October 2016

Trust in water

Consultation on the final 2010-15 reconciliation

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About this document

This document invites comments on our proposals for reconciling the incentive arrangements for companies' performance and expenditure for the 2010-15 period now that actual information is available for the complete period, including 2014-15 the last year of the price review 2009 (PR09) price control.

To the extent that the adjustments we propose are different to the assumptions we made as part of the price review 2014, the differences will mainly be taken into account at the next price review in 2019. However, in respect of the revenue correction mechanism, companies are able to propose an adjustment through revenue in the period 2015-2020.

This document is accompanied by a specific appendix for each company showing how we have assessed the claims companies have made, and the basis for our initial decisions.

We are also publishing detailed spreadsheets containing calculations of the adjustments for each company.

Contents

1. Overview

1.1 At PR09 Ofwat included a number of incentive arrangements designed to protect customers by encouraging companies to improve and deliver their services more efficiently over the period 2010-2015. The mechanisms also were intended to help companies manage uncertainty.

1.2 Many of these mechanisms required data for the last year of the price control period, 2014-15 (the blind year) to assess the final outturn for the benefit of customers, or companies, as the case may be. When PR14 was completed in December 2014, this financial year had not finished. Consequently, companies provided forecast data, which Ofwat considered and adjusted as necessary, for inclusion in the PR14 final determination.

1.3 Companies have now provided complete information and final audited spend and performance data for the whole 2010-2015 period, which we have used to update our analysis.

1.4 In reaching proposals on the 2010-15 reconciliation, we have applied an approach that follows that previously consulted on and set out in the PR14 Reconciliation Rulebook.

1.5 In this document, we:

- Recap on the approach we used at PR14 to reconcile companies' proposed adjustments to 2015-20 price controls given companies' performance against incentive mechanisms put in place at the last price control review (PR09); and

- Explain how and why these proposed adjustments differ from those we made in our PR14 final determinations, and those proposed by companies.

1.6 We provide further information on the proposals for each company in company specific appendices that accompany this document on our website.

1.7 We have structured this document to consider each of the PR09 incentive mechanisms for which an adjustment needs to be made for 2014-15.

- Revenue correction mechanism (RCM).

- Serviceability shortfalls.

- Capital expenditure incentive scheme (CIS).
- Change protocol (logging up, logging down, shortfalls).
- 2009 agreed overlap programme.

1.8 We also cover the 2014-15 transition mechanism in chapter 7.

1.9 In each case we outline:

- The background to and operation of the PR09 incentive mechanism
- Our position as set out in PR14 final determination
- How our proposals differ from decisions taken at PR14
- How our proposals differ from companies' proposals.

1.10 There are a number of other PR09 incentive mechanisms not shown in paragraph 1.6 above, in particular the service incentive mechanism (SIM), the opex incentive allowance (OIA) and other revenue adjustments – such as tax changes arising from in-period changes to capital structure. For these mechanisms we expected all information to be available at PR14 and so did not include these in the scope of this final reconciliation. In any case we are not aware of any reason to change these adjustments. This document makes no further reference to these.

1.11 We set out the policy that we would apply during the PR14 reconciliation in the PR14 Reconciliation Rulebook, as updated on 17 February 2016. As stated in the Overview to that document, the PR14 Reconciliation clarified how we expect to make adjustments to revenue and RCV to reflect companies' performance during 2015-20, and how we will close out remaining PR09 reconciliation adjustments, in particular to take account of actual, rather than forecast, information in 2014-15. In this regard, page 72 of that policy states:

> **"The blind year reconciliations will be performed using the existing legacy mechanism models, as published on the Ofwat website at final determination. The reconciliations will compare: (a) the adjustments that were made to Revenue and/or RCV at PR14 as published in the company specific appendix final determination documents with: (b) the adjustments that would have been made had there been complete information for the full period, (including 2014-15) at the time of the final determination. The**

adjustments will be made at the next price review in 2019 where these adjustments are material."

1.12 Alongside companies providing final audited information for 2014-15, we requested in December 2015 in Information Notice IN15/17 that companies inform us if they considered data prior to 2014-15 should be amended. Eleven companies informed us of instances where the data we had used for 2010-14 should be updated. Further information on this corrected information is available in the company specific appendices.

1.13 For this final reconciliation for 2010-15, it is important that we use corrected data and final audited information for the full period and our proposals do this. In each case the issues with data were unambiguous and the remedy to replace incorrect information with correct information was clear. To continue to use incorrect data or information that has not been finally audited in our final reconciliation would not achieve the correct adjustments to companies' allowed revenues or RCVs to reflect their performance in the 2010-15 price control period, contrary to the purpose of this final reconciliation and potentially undermining confidence in the accuracy and legitimacy of the regulatory process.

1.14 In Appendix 2 we provide an explanation of a connected licence modification which we will shortly be formally consulting upon. The purpose of the proposed modification is to enable companies to levy charges to recover shortfalls in revenue in previous charging years that are calculated in accordance with the Wholesale Revenue Forecasting Incentive Mechanism (WRFIM). This could also include RCM adjustments. It also sets out a modification to the reconciliation rulebook so that the WRFIM references the RCM, which was a similar mechanism at PR09.

1.15 The document also contains in Appendix 3 further changes we are making to the PR14 Reconciliation Rulebook. These minor amendments are required to implement policy that is already broadly agreed. We are re-issuing the reconciliation rulebook alongside this document. We do not consider any of these changes to be contentious, but we would be grateful for any comments by 4 November.

1.16 All monetary values stated in this document are in 2012-13 prices unless otherwise stated.

2. Revenue correction mechanism

Background and operation

2.1 In 2009 we set price limits for the 2010 to 2015 period which set limits (K) on the average price water companies could charge each year. These limits were linked to the Retail Price Index (RPI), so that any changes in inflation would also be reflected in customer bills. The average increase in charges needed to be less than K+RPI. To set these price limits we had an expectation of the revenue that water companies would be able to bill its customers, but if for example customers used more water the actual revenue that companies billed would be greater than expected.

2.2 The revenue correction mechanism (RCM) is a financial mechanism introduced at PR09 to correct for differences between expected and actual price controlled revenue between 2010 and 2015. It was designed to:

- Remove the scope for a company to either outperform or underperform on the collection of such revenue, and by doing so to,
- Help ensure that companies were not disincentivised from promoting water efficiency to measured customers.

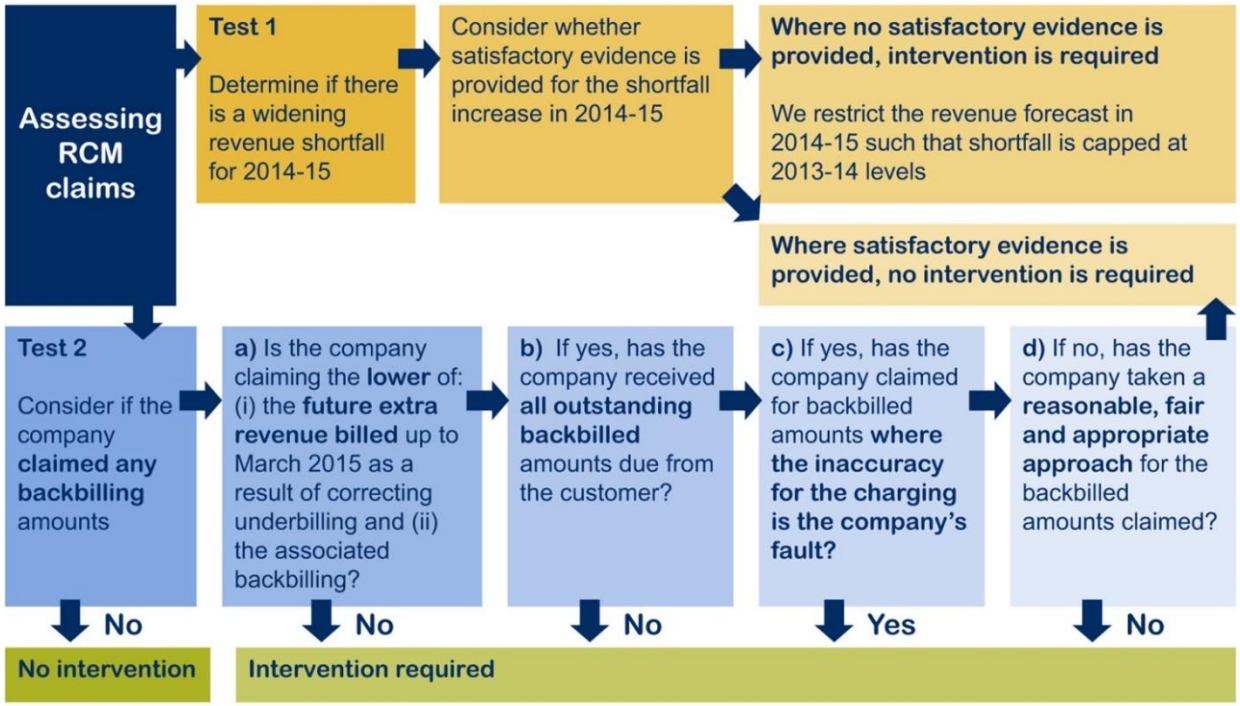
2.3 Two incentives were in place to help ensure that all supplies of water were billed, which should, going forwards, lead to bills in general being lower than they otherwise would be. These were the “billing incentive” and the “back billing incentive”.

2.4 The RCM adjustment was annualised over the 5 years 2015-20, in net present value (NPV) terms, in order to apply it to the allowed wholesale revenues over the whole price control period.

Ofwat’s PR14 FD position

2.5 In our PR14 final determinations, we applied two tests to decide whether to accept company representations, in respect of back billing and revenue forecasts for 2014-15, as shown in the process diagram below.

Figure 1: Assessment process for RCM final determinations



2.6 In our PR14 final determinations, test 1, the test for 2014-15 revenue was intended to ensure that companies' forecasts for 2014-15 were based on appropriate central estimates, and were consistent with actual revenues for 2010-11 to 2013-14. We intervened if the difference between the 2014-15 revenue forecast and year-by-year projection of revenue set at PR09 had increased beyond the variance in 2013-14 and earlier years and the company had not explained the reasons for the difference.

2.7 Where we intervened in the final determinations, we restricted the revenue forecast in 2014-15 such that the shortfall was capped at 2013-14 levels.

2.8 PR14 final determinations test 2 applied to the back-billing incentive (BBI), which incentivised companies to identify properties that had been charged less than they should have been (under-billed properties) – and to recover the amount owed (back bills).

2.9 The rules for claiming the BBI were set out in IN11/04 'Simplifying the revenue correction mechanism' and RAG 4.04 as set out below:

"We will expect the companies: to take a reasonable, fair and appropriate approach for the back-billed amounts that they are claiming; and not to claim

for back-billed amounts where the inaccuracy of the charging is the company's fault." (IN11/04)

"For a company to be able to make a claim for the back-billing incentive it would have had to have back-billed the customer and have received all outstanding amounts due from the customer. Where a company wishes to claim for the back-billing incentive, it should provide us with the total amount for the back-billing adjustment that it wishes us to include in the revenue correction mechanism calculation. It should follow the guidance as specified in the supporting information to information note IN11/04." (RAG 4.04)

2.10 At final determinations, we noted that it can sometimes be hard to establish whether responsibility for the causes of back billing lies with the customer or the company. We proceeded on the basis that if responsibility was not clearly attributable to the company, then we would allow a claim for back-billing.

2.11 The last set of adjustments made at final determinations concerned instances where we had other concerns over company data relevant to the RCM, in particular over companies' PR09 input assumptions or with their populated RCM models.

2.12 An issue arose where companies had chosen not to recover all the revenue they were entitled to in the 2010 to 2015 period ("k abatements"), and nor did they wish to recover it in the 2015-20 period. In these cases, company models needed to reflect this decision – in effect increasing their actual revenue in 2010-15 by the unrecovered amount, so that there would not be an apparent shortfall which would then be recovered in 2015-20.

2.13 In our PR14 final determinations, we proposed annualised RCM adjustments over the period 2015-2020 of £590 million, £342 million in water and £248 million in wastewater.

Changes since PR14 FD

2.14 Since PR14 final determinations, companies now have actual data for 2014-15, so assumptions no longer have to be made about revenue for that year, nor about the level of billing for 2014-15 for back-billed customers.

2.15 Consequently, we have not needed to apply test 1 but only test 2.

2.16 Having reviewed companies' initial submissions, we asked for and obtained revised data from a number of companies where there had been k abatements in 2010-15 for which they wished customers to retain the benefit. In these cases their modelling needed to be adjusted to reflect this, and prevent the revenue foregone being recovered in AMP6.

2.17 In our PR14 final determinations, we proposed annualised RCM adjustments of £590 million over the period 2015-2020. Our proposals show an overall reduction of £119 million in the amounts recoverable by the RCM, which will be adjusted in companies' revenue. We now propose RCM adjustments of £471 million, £290 million in water and £181 million in wastewater, as shown in the table below.

Table 1: RCM reconciliation, PR14 FD compared to these proposals

£m	PR14 FD	Impact of updated data from companies	2014-15 RPI changes	Intervention	Proposal
Water	342	-15	-37	0	290
Wastewater	248	-26	-41	0	181
Total	**590**	**-41**	**-78**	**0**	**471**

2.18 The reduction in the amounts recoverable by the RCM is mainly due to two factors – companies typically recovering more tariff basket revenue in 2014-15 than anticipated in their business plans, and RPI inflation in 2014-15 being lower than anticipated in company business plans, in effect making the revenue they collected 2014-15 worth more in real terms.

2.19 In addition a number of companies have noted that other information requires updating.

2.20 Affinity Water revised its back billing claim for the 2010-15 period, to bring it into line with the rules set out in 2.9 above, which will benefit customers by around £1 million.

2.21 Thames Water has provided updated property numbers for 2013-14 to correct for a calculation error and because it has incorrectly included wastewater customers as water customers. It also revised 2010-11 data as it had omitted a small number of properties. Using the correct data that Thames Water now reports changed the adjustment in the company's favour by around £2.6 million.

2.22 Bristol Water has noted that financial information needed to be updated for 2013-14 consistent with the footnote it provided to the current cost profit & loss statement in its 2014-15 regulatory accounts. Using the correct data that Bristol Water now reports changed the adjustment in the company's favour by around £0.3 million.

2.23 Welsh Water also provided slightly updated property numbers for 2013-14 as the date it provided its revised business plan in May 2014 was before the actual numbers were finalised. Using the correct data changed the adjustment in customers' favour by around £0.2 million.

2.24 Bournemouth Water noted that financial information in 2013-14 needed to be updated to align to the regulatory accounts. Using the correct data changed the adjustment in customers' favour by around £0.1 million.

2.25 As we explain further in appendix 2, we will allow companies either to make the final reconciliation adjustments for the RCM in the present price control period or at PR19. This flexibility will allow companies to manage the impact adjustments may have on customer bills. We expect companies' responses to this consultation to propose how they want RCM adjustments to apply taking account of customer interests. We will ensure that any adjustments take into account the time value of money so that customers are not worse off (that is, they will be made in net present value terms).

3. Serviceability

Background and operation

3.1 Serviceability is an historical method for assessing whether companies were properly managing and maintaining their asset systems so that they remain fit for purpose to maintain the flow of services to customers.

3.2 Serviceability is classified into one of four performance categories, which are graded by order of severity, where “improving” is the best assessment, followed by “stable”, then “marginal”, with “deteriorating” the worst. At PR09, companies were funded to achieve stable serviceability by 2012 and to maintain this for the remainder of the 2010-15 period. In other words, companies received funds specifically to ensure that they were able to maintain a stable serviceability performance.

3.3 Companies were at risk of us clawing back a proportion of the expenditure that we had allowed when setting price limits at PR09 to deliver stable serviceability to their customers if their serviceability for any serviceability indicator was assessed as less than stable in any year from 2011-12 onwards. We claw back allowed expenditure by reducing the regulatory capital value (RCV), which is our view of the value of companies’ assets. We call this applying a shortfall. As set out in the reconciliation rulebook we will adjust for the financing cost using the company specific post tax WACC and use RPI to inflate to the price base we use at PR19.

Ofwat’s serviceability methodology for 2010-15 and its application at PR14 FD

3.4 The operation of the serviceability incentive requires the definition of two levels of performance – a reference level and an upper control limit.

3.5 In advance of PR09 we set out that:

> **“...we expect companies to monitor each indicator, manage and maintain assets such that indicator values remain well within the control limits and either side of the reference level and do not drift towards the upper limit; this represents a stable trend in the indicator. The upper control limit identifies the point where the company must consider intervention to correct the trend. Values persistently close to or persistently above the upper limit indicate a less than stable trend**

and will attract intervention by Ofwat." (Guidance to PR09 business planning tables (Table B3))

3.6 When we determined price limits in 2009, we sent a letter to each company setting out our determination. Each letter stated:

"We will assess you against the delivery of the output requirements, not on how much you spend. You must…maintain all your assets systems so that they can sustain (or achieve) stable serviceability – fitness for purpose – throughout the period and beyond."

3.7 We also sent a confidential report to each company explaining our decision. In each report we set out our requirements for stable serviceability in similar terms to those set out in the Guidance to PR09 business planning tables, reiterating that "values persistently close to or persistently above the upper limit indicate a less than stable trend", and we said:

"You are at risk of being shortfalled at the next periodic review should we assess serviceability as less than stable in any year from the 2012 June return onwards. Any company that we assess serviceability as less than stable in 2014 our starting point will be a shortfall in output at the next periodic review."

3.8 We also explained the requirements in a public letter, PR09/38[1]

"We set reference levels and control limits for the 2010-15 period in our final determinations. We expect the companies to monitor each indicator and to manage and maintain assets so that all indicator values remain well within the control limits."

1 http://webarchive.nationalarchives.gov.uk/20150624091829/http://ofwat.gov.uk/publications/pricereviewletters/ltr_pr0938_serviceability

- "**Stable serviceability required for all indicators from 2012, if less than stable company should assume it is at risk of shortfall**
- **Shortfall will be applied at the next periodic review if marginal or deteriorating in 2014"**

3.9 Subsequently, in 2012, we provided an opportunity for companies to review reference levels and upper control limits should they consider matters had changed from the PR09 final determinations.

3.10 In our methodology to the 2014 price review we set out:

"**We expect companies to set out and demonstrate how they have delivered their PR09 final determination outputs and obligations for 2010-2015, incorporating final adjustments and reconciliations for outputs in 2009-10. Where the companies have not delivered, or are at significant risk of not delivering, these outputs we would expect the company to suggest appropriate shortfalling and logging down. Similarly, where a company has had to deal with appropriate (and non-trivial) new obligations, it should consider these for logging up."**

This approach applies across all PR09 outputs – including those in relation to serviceability. In particular, we expect companies to propose appropriate shortfalls if they are projecting 'marginal' or 'deteriorating' serviceability for any subservice in 2013-14 or 2014-15. [2]

3.11 We then set out in our draft determinations of August 2013[3] the process we had followed in considering whether to apply a shortfall for a serviceability indicator. The diagram is shown below.

[2] Page 155 http://www.ofwat.gov.uk/wp-content/uploads/2015/12/pap_pos201307finalapproach.pdf
[3] Draft Determinations Appendix A3 Section A3.6.7 (pp49 to 64)

Figure 2: shortfall process for the draft determinations

3.12 In our draft determinations we also set out how we assessed the requirement for and arrived at shortfalls, consisting of four steps:

1. **"We first considered the trend in each serviceability indicator and assessed, for each year in the period from 2011-12 to 2014-15, whether the trend was improving, stable, marginal or deteriorating. This assessment reflected the position set out at PR09: "Values persistently close to or persistently above the upper limit…will be classed as marginal or deteriorating." A marginal or deteriorating indicator is classed as a serviceability failure.**

2. **We then considered the extent to which the performance of an indicator in each year could be attributable to factors which were outside the control of the company.**

3. **The methodology recognises that companies should not be shortfalled for one-off failures, or if they address shortcomings in a timely and effective manner.**

4. **Finally, where appropriate, we calculated the shortfall amount. Our calculation reflected our policy intent that the serviceability mechanism should claw back monies that had been allowed to companies for performance that was not delivered. The calculation of any shortfall is therefore linked to the level of allowed expenditure in the existing price limits. In practical terms, the shortfall was capped at 50% of the aggregate spend in each sub-service. We defined four sub-services to categorise assets in our serviceability assessments: water infrastructure (WI), water non-infrastructure (WNI), sewerage infrastructure (SI) and sewerage non-infrastructure (SNI)."**

3.13 In their responses to our draft determinations companies made a number of representations, the most significant of which were that:

- The approach was not consistent with the published methodology - in particular they contended that at PR09 we had proposed to measure serviceability not at the level of individual indicators, but rather using a basket of indicators.

- The scale of the shortfalls was disproportionate in comparison with the level of detriment suffered by customers.

- Some indicators were more volatile than others, which should be taken account of within the scaling of shortfalls.

3.14 At final determinations we responded to these representations.[4] In respect of the first representation, we considered that the evidence from our PR09 final determinations, company specific reports from PR09 and technical summary document PR09/38 showed that each company was aware that it was under an obligation to ensure stability with respect to the stipulated indicators, and that it would expect shortfalling consequences as our starting point if by 2014 any of these indicators were not stable. Consequently, in our final determinations we continued to calculate shortfalling at an indicator level.

3.15 In respect of the second representation, we carried out further analysis of company cost data apportioned to each indicator, which showed that our calculation methodology could lead to disproportionately large values. Therefore, we amended our calculation methodology at final determinations. The calculation had taken account of poor performance above the upper control limit to the extent that this was double the range between the reference level and the upper control limit. Poor performance above this limit did not impact the shortfall calculation. Due to proportionality concerns, we stopped doubling the range. We therefore halved the range of poor performance used to calculate the shortfall and therefore the maximum shortfall which could apply to an indicator.

3.16 In respect of the third representation, we carried out further analysis considering the volatility of individual indicators over time. We found that two indicators were especially volatile: the sewage treatment population equivalent; and the number of properties that have unplanned interruptions to supply

[4] http://www.ofwat.gov.uk/wp-content/uploads/2015/10/det_pr20141212legacy.pdf

exceeding 12 hours, while another indicator, that for water treatment works coliforms, was also more volatile than the others. Consequently, at final determinations, we reduced shortfalls by multiplying them by a volatility factor. For the indicators sewage treatment population equivalent and unplanned interruptions to water supply exceeding 12 hours indicators we applied a volatility factor of 0.75, and a volatility factor of 0.875 to the water treatment works coliforms indicator. These reduced the shortfall that applied for these indicators.

3.17 Following draft determinations, we also appointed an external firm of engineering consultants, Strategic Management Consultants (SMC), to assess the logic and reasoning for the shortfalls being considered for the PR14 final determination. SMC confirmed that the shortfall assessments were appropriate when compared to our criteria and methodology, and that they had been applied consistently across companies, and SMC agreed with our conclusions for all companies where we were considering a shortfall[5].

3.18 We also produced a cross check to test the appropriateness and consistency of our decisions for the final determinations. The resulting 'persistency framework' considered potential breaches of the upper control limit for different combinations of years, which showed 16 possible scenarios set out in policy chapter A4, but made clear that the framework was neither mechanistic, nor definitive:

"It should be noted that the serviceability assessments, using expert judgement where required, that we discussed in section A4.8.4.2 above and that was externally assured by SMC, are the primary means of determining if a shortfall should be applied; the persistency framework has only been used as a further cross-check to test the consistency and coherence of these assessments."

3.19 Having decided that a company should be shortfalled, the final step in our PR14 shortfalling process was the calculation of the shortfall adjustment for each indicator. The approach we adopted at PR14 final determinations took account of both the expenditure assumed within price limits to maintain stable serviceability, and the actual performance of an indicator as compared to the reference level and upper control limit. We provide an example of the calculation in Appendix 1.

[5] http://www.ofwat.gov.uk/wp-content/uploads/2015/10/det_pr20141212legacysmcadj.pdf

Changes since PR14 FD

3.20 Since PR14 FD, we have now received data from companies on the performance of the serviceability indicators for 2014-15. Our most significant interventions relate to the unplanned interruptions to supply exceeding 12 hours indicator as we explain in the next section. Changes required for other serviceability indicators are explained in the following section.

Interruptions Indicator

3.21 In the company specific appendices that accompanied our 2014 final determination documents, we warned 11 companies that they were at risk of additional shortfalls being made in the final reconciliation. We warned companies about a total of 21 indicators, with some companies being warned about more than one indicator. In each case the company was likely to be "non-stable" in 2014-15 and this combined with earlier failures, would put them at risk of shortfalling. Of the 21 indicators where we had notified a potential shortfall, for 19 indicators actual performance for 2014-15 was below the upper control limit. For the two remaining indicators, two companies, Anglian Water and Severn Trent Water, had actual performance above the upper control limit for 2014-15 in respect of the indicator concerning the number of properties that have unplanned interruptions to supply exceeding 12 hours. Performance had also been above the upper control limit in 2011-12.

3.22 Two further companies, Dee Valley Water and Affinity Water, also had performance for this indicator above the upper control limit in 2011-12 and 2014-15. These companies had projected performance below the upper control limit and so had not been specifically warned that they were at risk of a shortfall for this indicator. However, we noted in each company specific appendix that accompanied our final determination documents for these respective companies that the assessments for 2014-15 were based on forecast data and were subject to review once final performance data became available.

3.23 We analysed this in line with the policy we explained to the Competition and Markets Authority (CMA) in the context of Bristol Water's redetermination of its price control for the 2015-20 period.[6] In our submission to the CMA we stated:

[6] Ofwat response to Bristol Submission, Page 131.

"Management control includes prudent preparation that management can take in advance to 'maintain the flow of service to consumers', which includes mitigating the risk of failures occurring, real time monitoring and control, increasing the speed and effectiveness of any operational response and putting in place other measures to maintain service despite asset failures occurring."

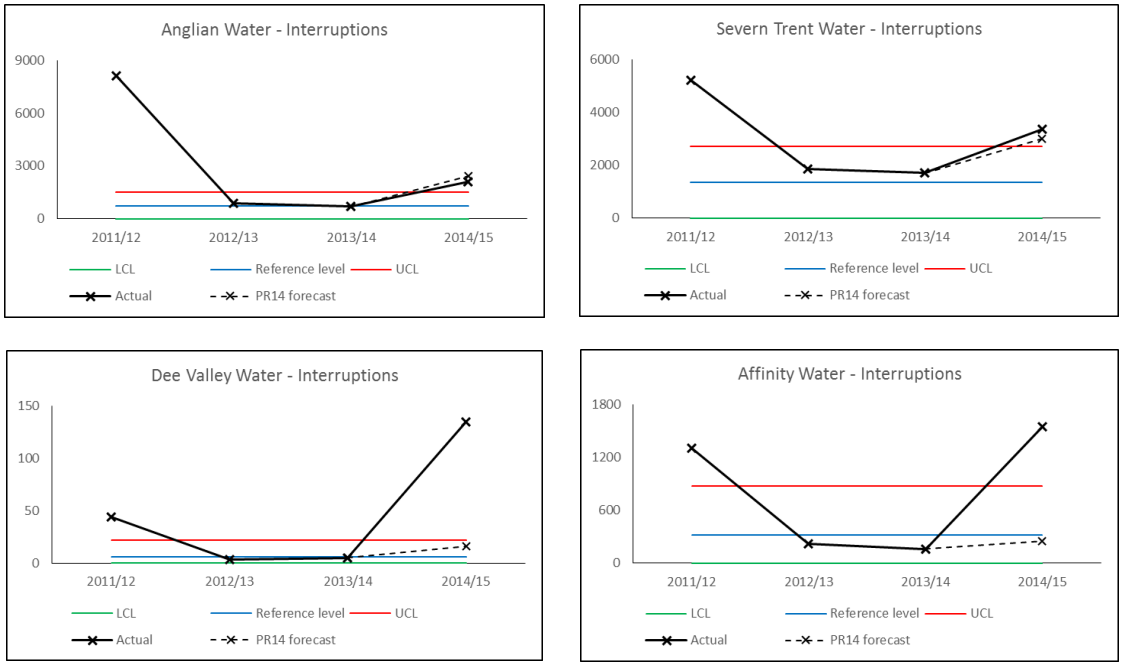
3.24 It is appropriate that companies, rather than customers, bear the risks of operational and investment decisions unless an event is clearly outside management control.

3.25 We accepted evidence for one company that one event was outside management control, but we were not persuaded by evidence for any of the other events which companies claimed were due to factors outside their management control.

3.26 The charts below show all four companies' performance in respect of the indicator concerning the number of properties that have unplanned interruptions to supply exceeding 12 hours over the period from 2011-12 to 2014-15, after taking account of exclusions for factors we agree to be outside of companies' control.

3.27 It is important to note the different scales used on these graphs.

Figure 3: Interruptions indicator for companies that exceeded upper control limit in 2014-15



3.28 As our final determinations made clear (policy chapter A4, section A4.8.4.3), serviceability assessments are primarily made on the basis of a range of factors and using our regulatory judgement. We note that this is consistent with the approach endorsed by the CMA in its final report in the Bristol Water case. At paragraph 8.4 of that determination, the CMA concluded that serviceability was "**an outcome-based assessment designed to ensure that companies are properly monitoring, managing and maintaining their asset systems.**"

3.29 Our published policy from PR09 states that a stable trend is required for each indicator where performance remains well within the control limits (see summary in policy chapter A4, section A4.8.4.1). Performance was not well within the control limits for this indicator for these four companies in both 2011-12 and 2014-15 and we judge each company's performance in respect of this indicator to be non stable in 2011-12 and in 2014-15.

3.30 We have also considered the independent assessment of whether or not to make serviceability shortfall decisions completed in 2014 by SMC, the external consultants we engaged ahead of PR14 final determinations. It was SMC who originally suggested we revisit our proposed decision not to apply a shortfall for Anglian Water. SMC was concerned by the combination of the forecast failure in 2014-15 and the failure in 2011-12. SMC agreed with our decision to wait and consider actual performance and apply shortfalls in the case where actual performance was not stable in 2014-15.

3.31 We have also considered the persistency framework that we published in Policy Chapter A4 to the PR14 final determination as a cross-check. Within this for the scenario where an indicator was breached in 2011-12 and 2014-15, the text in the table states, "no shortfall if no discernible trend". Nevertheless this statement cannot be read in isolation and the text below the table states that "the serviceability assessments, using expert judgement where required […] are the primary means of determining if a shortfall should be applied". Further, in terms of discernible trend, the onus is on companies to demonstrate that serviceability levels are stable, particularly after failure earlier in the period. Prior to the 2014/15 year, in these four cases, the trend, albeit on only three years' worth of data, was recovering. With the inclusion of 2014/15, the trend or change in performance between years, is now adverse. We acknowledge that assessing trend on limited data series is difficult. We have nonetheless taken into account the overall performance relating to the interruptions indicator for each of the four companies throughout the price review period when exercising our regulatory judgement as to whether serviceability shortfall decisions should be taken against them.

3.32 In summary our serviceability shortfalling policy, which we set out in our final determinations in 2009 and quote above, had the following key features:

- Each indicator had to be maintained in a stable position from 2011-12, after one year's grace (2010-11) during which a company could seek to achieve stability. Thereafter, it was expected that companies could and should maintain stability throughout the period.

- An indicator is stable where performance remains well within the control limits. Values persistently close to or persistently above the upper limit indicate a less than stable trend.

- Shortfall consequences were to be expected if any indicator was not stable towards the end of the period.

- Indeed in the 2013 methodology statement for PR14 companies were asked to propose shortfalls if they were predicting failures in 2013-14 and 2014-15.

- If performance was not stable in 2011-12 and 2014-15 companies were at risk of shortfall, as set out in the PR14 final determinations.

3.33 Two of the companies that forecast performance above the upper control limit, Anglian Water and Severn Trent Water, were explicitly notified in the company specific appendices to the PR14 final determination that they could be shortfalled for this indicator.

3.34 The other two companies that did not forecast performance above the upper control limit, Dee Valley Water and Affinity Water, were also notified that assessments were subject to review once actual performance data became available.

3.35 Taking all this into account, we propose to apply shortfalls to all four companies where the interruptions indicator breached the upper control limit in 2011-12 and 2014-15. Customers' bills in 2010-15 reflected sufficient expenditure for companies to maintain assets systems so that they could sustain (or achieve) stable serviceability throughout the period and beyond; these companies failed to deliver this and recovering expenditure is appropriate. The total value for these four companies is £21 million as set out in Table 2 below.

Other Indicators

3.36 There are three other indicators where the amount shortfalled has changed since final determinations.

3.37 For Southern Water, the amount shortfalled has fallen by £0.8 million from 2014 final determinations, because its actual performance for 2014-15 for the flooding other causes indicator was better than we had anticipated at final determinations.

3.38 For Thames Water, the amount shortfalled has risen by £10.3 million from 2014 determinations, for two reasons. First, because its actual performance for the flooding other causes indicator in 2014-15 was worse than that anticipated at final determinations. Second, because the company has reviewed the accuracy of its historical reporting of the flooding other causes indicator, and re-stated the figures.

3.39 For Dee Valley Water in addition to our proposal for interruptions indicator, the amount shortfalled has fallen by £0.024 million from 2014 final determinations, because its actual performance for 2014-15 for the discolouration contacts was better than forecast.

3.40 A comparison of the shortfall position for companies at final determinations and in the proposed 2010-15 final reconciliation is shown in table 2 below.

Table 2: Serviceability shortfalling, PR14 FD compared to these proposals

Company	Indicator	PR14 FD £m	Proposal £m
Anglian Water	Interruptions	0.0	6.0
Dŵr Cymru	Interruptions	12.6	12.6
Severn Trent Water	Interruptions	0.0	10.0
	Water Treatment Works coliforms	24.9	24.9
	Sewer blockages	9.8	9.8
	Pollution incidents (enhanced standard)	13.6	13.6
Southern Water	Flooding other causes	3.3	2.5
	Sewage treatment population equivalent	51.6	51.6
Thames Water	Pollution incidents	13.5	13.5
	Flooding other causes	7.1	17.4
	Sewer blockages (enhanced standard)	2.9	2.9
Affinity Water (VCE)	Interruptions	0.0	4.7

Bristol Water	Interruptions	4.1	4.1
South East Water	Interruptions	4.9	4.9
Dee Valley Water	Discolouration contacts	0.7	0.6
	Interruptions	0.0	0.2
Total		**149.0**	**179.4**

4. Capital expenditure incentive scheme

Background and operation

4.1 The capital expenditure incentive scheme (CIS) is a financial incentive mechanism introduced at PR09. It was designed:

- to improve incentives for companies to submit realistic investment plans for 2010-15; and
- to create strong incentives for each company to manage its capital costs and outperform the regulatory settlement, once price limits had been set.

4.2 Under the CIS, each company proposed a forecast of its capital expenditure over 2010-15, as part of the price review process – its 'bid'. Ofwat determined a baseline expenditure for each business plan reflecting the outputs and outcomes each company had to deliver and an understanding of industry average efficiency. The mechanism allows the company to recover, in allowed revenues, its actual capital expenditure plus or minus a reward or penalty.

4.3 A company is rewarded if it spends less than Ofwat's baseline expenditure, while it is penalised if its actual capital expenditure exceeds this baseline. The size of these rewards and penalties depends on the expenditure forecast chosen and how the companies' actual expenditure compares with this forecast.

4.4 The CIS mechanism gives rise to two adjustments:

- **CIS RCV adjustment:** this ensures that total actual capital expenditure is included in the RCV. To do this, the capital expenditure allowed in the PR09 final determinations is subtracted from the RCV, and the actual expenditure is added back.
- **CIS revenue adjustment:** this applies the reward or penalty and also corrects for the return earned on capital expenditure consistent with the actual expenditure incurred as opposed to that which was assumed in the PR09 final determinations.

Ofwat's PR14 FD position

4.5 A key element of the CIS process for each company is the re-stated bid ratio, which shows as a ratio the extent to which companies' business plan expenditure forecasts compare to the baselines allowed by Ofwat at PR09.

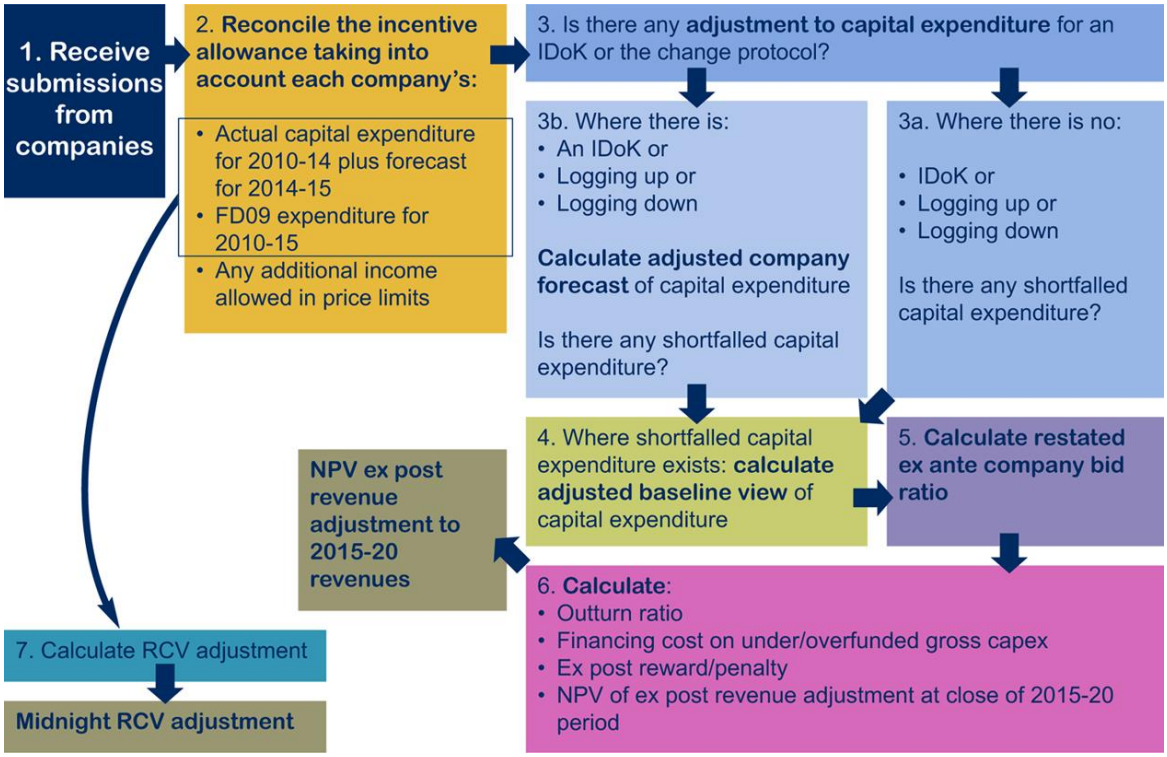
4.6 The bid ratio is important because it determines not only the level of reward or penalty for accurate forecasting, but also the incentive rate applied to company over or under spend relative to Ofwat's baseline.

4.7 The ratio is re-stated because it takes account of adjustments due to the change protocol, shortfalling and logging up and down, which can affect either companies' business plan expenditure forecasts, Ofwat's baseline, or both.

4.8 Another key element is actual capital expenditure. If a company's actual capital expenditure is less than Ofwat's baseline, then it keeps a proportion of the underspend (the proportion being determined by the bid ratio) and passes the remainder to customers. Conversely, if a company's actual expenditure is more than Ofwat's baseline, then it funds a proportion of the overspend, with customers funding the remainder.

4.9 The CIS process used in our PR14 final determination is shown below.

Figure 4: CIS process applied for final determinations



4.10 In our PR14 final determinations we proposed:

- A net RCV adjustment of £1,293 million split between £527 million for water, and £766 million for wastewater.
- A net penalty of £29 million, comprising a £58 million water penalty, and a £29 million reward for wastewater.

In February 2016[7] we published our conclusions on the approach to adjusting for inflation as applied to the RCV in the 2010-2015 true-up, following consultation, as we set out we would in our final determinations. This will impact opening RCVs at April 2020, but will not otherwise affect companies.

[7] http://www.ofwat.gov.uk/wp-content/uploads/2015/07/gud_pro20160217pr14reconpolicy.pdf

Changes since PR14 FD

4.11 Since PR14, we now have actual company capital expenditure data for 2014-15, and also, in the light of complete information, revised our assessments for logging up, logging down and shortfalling, set out in chapter 5.

4.12 The CIS reconciliation models require actual Construction Output price Index – All new construction data (COPI) to calculate the proposed final 2010-15 reconciliation adjustment. COPI was published quarterly by the Department for Business Innovation and Skills (BIS) with the data provided by the Office for National Statistics (ONS). Following a review, BIS identified concerns over the reliability of the index and suspended its publication, with the last provisional number being published for the second quarter of 2014.

4.13 ONS is in the process of developing a new output prices index, however, this is not yet published and, depending on the option selected for the index, may not be capable of back-calculation to 2014. In the meantime ONS has published an interim series, the Output Prices Index, which it has published on a monthly basis since January 2014.

4.14 Consequently, we do not have a consistent series of price indexation data covering the whole period 2010-2015, but rather one series, COPI, covering the period to the end of the second quarter 2014, and another series, the interim Output Prices Index, beginning in the first quarter of 2014, running to the end of the price control.

4.15 We stated in the update to the PR14 Reconciliation Rulebook of February 2014 that we would carry out the CIS true-up in 2016, and that this might require us to make an adjustment to any new COPI index to one that is consistent with that used at PR14.

4.16 Consistent with our statement, in order to run the CIS reconciliation models, we needed to link the two series together. The ONS has published a background note[8] that includes guidance on how this may be done, which we have adopted in order to roll forward the COPI series up to the end of the price control period.

4.17 Although we have adopted the ONS guidance, this does not inform the decision as to which quarter, or quarters, to use when linking the COPI series with the

[8] ONS Interim solution for construction output price indices, quarter 3 (July to September) 2015, 30 November 2015. Background note 2.

interim index. There are 2 quarters for which COPI data and the interim index both exist, consequently there are 3 potential time periods for which we could calculate the link:

- Quarter 1 2014
- Quarter 2 2014
- An average of Q1 and Q2 2014

4.18 In deciding which time period to use in making the link, the key factor is the robustness of the data. We note that COPI index data has been subject to revision for up to 5 successive quarters following initial publication, and that the revisions typically become smaller with each iteration.

4.19 Consequently, we believe that the most robust COPI index available is that for Q1 2014, which has already been subject to one revision, whereas that for Q2 2014 has not been revised at all.

4.20 Therefore, the approach we have taken is to calculate a linking factor between the two indices using data for the first quarter of 2014. The linking calculation and the COPI values we have calculated using it are shown in table 3 below.

Table 3: Options for constructing an alternative COPI index

Quarter	Actual COPI	Interim index	Linking factor	Linked COPI	COPI in CIS model
2014 Q1	121.2 R	121.4	0.99835	n/a	**121.2**
2014 Q2	123.0 P	120.9		120.7	**120.7**
2014 Q3	n/a	121.8		121.6	**121.6**
2014 Q4	n/a	122.1		121.9	**121.9**
2015 Q1	n/a	123.3		123.1	**123.1**

R denotes revised data, P denotes provisional data

4.21 Taking this into account, along with our revised views explained in the following chapters on the change protocol (logging up, down and shortfalls) and the 2009 agreed overlap programme, we can now revise the CIS estimates made in our PR14 final determinations and finalise the rewards and penalties associated with the CIS for the period 2010-2015.

4.22 In carrying out these revisions we have noted that we made an input error in the CIS model for Thames Water. This led to a £16 million error in the company's favour and is explained further in the company specific appendix. In running the model for this 2010-15 reconciliation we have used correct data, in line with the approach we set out in chapter 1, which corrects this in this final reconciliation.

4.23 The changes since our final determinations to the CIS RCV adjustment, and CIS revenue adjustment are shown separately for water and wastewater in the tables 4 and 5 below. As well as setting out the updates from this 2010-15 final reconciliation that we are consulting on in this document, these tables also set out the indexation correction we decided to make in February 2016 following an earlier consultation[9].

Table 4: Water CIS RCV and revenue adjustments, PR14 FD compared to these proposals

Water	CIS RCV adjustment				CIS revenue adjustment		
Company	PR14 FD	Indexation correction	updates	Proposed	PR14 FD	updates	Proposed
Anglian	-140.8	-61.9	-14.5	-217.3	-3.7	6.5	2.8
Dŵr Cymru	157.9	-35.7	27.0	149.3	-47.9	-8.2	-56.1
Northumbrian	-149.0	-46.9	-6.6	-202.5	5.6	2.6	8.2
Severn Trent	-7.7	-73.1	17.9	-63.0	-42.5	-5.3	-47.8
South West	-29.9	-19.4	-2.0	-51.3	-4.7	0.6	-4.1
Southern	77.3	-31.3	-1.1	44.9	-12.9	-0.8	-13.7
Thames	-75.7	-101.4	13.0	-164.1	-15.1	-0.9	-16.0
United Utilities	-138.0	-88.8	26.7	-200.1	-17.0	-8.5	-25.5
Wessex	-137.0	-33.3	2.5	-167.9	13.4	-0.4	13.0
Yorkshire	-109.2	-47.1	2.5	-153.8	16.1	1.1	17.1
Affinity	14.8	-27.8	-2.8	-15.7	-9.8	0.7	-9.1
Bristol	16.3	-9.3	2.2	9.1	-6.1	-0.2	-6.3
Dee Valley	-2.8	-2.3	0.0	-5.1	-0.9	0.1	-0.9
Portsmouth	5.6	-2.6	0.1	3.1	-2.2	-0.1	-2.2
Bournemouth	0.9	-3.0	0.0	-2.2	-1.5	0.0	-1.5
South East	7.5	-25.8	0.5	-17.8	-7.5	0.1	-7.3
South Staffordshire	-11.0	-10.9	0.9	-21.0	-4.2	0.0	-4.2
Sutton & East Surrey	-6.5	-6.7	-0.8	-14.1	-3.3	0.2	-3.1

[9] http://www.ofwat.gov.uk/wp-content/uploads/2015/07/gud_pro20160217pr14reconpolicy.pdf

Total	-527.4	-627.3	65.6	-1,089.2	-144.2	-12.5	-156.7

Table 5: Wastewater CIS RCV and revenue adjustments, PR14 FD compared to these proposals

Wastewater	CIS RCV adjustment				CIS revenue adjustment		
Company	PR14 FD	Indexation correction	updates	Proposed	PR14 FD	updates	Proposed
Anglian	-193.3	-79.1	-1.8	-274.1	11.3	3.3	14.6
Dŵr Cymru	120.4	-37.7	6.2	88.9	-34.7	-2.2	-36.9
Northumbrian	-4.9	-34.2	1.4	-37.6	-16.3	0.8	-15.5
Severn Trent	-98.5	-89.9	0.7	-187.7	-19.2	1.2	-18.0
South West	12.6	-25.1	-2.2	-14.7	-8.1	1.1	-7.0
Southern	-36.3	-84.1	15.8	-104.7	-28.5	-3.7	-32.1
Thames	-388.9	-206.0	4.7	-590.2	-72.3	-17.9	-90.2
United Utilities	65.3	-144.0	38.5	-40.2	-27.2	-9.8	-37.0
Wessex	-65.3	-35.6	-0.2	-101.1	0.7	0.1	0.8
Yorkshire	-176.9	-75.2	2.7	-249.5	6.6	2.2	8.8
Total	-765.8	-810.8	65.6	-1,510.9	-187.8	-24.9	-212.6

4.24 The change to the adjustment to the RCV from the CIS mechanism we propose as a result of this final 2010-15 reconciliation is coincidentally £65.6 million for both water and sewerage.

4.25 As shown in tables 4 and 5 above, this would therefore result in:

- A total net RCV adjustment of -£2,600 million split between -£1,089 million for water, and -£1,511 million for wastewater.
- A total net revenue adjustment of -£369 million, comprising a -£157 million water, and a -£213 million for wastewater.

4.26 Table 6 below shows the capital expenditure outperformance and underperformance achieved over the 2010-15 period. The performance compares companies' outturn capital expenditure with the capital expenditure allowance included in the RCV in their PR09 settlement.

Table 6 CIS capital expenditure performance in 2010-15

Company	Water	Wastewater	Total
Anglian	131.3	166.4	297.6
Dŵr Cymru	-212.5	-156.4	-368.9
Northumbrian	118.3	-23.1	95.2
Severn Trent	-67.8	27.4	-40.4
South West	16.5	-30.0	-13.5
Southern	-101.0	-47.6	-148.5
Thames	-18.4	217.0	198.6
United Utilities	73.3	-159.5	-86.3
Wessex	108.7	37.2	145.9
Yorkshire	87.9	143.5	231.4
Affinity	-34.0		-34.0
Bristol	-18.5		-18.5
Dee Valley	0.9		0.9
Portsmouth	-7.8		-7.8
Bournemouth	-3.1		-3.1
South East	-28.4		-28.4
South Staffordshire	1.6		1.6
Sutton & East Surrey	2.0		2.0
Total	48.9	174.8	223.7
Total outperformance[1]	540.4	591.5	973.2
Total underperformance[2]	-491.5	-416.6	-749.5

Notes:

1. Outperformance is where actual expenditure is lower than the allowance in the RCV in the PR09 settlement and is denoted by positive values.

2. Underperformance is where actual expenditure is higher than allowance in the RCV in the PR09 settlement and is denoted by negative values.

5. Change protocol (logging up, logging down and shortfalls)

Background and operation

5.1 The change protocol for 2010-15 was published in November 2009 to provide a framework to deal with material changes in the investment programme. This impacts the capital incentive scheme (CIS) which is explained in chapter 4. At PR09 we set a baseline of the efficient capital expenditure that a water company required in this period. The ratio between the company view set out in its business plan and our CIS baseline affected how any under or out performance is shared between customers and the company. The change protocol sets out how we make adjustments to appropriately reflect these changed circumstances, before calculating how any under or out performance is shared.

- Logging up and down changes are 'two-sided' adjustments, where we adjust both the company view and our CIS baseline with no net impact on the CIS ratio, in the event of non-trivial changes to delivery requirements (>2% of relevant service turnover). This allows legitimate material changes in the investment programme to be recognised without adversely affecting how under or out performance is shared.

- Shortfalls are 'one-sided' adjustments, where we adjust our expenditure assumption for the CIS baseline only, increasing the CIS ratio, where there are obligations, funded at PR09, which have not been delivered by the company.

5.2 This chapter deals with change protocol issues, excluding serviceability shortfalling, which we discuss in chapter 3.

Ofwat's PR14 FD position

5.3 In making our final determinations, we had conducted a detailed analysis of each company's reported and projected 2010-15 performance and reconciled this to the targets and delivery expectations set out at PR09.

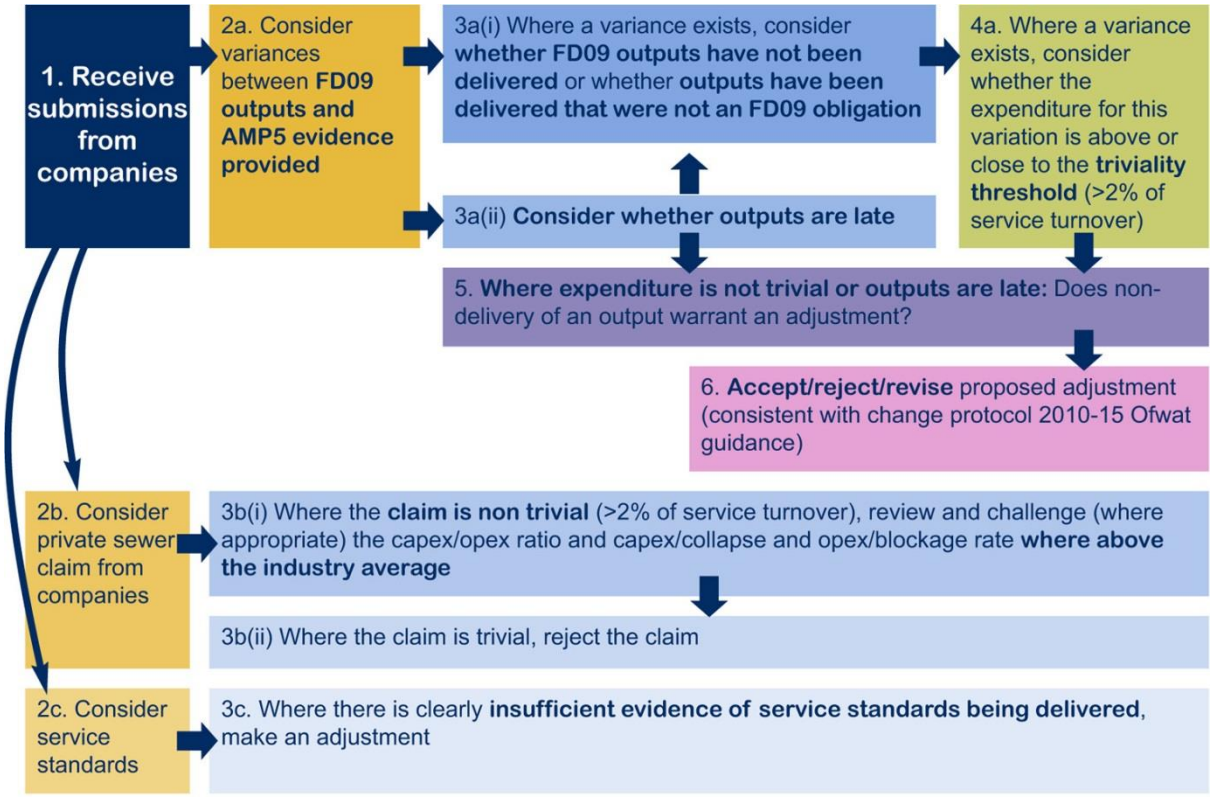
5.4 Where there were material changes in actual delivery relative to these expectations due to changes in circumstances (>2% of service turnover) we

applied logging up and logging down adjustments. A similar materiality computation is not carried out for shortfall adjustments as it is important to recover expenditure included in customers' bills in all cases where companies have not delivered an obligation. Adjustments for shortfalls in delivery in this context are applied as described in 5.1 which is different to the serviceability shortfalls discussed in chapter 3. Our adjustments affect the CIS mechanism which determines how any under or out performance is shared between customers and the company through adjusting the RCV and the allowed revenues.

5.5 In some cases, the companies advised us in their business plan of material changes and their financial impacts. In other cases, we applied an adjustment even where the company did not propose one in its business plan (a 'counter-claim'). In both instances, we assessed the reason for the change, the magnitude of the change and the financial impact of the claims/counter-claims on the company and formed a judgement on the appropriate financial adjustments to make.

5.6 The decision process we used in our final determinations is shown in figure 5 below.

Figure 5: Change protocol decision process for final determinations



5.7 To find the financial impact of changes that occurred between 2010 and 2015 we calculated the net change in capital and operating expenditure compared to our assumptions at PR09 on a “pre-efficiency” basis. At PR09 companies provided expenditure assumptions in their business plans as if they would not change their efficiency (pre-efficiency) and separately provided an assumption of how efficiency would improve. This allowed us to change both the underlying expenditure and views on efficiency in coming to our price limit assumptions.

5.8 In doing this we had to take account of inflation. The original price limit assumptions were indexed from 2007-08 prices (the price base used when the assumptions were made at PR09) to 2012-13 prices using indices consistent with those used at PR09. For operating expenditure (the price based used for PR14) we used the financial year average RPI and for capital expenditure, the original price limit assumptions were indexed to 2012-13 prices using financial year average COPI.

5.9 In making our PR14 final determinations, we assessed around 70 claims and counter claims, and as a result reduced PR09 capital expenditure baselines as used in CIS by £183 million in 2012-13 prices.

Changes since PR14 FD

5.10 Since PR14 FD, we have received actual data from companies detailing revisions to those logging up, logging down and shortfall claims accepted by Ofwat at PR14, and a small number of new logging down and shortfall claims.

5.11 The vast majority of claims made by companies are for variations in the level of costs incurred in respect of activities which took place wholly in the price control period 2010-2015. We have been able to assess these claims in the same way as at PR14.

5.12 However, there were a number of claims involving variations in the level of costs incurred in respect of activities which have straddled the periods 2010-2015 and 2015-2020.

5.13 In some cases, PR14 final determinations reflected an assumption that certain projects would straddle price control periods. In other cases, projects which we assumed would take place wholly in the period 2010-2015 have been delayed so that they have not been completed until the period 2015-2020.

5.14 A number of companies have raised with us the issue of how variations in the level of costs of these projects which straddle price control periods would be dealt with.

5.15 The issue arises because the Change Protocol does not extend to the period 2015-20 as set out in the PR14 final methodology paper, as shown below:

"At previous price reviews, we have also used a mechanism called the change protocol – which sets out a formal process for managing the risks and costs associated with in-period changes in companies' statutory obligations.

As we explained in chapter 4, we want companies' Boards to take more ownership of – and accountability for – what they deliver. This includes taking more responsibility for managing the risks associated with changes in statutory obligations.

We do not want to constrain companies by imposing a centralised process for managing changes in statutory obligations. Instead, companies should put forward proposals for dealing with such changes that reflect their customers' priorities and their own particular circumstances (which might include consideration of the level of uncertainty around obligations for 2015-20)."
Page 139

"...our position on legacy tools remains unchanged – we will use them to assess companies' performance over 2010-15 and, where appropriate, make adjustments to revenues and price controls for 2015-20 which reflect that performance in line with our commitments at the previous price control." Page 149

5.16 As confirmed in the PR14 final methodology paper, the only incentive mechanisms in place for this price control period are the Outcome Delivery Incentives (ODIs) and the Totex Incentive Mechanism.

5.17 Our approach to the final 2010-15 reconciliation has also been guided by the comments we previously made and consulted on in the PR14 Reconciliation Rulebook, as shown below:

"**To reconcile the PR09 incentive mechanisms, we have had to make forecasts of company performance and expenditure for the last year of the current price control period. A final reconciliation of the mechanisms will be undertaken in the summer of 2015 to take account companies' actual performance and expenditure in 2014-15 (with the CIS being reconciled in 2016)"** Page 71

"The Blind Year Reconciliations will...compare the adjustments that were made to Revenue and/or RCV at PR14 as published in the company specific final determination documents with the adjustments that would have been made had there been complete information for the full period (including 2014-15) at the time of the final determination." Page 72

5.18 We set clear expectations in the PR14 methodology paper that we would not adjust assumptions made at PR14 for 2015-16 or later in the price control period 2015-2020 as set out in 5.16 above. We were also clear in the Reconciliation Rulebook that the reconciliation of incentives for the 2010-15 period would involve making changes to close out remaining PR09 reconciliation adjustments as set out in 5.17 above. This final reconciliation exercise is confined to updating information for the period 2010-11 to 2014-15.

5.19 In addition, we note that affected companies will be able to recover broadly 50% of any additional amounts incurred over the period 2015-2020 through the operation of the Totex Incentive Mechanism. We note that the amounts involved are less than the materiality threshold we used when considering if we needed to adjust our view of efficient costs for the 2015-20 period. In setting baselines we took a high level approach and only took account of company specific factors where it exceeded 2% of the five year total expenditure. None of the proposed adjustments exceeds this threshold.

5.20 Consequently, where projects covered by the Change Protocol straddle the two price control periods, we have only taken account of variations in the level of cost and outputs in the period 2010-2015, but not those in the period 2015-2020.

5.21 For new claims under the Change Protocol, and also claims representing variations in those accepted as part of final determinations, both in respect of costs incurred in the period 2010-2015, we have applied the same methodology as at final determinations.

5.22 As mentioned above, at final determinations, we had assessed around 70 claims and counter claims, and as a result reduced PR09 capital expenditure baselines as used in CIS by £183 million in 2012-13 prices. This figure included a £38 million logging up adjustment arising from the Overlap programme which we describe separately in chapter 6. Excluding this, we reduced PR09 capital expenditure baselines by £221 million, made up of £113 million in water and £108 million in wastewater at PR14.

5.23 Updating the position in the 2010-15 final reconciliation for the water service, companies' claims were for a net further downward adjustment to the CIS baselines of £20 million, on which we have intervened by £2 million, to produce a downward adjustment to the CIS baseline of £135 million as shown in Table 7 below.

5.24 For wastewater, companies' claims were for a net upwards adjustment to the CIS baseline of £42 million, from a £108 million downward adjustment at PR14 final determinations to a £66 million downwards adjustment. Our net intervention of £77 million for wastewater has the effect of reducing PR09 CIS baselines by £143 million, a net decrease of £35 million as compared to our PR14 final determinations. As set out in Table 8 the main areas of intervention are in respect of the adoption of private drains and sewers and expenditure which companies had assumed at PR14 would be incurred in 2014-15, but now expect to be incurred in the 2015-20 period (AMP6 Timing).

Table 7: Change Protocol reconciliation, PR14 final determination to these proposals

	PR14 FD £m	Feb 2016 claim £m	Intervention £m	Proposed £m
Water				
Logging Up	0.4	0.4	0.0	0.4
Logging Down	-74.1	-83.8	0.0	-83.8

Shortfalls	-39.7	-49.7	-1.9	-51.5
Water total	**-113.4**	**-133.1**	**-1.9**	**-135.0**
Wastewater				
Logging Up	372.8	400.1	-64.3	335.8
Logging Down	-385.5	-363.1	-5.9	-369.0
Shortfalls	-94.9	-102.7	-6.7	-109.4
Wastewater total	**-107.6**	**-65.7**	**-76.9**	**-142.6**

Note: PR14 final determinations show a figure for wastewater logging up of £410.8 million rather than the £372.8 million shown above, as the FD number included overlap, which we have shown separately in this document.

5.25 Further analysis of our interventions on company claims shows which companies are affected by our interventions and the reasons for our interventions.

Table 8: Change Protocol reconciliation, proposed final reconciliation interventions

Company £m	Private drains & sewers	AMP6 timing	Other	Total Intervention
ANH	-6.8	-	-	**-6.8**
WSH	-	-7.8	-	**-7.8**
SVT	-11.0	-	-1.9	**-12.9**
SRN	-2.1	-	-	**-2.1**
TMS	-0.7	-11.5	-	**-12.2**
UU	-31.9	-4.2	-2.5	**-38.6**
YKY	-	-	1.7	**1.7**
Total	**-52.6**	**-23.5**	**-2.7**	**-78.7**

5.26 The table shows that over half the value of our interventions is in respect of logging up claims arising from the adoption of private drains and sewers in October 2011.

5.27 It is important to note that the majority of the overall intervention for claims relating to the adoption of private drains and sewers was made at the last price review. At final determinations 2014 we only included expenditure that we considered was economic and efficiently incurred. As a consequence we excluded £50.6 million of expenditure. We now have the actual expenditure for the final year (2014-15) which has enabled us to review the part of our intervention that relates to the expenditure made in this year. Our approach of not allowing expenditure that we do not consider was economic and efficiently incurred remained unchanged. Accordingly, in reviewing the challenge made to

expenditure made in 2014-15 we used the same methodology employed at final determination 2014. As set out in Table 9 below, our efficiency adjustment has increased by £2.0 million, reflecting the latest information on expenditure, sewer blockages and sewer collapses.

Table 9: Private sewers, PR14 FD interventions compared to final reconciliation proposals

Company	Company estimate at PR14 2010-15 £m	PR14 FD logging up 2010-15 £m	PR14 FD Intervention £m	Actual expenditure 2010-15 £m	Proposed logging up 2010-15 £m	Proposed intervention £m	Change to PR14 FD intervention £m
Anglian	34.8	27.0	-7.8	34.0	27.2	-6.8	1.0
Severn Trent	42.6	32.8	-9.8	42.6	31.6	-11.0	-1.2
Southern	13.4	10.0	-3.4	13.5	11.3	-2.1	1.3
Thames	24.2	22.5	-1.6	24.5	23.8	-0.7	0.9
United Utilities	99.8	72.0	-27.9	94.6	62.7	-31.9	-4.0
Total			**-50.6**			**-52.6**	**-2.0**

5.28 After the adoption of private drains and sewers, our next most significant interventions were in respect of AMP6 (2015-16 to 2019-20) timing for £23.5 million.

5.29 In respect to the AMP6 timing issue, companies proposed that we artificially increase expenditure in 2014-15 to take account of expenditure that has slipped to the 2015-2020 period. We have not accepted this and do not think we should take any specific action on this expenditure as explained in paragraphs 5.14 to 5.20 above. Our approach was clear in the PR14 final methodology and as we have clarified in the reconciliation rulebook. The reconciliation for the 2010-2015 period should use the methodology set out at PR09 and that any reconciliation for the 2015-20 period should use the methodology set out at PR14.

6. The 2009 agreed overlap programme

Background and operation

6.1 We introduced the 2009 agreed overlap programme mechanism at PR09 to allow companies to put forward projects in their business plans that we expected to start in the 2010-15 price control period, but did not expect to finish until the next price control period (2015-20).

6.2 This investment mechanism was designed to promote better management of such investment projects and encourage companies to take a long-term approach to planning investment. The mechanism helps companies to avoid the uncertainty arising from the periodic review process when the project was committed and ongoing, and should ensure that the costs to customers are lower overall.

6.3 Projects that qualified for this programme needed to have a primary objective of delivering an enhancement in service for customers. They also required measurable outputs, milestones and specified delivery dates. Certain thresholds also had to be met, which were set out in section B9 of the 2009 final business plan reporting requirements.

Ofwat's PR14 FD position

6.4 At PR09 there were 11 overlap schemes agreed with 6 companies, which are shown below.

Table 10: PR09 overlap schemes

Company	Service	Scheme/project name
Anglian Water	Water	Grafham water treatment works resilience
Thames Water	Wastewater	Deephams sewage treatment works upgrade
	Wastewater	Swindon network
United Utilities	Water	Vyrnwy large diameter trunk main cleaning
	Wastewater	Davyhulme wastewater treatment works (Freshwater Fish Directive)
		Sandon Dock (Urban Waste Water Treatment Directive)
		Unsatisfactory intermittent discharges scheme

		Stockport wastewater treatment works nitrate vulnerable zone designation
Wessex Water	Water	Integrated grid
Affinity Water	Water	Combined operational security
South East Water	Water	Security and Emergency Measures Direction

6.5 At PR14, we carried out a scheme-by-scheme review of delivery progress and the associated costs in both price control periods. We took account of factors such as whether companies had achieved genuine outperformance, whether they had suffered delays, or whether they had been able to accelerate completion of the scheme.

6.6 These factors influenced our decisions of whether to make adjustments so that the company would not gain or lose from the variation in spend (two sided adjustments[10]), or to allow the company to benefit from any outperformance in the CIS reconciliation.

6.7 At the final determination, in total, we made a two-sided adjustment of £38 million in the CIS for 2010-15 for the wastewater service, in respect of two schemes. These were Thames Water's Swindon Network scheme for £4.0 million and United Utilities' Unsatisfactory Intermittent Discharges (UID) scheme for £34.0 million.

Changes since PR14 FD

6.8 We have now received updated data for 2014-15 from the 6 companies with overlap schemes.

6.9 All overlap schemes involve expenditure which, at PR09, was expected to straddle the price control periods 2010-2015 and 2015-20.

6.10 In chapter 5 we noted that there is an issue for the Change Protocol, which only applies to the 2010-2015 period, where companies are now projecting a different pattern of expenditure between 2010-2015 and 2015-2020.

6.11 A similar issue arises for PR09 overlap schemes. There is no similar agreed overlap programme for PR14 for the periods 2015-20 and 2020-25. The

[10] See chapter 4 for further explanation on one sided and two sided adjustments.

incentive mechanisms in place for this price control period are the Outcome Delivery Incentives (ODIs) and the Totex Incentive Mechanism.

6.12 Our approach at the final 2010-15 final reconciliation has been guided by the quotes referenced in paragraph 5.16 above. This leads us to only take account of actual changes in 2010-15 rather than those anticipated for 2015-20.

6.13 In addition, in the case of overlap schemes, at PR14 we typically made no adjustment in the CIS to take account of variations in the projected costs to complete a scheme, efficiency being for the account of the company albeit as shared with customers through the CIS.

6.14 In this review, we have maintained that view, and accordingly we have made no adjustments to the CIS for newly reported variations in efficiency in AMP5 for overlap schemes.

6.15 The only adjustment we have made was in respect of the timing difference on United Utilities' UID scheme in the period 2010-2015, where around £8 million of capital expenditure assumed to be spent in 2014-15 was delayed. United Utilities has proposed that we do not change the adjustment made at PR14 and so continue to include the £8 million in 2014-15 so that it would be recognised, even though it was not incurred in this year.

6.16 Consistent with our approach, we have excluded this amount and only included expenditure that was actually incurred in 2010-15. Therefore we have intervened to change the two sided adjustment from United Utilities proposal of £34 million (consistent with PR14) to £26 million.

6.17 Consequently, we are proposing two sided CIS adjustments of £30.0 million. This is in respect of the wastewater overlap schemes for Thames Water's Swindon Network scheme for £4.0 million (same as we made at PR14) and United Utilities' UID scheme for £26.0 million.

7. The 2014-15 transition mechanism

Background and operation

7.1 We introduced the 2014-15 transition mechanism for PR14 to give companies the facility to plan more effectively, make better use of resources and the supply chain and ease the transition between price control periods.

7.2 This was in response to one of twelve key recommendations identified in HM Treasury report on 'Smoothing investment cycles in the water sector' (published in July 2012). This study formed part of the Government's Infrastructure Cost Review programme to understand the impacts and causes of cyclical investment in the water sector.

7.3 The mechanism allowed capital investment which will deliver outcomes in 2015-20, to be brought forward into 2014-15. The capital investment, net of grants and contributions, was then funded by customers through price controls after 2015.

7.4 Under the transition mechanism, companies bear the additional costs of financing, but we exclude the associated capital expenditure when determining rewards and incentives under the CIS.

Ofwat's PR14 FD position

7.5 In our PR14 final determinations we accepted all company proposals for transition investment in 2014-15. These totalled £363 million, with £118 million in water, and £245 million in wastewater.

Changes since PR14 FD

7.6 We have now received data from companies updating for actual net capital expenditure under the transition mechanism for 2014-15. Information at a company level is provided in each company specific appendix.

7.7 We found that actual capital expenditure reported under the transition mechanism reduced to £219 million, with £91 million in water, and £128 million in wastewater.

7.8 Although, this represents a substantial reduction over what was assumed at final determinations, which was taken from company business plans, the mechanism has still made a significant contribution to smoothing expenditure between price review periods. The largest reduction, of £100 million, is for Thames Water, where the company's June 2014 business plan assumed more rapid progression for many of these projects than has occurred in practice.

7.9 At an industry level there has been a relatively smooth transition in the level of capital expenditure between 2014-15 and 2015-16. At an industry level expenditure in 2015-16 is broadly in line with the expectations we had when we set price limits, although the picture is mixed at a company level.

8. Next steps

We welcome any comments or representations on our proposals. Please make clear what you consider the impact would be of your representations on other interested parties. Please send written responses by close of business on 4 November 2016.

You can email your responses to PR14reconciliation@ofwat.gsi.gov.uk or you can submit your responses by post to:

Water 2020
Ofwat
Centre City Tower
7 Hill Street
Birmingham B5 4UA

We intend to publish all written responses that we receive on our website alongside the final 2015-20 reconciliation.

If you would like the information you provide to be treated as confidential, please be aware that, under the Freedom of Information Act 2000, there is a statutory 'Code of Practice' with which public authorities must comply and which deals, among other things, with obligations of confidence.

In light of this, it would be helpful if you could explain why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, in itself, be regarded as binding on us.

Information provided, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000, the Data Protection Act 1988 and the Environment Information Regulations 2004.

At a minimum, we would expect to publish the name of all organisations that provide a written response, even where there are legitimate reasons that the contents of those written responses remain confidential.

Appendix 1– shortfalling calculation

The shortfall calculation we applied at our PR14 final determinations had 3 parts as follows:

- The PR09 baseline value at stake
- The actual level of performance of an indicator as compared to the reference level and upper control limit
- A 7 step calculation

A stylised example for the first part of the calculation is considered below, for water non-infrastructure, starting with the PR09 baseline value at stake.

Table A1.1 Serviceability calculation – PR09 baseline value at stake

Water non-infra maintenance spend (pre-PR09 efficiency)	2010-15 £m
PR09 gross baseline cost: 2007-08 prices	203
PR09 Ofwat grants & contributions: 2007-08 prices	-7
PR09 net baseline cost: 2007-08 prices	196
Uprate price base to 2012-13 using COPI (113.6 / 111.3)	200
50% at risk	100

The table shows that to calculate the maximum value at risk of shortfalling, the net amount of water non-infrastructure spend assumed by Ofwat in the baseline at PR09 (pre the company specific efficiency assumption) is uplifted by the COPI measurement of capital indexation to 2012-13 prices. A maximum of one half of this value is at risk of shortfalling – so a company could, if all its serviceability indicators for water non-infrastructure were very poor, potentially lose half of its allowance provided at PR09 for maintaining these assets.

For the second part of the calculation, water non-infrastructure has 5 different indicators of serviceability, one of which is the water treatment works coliforms non-compliance percentage. The table below shows a stylised example of a company's performance for this indicator against both a reference level and upper limit, for the four years where companies were expected to achieve stable serviceability.

Table A1.2 Serviceability calculation – WTW coliforms non-compliance

Indicator	Reference level %	Upper control limit %	2011-12 %	2012-13 %	2013-14 %	2014-15 %
WTW coliforms non-compliance	0.3	0.5	0.6	0.4	0.8	0.7

The table shows that the company's performance indicator is above (i.e. worse than) the reference level for all the four years, and above the upper control limit for 3 of these. In this example, the company has not provided compelling evidence that the performance of this indicator is attributable to factors outside its control.

The third part of the calculation links the previous two parts and calculates the value to be shortfalled, in 7 steps, as shown in the table below.

Table A1.3 Serviceability calculation – 7 step calculation

Step	Method of calculation	2011-12	2012-13	2013-14	2014-15
Step 1: unscaled max shortfall value for one indicator p.a. (£m)	£100m from table A1.1, divided by 5 indicators, divided by 4 years	£5.0m	£5.0m	£5.0m	£5.0m
Step 2: indicator scaling	(Actual less ucl) / (ucl less reference level) from table A1.2	0.5	-0.5	1.5	1.0
Step 3: initial shortfall value	Step 1 x Step 2	£2.5m	-£2.5m	£7.5m	£5.0m
Step 4: cap scaling factor at x1	Reduce indicator scaling (Step 2) to a max of x1, remove negatives	£2.5m	n/a	£5.0m	£5.0m
Step 5: subtotal, pre volatility & efficiency	Remove values for indicators where no shortfall applied	£2.5m	n/a	£5.0m	£5.0m

Step 6: apply volatility adjustment (where relevant)	For this indicator, multiply by 0.875	£2.2m	n/a	£4.4m	£4.4m
Step 7: apply PR09 efficiency assumption	Multiply by PR09 company specific efficiency assumption	£2.0m	n/a	£4.0m	£3.9m
Total from Step 7					**£9.9m**

In the example above:

- Step 1 calculates the maximum shortfall value attributable to the water treatment works coliforms non-compliance indicator, for each of the 4 years where the company was expected to maintain stable serviceability. The £100 million at risk from table A1.1 is divided between the 5 water non-infrastructure serviceability indicators, over the 4 years, placing £5.0 million p.a. at risk for this indicator

- Step 2 calculates the indicator scaling – this provides a relative measure of how actual performance varied from the upper control limit (ucl). The measure is relative because the variance from the upper control limit is divided by the difference between the upper control limit and the reference level.

- Step 3 calculates an initial shortfall value by multiplying the results of step 1 and step 2.

- Step 4 implements the decision taken for PR14 FD to restrict the scaling factor from Step 2 to a maximum of 1. Consequently, in this example for this indicator, the maximum value at risk for each year is £5.0 million. This step also removes any negative values from the calculation.

- Step 5 is a subtotal, which removes positive values for any indicator which is not subject to a shortfall.

- Step 6 applies the volatility adjustment. This was applied in our PR14 final determinations to reduce shortfalls where indicators are prone to significant variation, of which there were 3: number of properties with an unplanned interruption greater than 12 hours and sewage treatment population equivalent compliance indicators, where a volatility factor of 0.75 was applied, and water treatment works coliforms non-compliance indicator (as in the example), where a volatility factor of 0.875 was applied.

- Step 7 applies the company specific efficiency assumption from PR09 – consistent with the funding each company was allowed at PR09.

In the example above, the financial consequence is that the company would be shortfalled by £9.9 million for its actual performance for this single indicator.

Appendix 2 - WRFIM formula and related licence modifications

We have previously identified an issue on the consistency between the wholesale revenue forecasting incentive mechanism (WRFIM) formula and the licence.

The WRFIM provides a financial incentive to encourage companies to accurately forecast revenue and manage demand risks within the control period. This involves the potential for a financial penalty for companies if there is more than a 2% difference between their recovered and their adjusted allowed revenues. The adjusted allowed revenues in the WRFIM include an adjustment to reflect previous revenue under- or over-recovery, which is implemented 2 years after the charging year.

However, the licence allows price controls to limit the annual change in allowed revenue and does not explicitly reference the WRFIM formula, or any adjustment to revenues to make up for previous under- or over-recovery. Consequently, where a company has under-recovered revenue the licence could prevent it from recovering that amount from its customers, which in turn could lead to the company suffering a penalty under the WRFIM formula due to the difference between recovered and adjusted allowed revenues.

In our update to the PR14 reconciliation rulebook in February 2016, we explained that we considered that a licence modification which ensured that the WRFIM could operate as intended at PR14 would maximise the opportunities for companies to take ownership and accountability for managing cash flows between years for the benefit of customers. In addition, customers in turn would be likely to receive smoother movements in bills between years. We provided an illustrative licence amendment as set out below.

> *"For the avoidance of doubt, sub-paragraph [8.1/9.116] does not prevent the Appointee from levying charges to recover a Relevant Shortfall in a Relevant Charging Year regardless of the limit on the change in revenue allowed to the Appointed Business in respect of the Wholesale Activities concerned. For the purposes of this sub-paragraph:*
>
> *(a) a "Relevant Charging Year" is a Charging Year in the period from 1 April 2017 to 31 March 2020; and*

(b) a "Relevant Shortfall" is any positive amount (RFIMt) calculated for the Relevant Charging Year in accordance with the Wholesale Revenue Forecasting Incentive Mechanism (WRFIM) formula published by the Water Services Regulation Authority in December 2014.

This sub-paragraph shall cease to have effect on 1 April 2020."

We then asked companies to inform us of their preference for either a licence amendment with no change to the existing WRFIM formula, or no change to the licence with a revised WRFIM formula, by 31 March 2016.

All companies have now indicated their acceptance in principle of the licence amendment. However, companies also raised 6 matters of detail for consideration, which we address below.

Issue	Response
Anglian Water requested scope for the WRFIM formula to include the flexibility to allow companies to smooth the recovery of revenue.	We agree that where companies have under-recovered in year t, such that allowed revenues are greater in year t+2 as a result of WRFIM, companies should be able to abate K to smooth revenue impacts. Consequently, we confirm that where companies have confirmed such k abatements in advance of year t+2, we will take this into account when calculating any WRFIM penalty. For circumstances where companies have over-recovered in year t, such that allowed revenues in year t+2 are lower as a result of WRFIM, we do not propose to amend the licence to make it easier for companies to smooth the revenue adjustment. This is consistent with the objective of WRFIM to improve revenue forecasting, and with companies not continuing to benefit from past over-recovery unnecessarily.
Anglian Water was concerned that the indicative licence drafting gave no guarantee that WRFIM adjustments for 2018-19 and 2019-20 would be made at PR19. The company provided additional licence drafting to reflect this.	We consider that the company's additional drafting runs counter to the existing approach under which the WRFIM element of the licence will be turned off with effect from 1 April 2020. We also note that the additional drafting only addresses the past under-recovery of revenues, rather than over-recoveries. However, we recognise the issue raised by the company, and will discuss with them how to provide the regulatory certainty they seek, for example by providing a clear statement within our Section 13 notice of our intention for true-ups at PR19 and PR24.
Sutton and East Surrey Water noted that the treatment of inflation and the application of the discount rate for under and over recoveries in	We agree that inflation and the discount rate are treated differently for under and over recoveries in 2018-19 and 2019-20, however, this is

2018-19 and 2019-20 is inconsistent with that for prior years.	intentional because the model calculates the value of over and under-recoveries for these years at 31 March 2020, rather than reflecting the 2 year time lag for all previous years. We accept that additional discounting and inflation will need to be applied if the revenue adjustment for these years is not applied at the beginning of the new price control period, however, this is beyond the scope of the present model.
Anglian Water commented that the WRFIM reconciliation spreadsheet should be amended to calculate the penalty adjustments for 2018-19 and 2019-20.	We do not consider that adjusting the spreadsheet to calculate the penalty adjustments for 2018-19 and 2019-20 is necessary, as our approach to adjustments for these 2 years is set out in the PR14 reconciliation rulebook update in February 2016, page 51, and will be carried out at PR14 and PR24.
Sutton and East Surrey Water commented that the reconciliation spreadsheet contains details for companies that do not accept the licence change, and that these cells are not required for companies that accept the licence change.	We agree that the spreadsheet contains redundant cells for companies that accept the licence change, but we consider that we should not delete these cells unless and until all companies accept the proposed licence change.
Anglian Water and Sutton and East Surrey Water both pointed out mathematical errors in cells P64 and P69 of the calculation worksheets.	We agree and propose to amend the formulae accordingly.

In the context of all companies accepting our proposed licence modifications in principle, and given our responses to the detailed points made above, we now propose to issue a Section 13 consultation on proposed changes to the licence for all companies as set out in our July 2015 consultation document.

We have amended the WRFIM formula and the WRFIM PR14 reconciliation spreadsheet to make it clear which element of the calculation relates to the penalty element, this is in addition to the changes set out above. A consequence of this is that we must make a minor amendment to the WRFIM licence text that was proposed in the policy document published in February 2016, to alter the reference to the WRFIM formula in the licence to be the version that is published in October 2016, rather than to peg the licence text to the WRFIM formula published in December 2014.

WRFIM and RCM

The final determination envisaged that the 2014-15 reconciliation for the Revenue Correction Mechanism (RCM) could flow through the WRFIM. We have noted however that the WRFIM formula does not reference the RCM adjustment. Therefore we have amended the WRFIM formula in the latest version of the PR14 reconciliation rulebook that we publish alongside this document.

Subsequent to our consultation process with companies, several of them have pointed out a potential issue around the volatility of customer bills, in particular between 2017-18 and 2018-19. The potential volatility would be caused by the adjustment for the 2010-15 final reconciliation for the Revenue Correction Model (RCM) being put through WRFIM in 2017-18 alone, at the same time as the correction for the over-recovery or under-recovery of allowed revenue in 2015-16, which is put through with a 2 year time lag. The companies observed that if the final reconciliation adjustment and the 2015-16 allowed revenue adjustment both acted either to raise or lower allowed revenue in 2017-18, this could either cause a temporary spike or trough in customer bills for that year, which might not be present in 2018-19, creating significant volatility in customer bills.

We agree that putting the final reconciliation adjustment for the RCM through WRFIM in 2017-18 alone has the potential to cause significant volatility in customer bills when combined with the correction for the over-recovery or under-recovery of allowed revenue for 2015-16. Therefore, we propose to give companies the choice of whether to put through the final reconciliation adjustment for the RCM solely in 2017-18, or whether to spread it between 2017-2018, 2018-19 and 2019-20 as they choose, or even making the adjustment at PR19 in order to reduce volatility in customer bills.

If companies opt to spread the adjustment between different years, customers will be no worse off because the WRFIM mechanism takes account of inflation and the time value of money.

When they respond to this consultation, we ask water companies to propose how they want RCM adjustments to apply taking account of customer interests.

Appendix 3 - PR14 Reconciliation Rulebook changes

The table below summarises minor amendments to the PR14 reconciliation rulebook that has been published alongside this document with its supporting models.

We do not consider any of these changes are contentious and they are required to implement policy that is already broadly agreed.

Table A3.1 changes to supporting models in PR14 Reconciliation rulebook

Model/Document	Issue	Response
Totex Reconciliation Model and Rulebook	Ensure that treatment of Legacy Depreciation in Totex Reconciliation is consistent with RAG tables	Review of tables in Ofwat consultation for regulatory reporting for the 2016/17 reporting year indicates that totex definitions exclude recharges for principle use. Because these are excluded, legacy depreciation can be excluded from the Totex Reconciliation Model. Update model and rulebook to remove legacy depreciation adjustments.
Rulebook	Change references on page 33 from "companies'" to "company's". Concern that the current text suggests that an industry average PAYG may be used.	Update text.
Rulebook	Change text on TTT IP to be clear that it is excluded from WRFIM.	Agreed. Policy document has already stated this. Rulebook amended to be consistent with policy document.
Rulebook	Error in expression of WRFIM penalty calculation for 2019/20 on page 61 of the rulebook.	Amend text.
Totex Reconciliation Model	Cells L162 and L163 – These cells add the transition expenditure to actual outturn capex and then deflate the total to 12/13 prices. In the inputs worksheet the transition expenditure is already entered in 12/13 prices. Transition expenditure is therefore being deflated twice in the comparison between actual totex and allowed totex.	Amend formulae from: =(Actual.Totex.Water+**TransitionExp.Water**-SUM(Inputs!L60:L64))/Indexation.Average-L148 to =(Actual.Totex.Water-SUM(Inputs!L60:L64))/Indexation.Average+**TransitionExp.Water**-L148 Waste formulae also to be amended.
Totex Reconciliation Model	Cells N162, O162 and P162 – the formulae in these cells are incorrect. The formula in cell M162 is correct but it has not been filled across to cells N162, O162 and P162. Instead of subtracting the cells in row 148 (allowed totex from menu), it subtracts the cells in row 152 (allowed totex from menu inclusive of menu cost exclusions, less PDRC).	Copy formulae across.
Totex Reconciliation Model	Row 72 of the 'Inputs' tab includes the TTT land costs. However, when calculating the	Amend formulae.

	appropriate menu totex in 'Calcs' row 31, these costs are not excluded.	
Totex Reconciliation Model	Amend spreadsheet to calculate the RCV adjustment arising due to changes in the TTT land costs.	Add additional formulae.
WRFIM Reconciliation Spreadsheet	The treatment of inflation and application of the discount rate for under- and over-recovery in 2018-19 and 2019-20 is inconsistent with the treatment in prior years.	The under/over recovery figures for 18/19 and 19/20 have been subject to one year and zero years discounting respectively. This is because the model is calculating the value of these at the end of AMP 6. Additional discounting will need to be applied if these over-under recovery figures are not received at the beginning of AMP7. In this case discounting would need to be applied using an appropriate AMP7 discount rate. This is beyond the scope of this model.
WRFIM Reconciliation Spreadsheet	The reconciliation spreadsheet contains detail for companies that do not accept the licence change. Cell references are not required for companies that accept the licence change.	Agreed. Rulebook notes this. Will change the WRFIM reconciliation spreadsheet once the licence amendments have been introduced for all companies.
WRFIM Reconciliation Spreadsheet	The WRFIM model does not appear to take account of potential penalties in years 4 and 5. Rows 64 and 69 of the 'WRFIM – Water' and 'WRFIM – Waste' tabs currently link to blank cells on row 47	Agreed. Copy row 47 formulae across (row has now changed to row 51 as a result of rows being inserted).
WRFIM Reconciliation Spreadsheet	Model assumes that RCM adjustment is taken in one year. Has an impact on customer bill volatility.	Added functionality to take RCM adjustments over 1, 2, 3 or more years. Changes in data row 20 and WRFIM Water and Waste rows 20-25
WRFIM Reconciliation Spreadsheet	Inflation of RCM element of WRFIM reliant of forecast of year average RPI for charging year.	Change inflation uplift from year cumulative year average (Indexation.Average) to Cumulative November (Indexation.November.Actual) in WRFIM Water and Waste row 26
PR09 Blind year legacy adjustment model	RCM and serviceability differences could be in all years, not just the final year. Model needs to deal with cumulative differences in RCM and serviceability differences.	Key formulae changes:Calcs water and calc waste row 25 - Calculates cumulative RCV adjustment from 2010-11 to 2014-15. Calcs water and calc waste row 26 - Calculates cumulative revenue adjustment from 2010-11 to 2014-15 Calcs water and waste: M34 changed to pick up RCV cumulative position from M25 Calcs water and waste row 15 Copied column M back to column I

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales. Our vision is to be a trusted and respected regulator, working at the leading edge, challenging ourselves and others to build trust and confidence in water.

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