determinations is 3.77%.

A3 Retail price controls

A3.1 Introduction of separate household retail price controls

The 2014 price review is the first to set separate price controls for customer facing 'retail' services for households. Setting separate price controls for these services will provide better, more effective and targeted incentives are distinct from those that apply to the much larger and different wholesale business activities.

We expect this approach to focus management attention on these customer facing retail activities. And by using our average cost to serve ACTS approach to limiting the revenues companies can collect from providing household retail services, we expect to bring greater downward pressure on customers' bills than we would have achieved under the previous approach to setting price limits.

Household customers will also receive service level protection through the continuation of the service incentive mechanism (SIM), which has proved itself to be an effective incentive for companies to offer good and improving service levels to customers. For more information on the SIM, see 'Service incentive mechanism (SIM) for 2015 onwards – conclusions'.

We explained in the final methodology statement, that the household retail price control is a revenue control for those services and activities that have been defined as retail and are provided to household customers. We defined retail activities in:

- 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans', page 38-39;
- IN 13/10, 'Change to company business plan guidance for the 2014 price review – costs of scientific services'; and
- 'Preparing business plans for 2014 price review – retail questions and answers' from 14 November 2013.

In '2014 price review cost allocation for retail and wholesale price controls', we set out rules that companies should use to allocate their costs between retail and wholesale activities for the purposes of setting price controls. This will ensure that we set household retail controls consistently for all companies using our ACTS approach.

We have also explained that, in line with our decisions in our future price limits statement of principles and our final methodology statement, the retail assets in existence before the start of separate price controls in April 2015 will be included in the RCVs used for setting wholesale price controls. The costs associated with these capital assets (depreciation and return on capital employed) will therefore not be funded through the allowed household retail revenues via the ACTS price controls.

Similarly, any expenditure that is classified as a retail activity but is incurred to meet the delivery of wholesale business obligations, delivery commitments and objectives should be funded by the wholesale business, via internal contracts (transfer prices) between the wholesale and retail businesses. Such expenditure should therefore not be included in the cost base used to derive allowed household retail revenue for the ACTS price controls.

For example, where customer supply side leak repairs and water efficiency activities managed by the retail business are in part to meet broader wholesale business requirements or delivery objectives, rather than individual retail customer requirements, they can be part funded through the wholesale business to increase the opportunities for water companies to undertake customer side leak repair and water efficiency activities to ensure an efficient supply/demand balance for the wholesale business.

Conversely, if the retail business requires support services from the wholesale business outside the scope of standard wholesale charges to help meet particular customers' retail service requirements, these should be charged to the retail business as a cost by the wholesale business as a supplier, and included in the relevant retail cost base when it is reported.

In line with the above general cost allocation principles, this appendix sets out in more detail the steps we have taken to calculate allowed revenue for retail household price controls for the purposes of the draft determinations of the two enhanced companies.

A3.1.1 Calculating retail household price control revenue

To calculate the revenue controls for household retail services, we first calculate companies' own costs to serve (CTS) in 2013-14 per unique customer for unmeasured customers. For this purpose we exclude metering costs which are not relevant for the CTS of unmeasured customers. We may also exclude some other specific costs from a given company's costs to serve, if it has provided compelling evidence via its business planning submissions as to why these costs should be excluded. We also assess whether the company has provided compelling evidence to support the inclusion of additional new costs (including depreciation for new assets) in its calculated CTS, on the basis that the 2013-14 costs will not be representative of efficient costs to serve in the 2015-2020 price control period. Where it has justified new costs, we modify the company's 2013-14 CTS and the associated forecast CTS to reflect this and otherwise make adjustments to the company's cost proposals.

The definition of 'unique customers' for the purpose of a deriving each company's CTS for unmeasured customers includes a specific industry adjustment to account for the economy of scale/scope of benefits associated with providing both water and wastewater household retail services as opposed to separate water and wastewater services. This adjustment factor is set at 1.3.

$$\begin{aligned} unique\ customers \\ &= 1.3 * number\ of\ water\ and\ wastewater\ customers \\ &+ number\ of\ water\ only\ customers \\ &+ number\ of\ wastewater\ only\ customers \end{aligned}$$

On the above basis, the calculation of each company's CTS for unmeasured household customers is set out below:

$$unmeasured\ CTS = \frac{\begin{array}{c} operating\ expenditure - \ metering\ costs + depreciation \\ +modification\ for\ new\ costs \\ +adjustments\ (if\ claim\ is\ not\ accepted) \end{array}}{number\ of\ unique\ customers\ (adjusted\ for\ economies\ of\ scope)}$$

Next, we calculate the retail ACTS for these unmeasured household customers across all companies at sector level, using the modified 2013-14 CTS derived consistently as set out above for all companies. This is calculated as an un-weighted average (that is, a simple average across all companies' costs to serve which is not weighted to account for bigger versus smaller companies) which ensures that the ACTS efficiency challenge evenly reflects the activities of different companies management to keep these costs down as opposed to weighting the average towards certain larger companies and their management practise.

Each company's CTS for each year of 2015-20 is compared to the ACTS to provide an efficiency challenge.

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

If their CTS is higher than the ACTS in 2018-19 and 2019-20 then they will receive the ACTS for those years.

If their CTS is higher than the ACTS in 2015-16, 2016-17, or 2017-18, then they will receive an amount equivalent to the lesser of the ACTS, with a three year glide path down from 2013-14 actual costs to the ACTS, or their forecast CTS in that year. If a company's costs are above the ACTS in some years and below the ACTS in other years, the allowed revenue will be based on the lower of the ACTS with glide path as described above, and actual costs in each year.

These rules can be summarised in the following equation:

$$Allowed\ unmeasured\ CTS = lesser\ of\ \big(glidepath\ (if\ above\ ACTS) or\ ACTS (if\ below)\big) AND\ forecast\ CTS$$

Once we have applied the above 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 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 GSS).

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

A separate 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 cost of serving a metered customer is calculated separately at industry level for each of the three measured customer groups - water only, wastewater only and water and wastewater customers. These are calculated in a similar way to the un-measured CTS calculation, namely:

- calculate the additional cost of serving a metered customer for each company;
- calculate an un-weighted industry average of this cost to serve for each measured customer group; and
- for companies above the additional ACTS a three year glide path from the 2013-14 CTS down to the additional ACTS is calculated (for each metered customer type). The allowed additional CTS for each metered customer group is the lesser of the forecast additional CTS and the ACTS (if below the ACTS) or the glide path (if above the ACTS) which is the three year path down to the ACTS from the 2013-14 actual costs.

$$additional\ measured\ CTS = \frac{total\ metering\ cost}{number\ of\ unique\ metered\ customer}$$

$$allowed\ additional\ measured\ CTS$$

$$= lesser\ of\ (forecast\ additional\ measured\ CTS\ AND\ a\ 3\ year\ glide\ path\ to\ the\ ACTS)$$

The total allowed retail cost per measured customer, for each of the three groups, is then the allowed additional CTS calculated as set out above plus the allowed retail cost per unmeasured customer derived in the way previously described.

$$total\ allowed\ retail\ cost\ per\ measured\ customer = allowed\ additional\ CTS + allowed\ unmeasured\ CTS$$

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. For each customer type, the total allowed retail revenue per customer is therefore as follows.

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 number of unique customers of each customer type, for each year (that is, this includes an adjustment for economies of scope).

A3.1.2 Household retail price controls for enhanced companies

Using the general approach described in A3.1.1, we have calculated the industry ACTS for unmeasured customers, and the average additional CTS for metered customers for these draft determinations for the two enhanced companies using the relevant information we have available at this time. These are set out in table A14 below.

Table A14 Industry ACTS and average additional CTS metered customers (2012-13 prices)

	Units	Value[1]
Industry ACTS for unmetered single service customers	(£/cust 2 d.p.)	£22.29
Industry ACTS for unmetered water and sewerage customers	(£/cust 2 d.p.)	£28.98
Industry ACTS for metered water-only customers	(£/cust 2 d.p.)	£28.52
Industry ACTS for metered sewerage-only customers	(£/cust 2 d.p.)	£25.81
Industry ACTS for metered water and sewerage customers	(£/cust 2 d.p.)	£35.46

Note:

1. There will be no indexation for retail price controls from this price base.

Using the above average industry allowances per customer, and the projected customer numbers in their business plans (see the company-specific appendices), we have calculated the total allowed household retail revenues in 2012-13 prices for South West Water and Affinity Water, including the allowed uplifts for the efficiency glide path described above and the household retail net margin set out in our risk and reward guidance (which these companies have accepted), as set out in table A15 below. Further details are set out in the appendices for each company.

Table A15 Total allowed household retail revenue by year including net margin (2012-13 prices)

	Units	2015-16	2016-17	2017-18	2018-19	2019-20
South West Water	(£m 3 d.p.)	31.7	32.2	32.6	33.0	33.3
Affinity Water	(£m 3 d.p.)	28.1	27.8	27.3	26.7	26.7

A3.1.3 Modifications to allowed revenues in household retail price controls

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. This modification to household retail allowed revenues will be made using the equation below, and the modification factors and forecast customer numbers set out in each company specific appendix.

$$revenue\ modification_{2015-16\ to\ 2019-20} = \sum_{y=1}^{5}\sum_{c=1}^{4}\left(actual\ customer\ numbers_{y,\ c} - forecast\ customer\ numbers_{y,\ c}\right).\ modification\ factor_{y,\ c}$$

Where y = years (2015-16 to 2019-20), c = customer type (un-measured, metered water only, metered wastewater only, metered water and wastewater), customer numbers are defined as unique customers – that is, each water and sewerage customer is weighted as being 1.3 unique customers, forecast customer numbers and the modification factors are set out in company-specific appendix. In addition to making this modification to allowed revenues, as explained in section A1.4 we are

separately consulting on whether to include a financial incentive mechanism to encourage accurate forecasting of customer numbers and meter penetration for allowed household retail service revenues, as we are for the wholesale price controls.

A3.1.4 Adjustments to the ACTS

We explained in section A3.1.1 that if companies believed the ACTS should be adjusted to reflect their circumstances they had to provide evidence in their business plans to support this. We needed to be convinced that any proposed adjustment was:

- material to their company;
- driven by factors beyond efficient management control; and
- that they impacted the company in a materially different way to other companies.

The company-specific appendices explain any adjustments made for South West Water and Affinity Water for the draft determinations. Our decisions reflected proposals set out in each company's revised business plan submissions. For South West Water, this included an adjustment within the price control package for doubtful debt.

When we confirmed enhanced status for South West Water's revised business plan proposals we did so in the round. This decision reflected the high quality of their overall plan, and our decision in relation to its revised doubtful debt adjustment proposal should be seen in that wider context.

There are likely to be a number of factors that could theoretically affect the overall level of doubtful debts that efficiently-managed companies experience, given their own circumstances. While South West Water sought specifically to emphasise the significance of the size of the bill and then levels of deprivation amongst its customer base there are a range of other factors, including management practice which could influence the overall level of doubtful debt amongst companies.

It is highly challenging to identify the extent to which the observed levels of historic doubtful debt costs are driven by inefficient management practices rather than by factors which are genuinely outside of management control. It is equally challenging to use the derived relationships as a basis for predicting future efficient doubtful debt levels, when the wider circumstances driving doubtful debt levels are expected to change over the business planning period.

To try and address this we encouraged companies to use more sophisticated analytical approaches. Many companies across the sector have used varying analytical approaches to make the case for an adjustment, given their own circumstances. We see the inclusion of convincing analytical evidence as a necessary step. But it is not a sufficient condition on its own for accepting any proposed adjustments to household retail services revenues.

All of the econometric models that we have so far received and reviewed, including those from South West Water, have suffered from statistical shortcomings of varying severity. In particular they have generally suffered from an 'omitted variable bias' suggesting that there are other variables that these models do not account for, which are affecting the models' ability to reliably predict the levels of doubtful debts likely to be experienced by efficiently managed companies in the next control period. Without a model that includes all of the key relevant explanatory variables for the purpose, and produces results that are statistically robust, it will always be difficult to identify the extent to which differences in predicted company costs are due to variations in companies' efficiency versus distinctive factors that are outside of efficient management control.

In confirming South West Water as an enhanced company, we considered a number of additional factors in the round, including the following.

- The particular circumstances of South West Water's operating area, in particular it having the highest bills in the country by some distance (£495[1] for an average annual bill in 2014-15 after taking account of a £50 Government contribution compared to an industry median of £393 in 2014-15 prices) and that the wider evidence from the risk based review indicates that these bill levels are likely to be efficient. The Government has recognised this creates particular challenges for less well-off households to pay bills, and is providing ongoing financial support in this area in recognition of these circumstances.

- Detailed qualitative evidence on the management practises of South West Water within the context of a convincing wider business plan developed with extensive customer engagement.

- The econometric evidence that South West Water submitted, both as part of its business plan and subsequently, that was used to drive the value of the adjustment it requested. Whilst several significant issues have been highlighted by our advisors, PwC, in its review of this evidence, the analysis:

[1]South West Water quotes an average household bill for 2014-15 bill of £499 in its business plan; this figure excludes the impact of new connections and meter optants.

  - still performed better than the models submitted by other companies against our statistical testing; and
  - the overall quantum of the adjustment that South West Water was seeking was verified by a range of different modelling approaches and not significantly called into question by PwC's alternatives.

- The scale and nature of the adjustment that South West Water was seeking in the context of its overall plan, including that:

  - the adjustment included a substantial efficiency challenge for the company to reduce its forecast 2014-15 doubtful debt costs by 15% by 2018-19; and
  - the plan includes a 'Water Share' scheme which will automatically return a proportion of any outperformance to customers over the period.

Our decision to make South West Water an enhanced company, and now to also reflect the doubtful debt adjustment from its revised business plan submission in its draft determination, should both be seen in this context. In particular the circumstances underlying this revised business plan may therefore not be directly comparable to other companies' business plan revisions, where:

- their management practices and/or operating areas are not similar to South West Water;
- the analytical approaches may have similar or different types of drawbacks to those of South West Water's econometric modelling – but have different impacts on the reliability of the resulting cost projections. This can even be the case when comparing results for different companies from the same cross company model. For example, the nature and scale of omitted variables for other companies may be different to those experienced by South West Water, as the relative importance of the different cost drivers (including those omitted) could be different. If average tenancy duration is a possible factor, it may be relatively less important in areas with higher average tenancy durations, and vice versa;
- adjustments cannot be corroborated by a wide variety of different econometric modelling approaches where there is uncertainty over the reliability of a single given approach; and/or
- the scale and nature of the proposed adjustment does not seem appropriate in the context of that company's overall plan.

A3.2 Introduction of separate non-household retail price controls

PR14 is also the first time that we have set separate price controls for non-household retail services.

Similarly to retail household controls, we expect separate price controls for non-household services to deliver more effective and targeted incentives for retail businesses and help to focus management attention on the relevant activities required for these services. In addition, we also expect non-household retail controls to support the development of the delivery of choice of retail supplier for all non-household customers in England after April 2017 in line with the UK Government's Water Bill.

For customers served by companies operating wholly or mainly in England, these price controls are intended to operate as a form of back-stop protection as, from 1 April 2017, retail competition will be widened to give choice to all of these customers.

Non-household customers that consume less than 50 megalitres (Ml) of water a year and are served by companies operating wholly or mainly in Wales, will not have such choice during 2015-20. Consequently, the non-household retail price controls for companies serving these customers will also include an efficiency challenge, and have an associated service incentive mechanism, as set out in our July methodology statement. This is to ensure that these customers have both price and service level protection in the absence of choice.

This section covers the price controls that will be set for non-household retail services as they relate to our draft determinations for enhanced companies. The proposed non-household retail price controls for companies operating wholly or mainly in Wales will also be addressed later in the price review as part of the process set out below.

A3.2.1 Timetable for non-household retail price control determinations

On 2 December 2013, all companies submitted their business plans, including information on default tariffs. However, there were a number of issues with the default tariffs proposed in these business plans. As stated in IN 14/01, 'Adapted approach for default tariffs', due to the widespread nature of the issues, we decided to remove default tariffs from the RBR and to adopt an adapted process to setting the relevant price controls. As part of this process, we sought further details from companies on the basis of the default tariff proposals they had put forward in their business plans by 1 March.

Having considered this additional information, we have issued further default tariff guidance ('Setting price controls for 2015-20 – guidance for companies on producing default tariffs') and information around completing the revised 'R4' retail data table ('Setting price controls for 2015-20 – guidance on revised data table requirements following Ofwat's risk-based review') which we will require from all companies by the 27th of June. The new date for completing the revised 'R4' data table in line with this guidance is the same date that we require a range of other data tables to be completed by all companies to reflect the actual 2013-14 data to be reflected in our final determinations of price controls in the periodic review. Consequently, as part of this process of gathering further industry-wide data, we expect the relevant default tariff submissions by 27 June to have a consistent level of assurance and reconciliation to the other data tables submitted at this time, as well as reconciling to Pro-forma A8 of the externally-audited regulatory accounts for 2013-14, due to be published by companies on 15 July as part of the annual reporting regime.

Drawing on these further industry data, we will set out our draft non-household retail price controls for all companies, including the two enhanced companies addressed in the current draft determinations, on 29 August, alongside draft determinations for companies seeking later draft determinations for the other price controls during the price review. We will issue final determinations for all price controls for all companies by 12 December.

A3.2.2 Setting non-household retail price controls

We will set non-household retail price controls as maximum average retail non-household revenues per customer, for specific customer bands. These customer bands will be set for each company and are likely to reflect existing tariff structures. Accordingly the customer bands will vary across companies. The allowed average non-household retail revenue for each customer band will comprise average non-household retail costs and a net margin.

Therefore, our price control determinations will set out an allowed amount of non-household retail revenue per customer per customer band, that will be added to the regulated wholesale charge applicable for that customer band in each year of the price control to determine the maximum average revenues that companies can collect from published default tariffs for that customer band in a given year. The customer bands and the level of the non-household retail price control for each band will be set based on the data submitted by companies on their non-household retail default tariffs by 27 June as described above.

As indicated the non-household retail price controls will be based on an assessment of the appropriate level of average non-household retail costs associated with each customer type, plus a net margin. For more information please see our default tariffs guidance.

If, within period, we were to consider that there were significant risks to effective competition developing as a result of inappropriate revenue being allowed within a given customer band, and that such concerns could not be addressed proportionately through alternative measures, we would seek to adjust the allowed average revenue within that customer band to a level that we considered would enable effective competition to develop where appropriate.

In order to consider the impact on financeability of the non-household retail control for these enhanced company draft determinations, we have derived indicative estimates of the total non-household retail service revenues that could be collected by the companies charging their projected non-household customers default tariffs in line with the proposed structure of price controls throughout the price control period.

These indicate the potential financial consequences for the relevant appointees of the proposed price controls, using their own business plan projections, for the purposes of financeability testing only at this stage. These indicative estimates assume no specific dynamic effects from the introduction of competition, and are subject to revision in line with our finalisation of non-household retail price control proposals later in the price review, as set out above.

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.

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