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Trust in water

Updated 2010-2015 reconciliation

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About this document

This document sets out our early view of the reconciliation for the incentive arrangements of companies' performance and expenditure for the 2010-15 period, based on the data that they have provided. We have come to this view taking into account information not available when we set price limits in 2014 (PR14). In particular, actual information should be available for the complete period. This includes 2014-15, the last year of the price review 2009 (PR09) price control. We published consultations on our proposals on 5 October 2016 and 24 March 2017 and our view takes into account the responses that we received. We have published the responses on our website.

We have provided this early view in order to help streamline the process of the next price review in 2019 (PR19). Stakeholders have welcomed this. We expect companies to use the values set out in this report as the basis of their business plan submissions. To the extent that the reconciliation at PR19 is different to the assumptions we made as part of the price review 2014, it will impact customers' bills in the 2020-25 period.

We published detailed spreadsheets containing calculations of the adjustments for each company alongside our consultation on 5 October 2016. Where we have updated these spreadsheets, we have published revised versions alongside this document.

Contents

1. Introduction

1.1 At the 2009 periodic review (PR09) we 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 financial payments between companies and customers. When the 2014 periodic review (PR14) was completed in December 2014, this financial year had not finished. Consequently, companies provided forecast data, which we considered and adjusted as necessary, for inclusion in the PR14 final determination.

1.3 Companies have provided further data in response to our request for final audited spend and performance data for the whole of the 2010-2015 period. Where we have identified unambiguous errors in the relevant data we have corrected those so as not to undermine confidence in the accuracy and legitimacy of the regulatory process. We have used this information in coming to this updated view of the reconciliation, which we expect to implement at the next price review in 2019. For the avoidance of doubt, should further information come to light regarding the accuracy of the relevant data, it is possible that our view of the reconciliation could change.

1.4 On 5 October 2016 we consulted on our draft reconciliation. Each of the 17 water companies that were the subject of our first consultation provided a response to this.

1.5 Reflecting on the responses we revised our proposals for the reconciliation related to the change protocol and 2009 agreed overlap programme incentive mechanisms. These mechanisms were designed to help companies manage their investment programmes. We consulted on these revisions on 24 March 2017.

1.6 On 8 December we published Revenue correction mechanism 2010-15 final reconciliation as it had the potential to impact revenue limits for 2017-18 and so we needed to allow companies sufficient time to consider the appropriate charges for 2017-18.

1.7 This document sets out our view of the reconciliation of the remaining mechanisms taking into account the representations we have received. It

should be read in conjunction with the consultation documents and summarises the responses we have received and what account we have taken of these. We expect companies to use the values set out in this report as the basis of their business plan submissions.

1.8 Chapter 2 sets out our view on the reconciliation of the serviceability shortfalls. We have carefully considered the responses we have received, but have concluded that the adjustments should remain as we set out in our draft reconciliation that we published on the 5 October 2016.

1.9 Chapter 3 sets out our view on the reconciliation of the capital expenditure incentive scheme (CIS). This includes consideration of the change protocol mechanism and the 2009 agreed overlap programme that are inputs to the CIS. The main changes to the CIS from our 5 October 2016 draft reconciliation are the revisions we set out for these inputs in our further consultation on 24 March 2017. We have considered companies' responses, but have made no further revision to these inputs. We have also provided our view on the one outstanding issue that we had highlighted in the consultation that was for Thames Water.

1.10 We also cover the 2014-15 transition mechanism in chapter 4, which is a PR14 incentive mechanism.

1.11 For the service incentive mechanism, the operating expenditure incentive allowance and other revenue adjustments, such as tax changes arising from in-period changes to capital structure, we expected all information to be available at PR14 and so did not include these in the scope of this reconciliation. In any case we are not aware of any reason to change these adjustments. This document makes no further reference to these.

1.12 Our view of the adjustments to the RCV for serviceability and CIS that we expect to make at PR19 can be seen in tables 3.5 and 3.6. The CIS revenue adjustments we expect to make at PR19 are in tables 3.11 and 3.12.

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

1.14 Alongside our 5 October 2016 consultation on the 2010-15 reconciliation we also published a further version of the reconciliation rulebook in which we had updated the wholesale revenue forecasting incentive mechanism formula. Annex 1 sets out the responses we received regarding this update.

2. Serviceability

2.1 This chapter sets out our view of the reconciliation for the serviceability incentive mechanism for the 2010-15 period.

2.2 We have carefully considered the representations that we received from companies, but as we explain in this chapter we have not changed our view of the reconciliation from our draft reconciliation that we set out in our October 2016 consultation.

2.3 This chapter sets out the background to the serviceability incentive mechanism, before summarising and considering the representations of each company on our draft reconciliation. It concludes by setting out our view of the reconciliation that we expect to implement at PR19 in table 2.1.

Background

2.4 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.

2.5 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 at efficient cost.

2.6 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 they failed to do so.

2.7 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 weighted average cost of

capital (WACC) and use the retail price index (RPI) to inflate to the price base we use at PR19.

2.8 For further background please see chapter 3 of our 5 October 2016 consultation document in which we recapped on the approach we used at PR14 and explained how and why our proposed adjustments differed from those we made in our PR14 final determinations, and those proposed by companies.

2.9 We received four responses to our October 2016 consultation on our draft reconciliation that made specific comments on serviceability. The responses were from:

- Severn Trent Water;
- Anglian Water;
- Dee Valley Water; and
- Affinity Water.

2.10 In addition we met with Affinity Water and Dee Valley Water at their request. Affinity Water subsequently sent a further letter expanding on its representations.

2.11 We examine each company in turn to consider its representations about whether a shortfall should apply. We then consider the representations of Affinity Water and Dee Valley Water about the proportionality of the shortfall methodology we use to calculate the expenditure to recoup.

Discussion of consultation responses

Severn Trent Water - Interruptions indicator

2.12 Severn Trent Water does not dispute the serviceability adjustments we proposed.

Anglian Water - Interruptions indicator

2.13 Anglian Water states that it is pleased we accepted its evidence in respect of the Caister incident being beyond management control, but is disappointed that we had not accepted its evidence for the Littleport incident being beyond management control. This incident led to 904 properties being without water for more than 12 hours. The company has no further evidence to offer in support of excluding Littleport, but asks that we review the company's submission again.

2.14 We have reviewed the company's submission again but we continue to consider that the evidence that the incident at Littleport was beyond management control is not compelling for the reasons set out in our draft reconciliation.

Dee Valley Water – Interruptions indicator

2.15 In its consultation response, Dee Valley Water indicates that actions to avoid an incident at Mollington in 2014-15, that led to 109 properties being without water for more than 12 hours, were either outside management control or outside a proportionate risk based programme of work.

2.16 Dee Valley Water highlights in its response that it operates a risk/customer impact based programme which prioritises its investment. Dee Valley Water emphasises that there are over 600 bridge crossings in its area and this particular section was not its priority, as other parts of the network had a higher likelihood of a burst and greater customer impacts. Dee Valley Water notes that there had not been a burst in the preceding ten years on this main. Dee Valley Water accepts that installing valves on the main by the bridge could have shortened the time taken to restore supplies.

2.17 It is appropriate that companies, rather than customers, bear the risks of operational and investment decisions unless an event is clearly outside management control. Management considering that the risk of breaching the set standard was low is not a reason that the subsequent failure was outside its management control.

2.18 Dee Valley Water considers it is not possible to obtain 'in principle' consent from the local authority for working on the bridge if there is a burst. If this is the case this should have emphasised to Dee Valley Water the importance of considering all potential actions to maintain supplies of water to customers.

This could have included installing hydrants in advance so that supplies could have been restored quickly through the hydrants by overland supply or tanker.

2.19 Taking into account the information received both before and after publishing our draft reconciliation we continue to consider that the evidence that the incident in 2014-15 was beyond management control is not compelling for the reasons set out both above and in our draft reconciliation.

Dee Valley – Discolouration indicator

2.20 Dee Valley Water states it does not believe a decision at PR14 final determinations to claw back allowed expenditure for failures in the discolouration contacts indicator is appropriate for a number of reasons. These may be summarised as follows.

1. Raw water conditions deteriorated after the start of AMP 5 (the 2010-15 period), after the targets had been set.

2. Dee Valley Water subsequently agreed with the Drinking Water Inspectorate (DWI) programmes of work that were not expected to complete until after the 2010 to 2015 period.

3. Dee Valley Water states that it achieved substantial improvement at no additional cost to customers that "achieved the AMP 5 target … four months after the end of AMP 5." Dee Valley Water considers that as it achieved the target in "2015", it complied with requirements that Ofwat set out in its PR14 draft determinations under which no action would be taken.

4. Dee Valley Water has continued to deliver performance below the AMP 5 upper control limits that we set at PR09. It considers that the further evidence since FD14 indicates that its prior performance was atypical and should be discounted.

2.21 We do not agree that the representations Dee Valley Water has made indicate that it delivered the requirements set out at PR09. At PR09 we set out that the discolouration indicator was defined only to apply on a calendar year basis and therefore only improvements up to December 2014 are taken into account in our assessment. On this basis Dee Valley Water failed in each of the four years between 2011 to 2014.

2.22 Dee Valley Water had to agree a “section 19” undertaking with the Drinking Water Inspectorate (DWI) that set out how it would correct the discolouration problem. Undertakings given pursuant to section 19 of the Water Industry Act 1991 avoid the requirement for the Secretary of State to make an enforcement order when he/she is satisfied that that company is contravening its duties.

2.23 While the company delivered marginally better performance in the year up to December 2014, this in no way significantly altered its performance in that calendar year. This was the period used for the 2014-15 assessment, which was not stable. We do not consider that Dee Valley Water has provided any further relevant evidence than was available at FD14. We have therefore not changed our view that a shortfall should apply.

2.24 We note that Dee Valley Water did not choose to challenge this decision in early 2015 by asking us to refer its determination to the CMA as Bristol Water did.

Affinity Water – Interruptions indicator

2.25 Affinity Water has three main representations that a shortfall should not apply as it considers that the draft reconciliation:

- was taken without affording Affinity the same process and procedural safeguards that were afforded to those companies whose business plans were not enhanced;
- is inconsistent with decisions taken in respect of other companies, proposed to be shortfalled in similar circumstances; and
- was taken without adequate consideration (supported by independent review) of the question of whether exceedance of the upper control limit for supply interruptions greater than 12 hours in each of 2011-12 and 2014-15 was beyond the control of Affinity.

2.26 Affinity Water considers it was disadvantaged by the information it received compared to other companies and considers that the decision to shortfall it is inconsistent with the decisions for other companies.

2.27 It further contends that Ofwat had already stated that its performance was stable in 2011-12 and Affinity Water consider that at no point did Ofwat indicate that it was at risk of action being taken for 2011-12.

2.28 Finally Affinity Water contends that the failures in 2011-12 and 2014-15 were beyond management control and as single incidents were not reflective of the underlying serviceability of the network and should not lead to shortfalls.

2.29 Below we respond to the points Affinity Water has made by asking the following questions.

- Was Affinity Water disadvantaged by the information it received?
- Did we confirm the interruptions indicator was stable in 2011-12 at PR14?
- Was it clear that we could take action for poor performance in 2011-12 if we did not take action at FD14?
- Were the incidents in 2011-12 and 2014-15 beyond management control?
- Should single incidents be excluded from our assessment?

2.30 On each point, we conclude that the response is in the negative, and we do not agree with the points that Affinity Water has made.

Was Affinity Water disadvantaged by the information it received?

2.31 Affinity Water had a number of differences in its circumstances compared to other companies. However, we do not consider that these differences have disadvantaged Affinity Water.

2.32 On 4 April 2014, we published our decision that Affinity Water was one of two enhanced companies. Our risk based review had assessed that its business plans was of a higher quality than the other companies. This meant it received an earlier draft determination compared to most companies, However, Affinity Water had the same access to information as any other company. We placed all relevant information in the public domain.

2.33 In its early draft determination we did not indicate there was a risk of shortfall for the interruptions indicator. But, even if Affinity Water had received a draft determination at a later time with the majority of other companies, it would not have meant that we would have highlighted a particular risk of shortfall for the interruptions indicator.

2.34 Indeed, in our final determination we did not raise any concern regarding this issue as we relied on the forecast that Affinity Water had provided in advance of our decision. This was consistent with other companies that had failures for an indicator in 2011-12, but thereafter performance was stable and forecast to be stable in 2014-15. In particular, Dee Valley Water also had an interruptions

indicator that was above the upper control limit in 2011-12, but forecast that performance would be around the reference level in 2014-15, as it was in all other years. We also did not raise a concern over this indicator with Dee Valley Water in either the draft or final determinations.

2.35 In Affinity Water's company specific appendix to the final price control determination notice we said in relation to serviceability performance:

"There are no changes from our draft determination and although there are no interventions in this area, this is conditional on the company demonstrating stable performance in 2014-15."

2.36 This made clear that the absence of shortfall adjustments for serviceability in the final determination was provisional, and could change after the final determination stage.

2.37 We do not consider there is evidence to suggest that Affinity Water was disadvantaged in the information it received compared to other companies.

Did we confirm the interruptions indicator was stable in 2011-12 at PR14?

2.38 Affinity Water questions how we can "revisit earlier decisions made by the regulator that are a matter of record". We have not revisited our decisions as we explain below. At no point in PR14 did we comment on the interruptions indicator.

2.39 At PR14 we agreed with Affinity Water that its infrastructure serviceability performance in 2011-12 was 'Stable'. Water infrastructure is the system of water mains used to supply water.

2.40 As we set out below we made clear that our decisions were provisional on receiving final audited data for the final year 2014-15.

2.41 It is important to understand the distinction between the basket of serviceability measures for the infrastructure service and each individual serviceability indicator. The basket of all the indicators can be stable, while an individual indicator is not. We provided a full explanation of the background to this in chapter 3 of our 5 October 2016 consultation document, but recap this briefly below.

2.42 In the 2010-15 period, the basket of serviceability measures was used as a high level performance indicator for information purposes. This was intended to provide a snapshot of performance for stakeholders. But we made clear at PR09 that we would use individual indicators, not the aggregate basket, to judge if shortfalls were appropriate.

2.43 In 2011-12 the water interruptions indicator was marginal, and so was not stable. All other water infrastructure indicators were stable and so we did not challenge Affinity Water's view that the aggregate assessment was stable. However the regulatory requirements we set out at PR09 were clear that Affinity Water had to maintain the performance for each indicator as stable.

2.44 We did not highlight our view that the interruptions indicator was marginal for 2011-12. The information for the following three years, including the forecast Affinity Water made for 2014-15, indicated that performance had returned to a stable position. As explained in our October 2016 consultation we did not necessarily take action for failure in a sole year and were less likely to take action for failure earlier in the period. As such there was no need to take action or make a specific comment at that stage. With access to actual data for the full period it is now clear that this earlier failure is of concern, when taken together with later failures.

2.45 In the case of Affinity Water there is a further issue that it had also failed to deliver stable serviceability in the preceding 2005-10 period. In the 2005-10 period we used the higher aggregate level to decide to take action. At FD09 we noted in the supplementary report that we sent to the company explaining our determination that:

"We have assessed your water infrastructure sub-service as 'marginal'. You must restore stable serviceability by the end of financial year 2011-2012"

2.46 However, we then went on to state the serviceability requirements for the 2010-15 period as they applied to all companies.

"We expect you to monitor each indicator and to manage and maintain assets such that all indicator values remain well within the control limits and exhibit a stable (as a minimum) or improving trend year on year"

2.47 In 2015, the Competition and Markets Authority (CMA) determined price limits for Bristol Water who did not accept our determination at FD14 and asked us to refer it to the CMA. Bristol Water had also failed to deliver stable serviceability

for the interruptions indicator. In Bristol Water's submissions it highlighted a number of issues regarding interpretation including that "metrics should be considered as a basket". The CMA disagreed with Bristol and concluded

"We found the assessment methodology to be sufficiently clear for Bristol Water to be expected to comply with it."

2.48 We consider that it was clear that the company had to deliver stable serviceability for each indicator. This is distinct from an aggregate assessment for the overall basket of indicators for the water infrastructure service.

2.49 At PR14, we accepted that the aggregate assessment was stable for the water infrastructure service, but we did not set out a view on Affinity Water's interruptions indicator. With access to actual data for the full period it is now clear that the earlier failure for the interruptions indicator is of concern, when taken together with later failures.

Was it clear that we could take action for a poor performance in 2011-12 if we did not take action at FD14?

2.50 Affinity Water has stated that

"While the note to Table AA3.9 of AWL's Final Determination states that the 2014-15 serviceability assessments would be reviewed once actual performance data became available, no indication was provided that Ofwat would as part of that assessment re-open its Draft Determination findings that AWL had provided sufficient evidence that it had delivered all of its FD09 outputs. In contrast, all other companies at risk of a shortfall adjustment were specifically put on notice of this risk in their Final Determinations."

2.51 Our serviceability shortfall methodology, which is the approach we used to assess the amount of allowed expenditure to recoup, was clear that when we made a decision to recoup expenditure it considered each year that had failed performance above the upper control limit.

2.52 We published the methodology for our serviceability shortfalling at draft determinations and refined this at final determinations following representations. We also published the specific calculations that we had made for each company where we clawed back expenditure at both draft and final determinations.

2.53 Affinity Water is incorrect to assert that all other companies had greater warnings. Dee Valley Water received the same warnings for the interruptions indicator as we explained in the previous section. However, Affinity Water did receive a warning for a different indicator and so we would have expected it to have reviewed the available public information to understand our serviceability shortfall methodology.

2.54 At PR09, what has become Affinity Water was operated as three separate companies. We are assessing the output delivery for these areas separately, following how the outputs were specified at PR09. The current issue regards the interruptions indicator in Affinity Water's central region. It had also failed to deliver stable serviceability for discolouration contacts indicator in 2011-12 and 2012-13 for its South East region. The performance in this South East region improved in 2013-14 below the upper control limit, but was still close to the upper control limit. At FD14 it was not clear that it would achieve stable serviceability for this indicator in 2014-15 and we specifically warned the company that our decision not to take action was

"conditional upon the performance in 2014-15 being improved to a position such that it could be considered as stable. We will consider a shortfall adjustment if this is not achieved."

2.55 If Affinity Water had failed to deliver a stable level of service for its discolouration contacts indicator in 2014-15, and we had decided to make a shortfall adjustment, we would have used our serviceability shortfall methodology. We would have recovered expenditure from the company in proportion to its failure in the years that performance was above the upper control limit. It would have included 2011-12 and 2012-13, even though we did not take action at FD14.

2.56 We would expect a diligent company to have reviewed our methodology, especially if we had given a specific warning that the methodology could apply to its circumstances. The methodology was clear that any indicator failures in earlier years, together with a failure in 2014-15, could lead to a shortfall adjustment. In the event, the number of discolouration contacts in the South East region was very close to the reference level in 2014-15 and was clearly stable. No adjustment for this indicator is required.

2.57 Our position at FD14 was that the serviceability shortfalling methodology would apply to earlier years if performance in 2014-15 led us to decide to make

shortfall adjustments. This was clear both in documents that applied to all companies and documents specific to Affinity Water.

Were the incidents in 2011-12 and 2014-15 beyond management control?

2.58 In terms of the 2011-12 incident Affinity Water report that

> **"A single burst on AWL's strategic 21" main resulted in 752 properties experiencing an interruption to supply of greater than 12 hours. This incident was particularly severe, in terms of customer impact, due to proximity of a second 14" strategic main that had already burst. Typically, the two mains provide security and continuity of supply for each other, should there be an operational incident impacting customer supply. In this instance the continuity of supply provided by the second 21" main was lost with the second burst preventing restoration of supply within 12 hours."**

2.59 Affinity Water has not provided any further evidence that performance in 2014-15 was outside management control. It contends that

> **"There were good plans in place and they were well executed. The primary cause of the delay in this case was the presence of the gas main, which slowed down the excavation and caused a delay whilst AWL waited for gas operatives with appropriate safety skills to attend the site."**

2.60 Affinity Water provided an asset review for the 2014-15 incident which is dated 10 March 2015, around five months after the incident. It does not reach a conclusion on what caused the incident.

2.61 The report noted that no network alarm was triggered, which we would expect in an incident of this nature.

2.62 From the information provided it appeared that there were a number of significant risk factors at this location.

2.63 The report assessed soil corrosivity as moderate to very high and gave ground movement the highest company rating. It also assessed shrink swell soil rating as very high.

2.64 In addition to this the burst occurred approximately 300 meters away from the point where two 18'' mains merge into a single 21'' main. The difference in cross sectional area between the two 18" mains and a single 21" main would result in the area (and hence velocities) changing by nearly 50%. That has the

effect of lowering pressure that may be significant in creating a different (greater) pressure fluctuation between peak and low flows.

2.65 Affinity Water accepts in its representations that the proximity of strategic mains to major gas mains is not uncommon. In its initial representation it also noted it could have

"completed a capital project in this area that would have eliminated the risk of this incident occurring but we do not have perfect foresight to intervene in all instances ahead of an burst incident."

2.66 The information provided does not identify significant factors that are outside the norm for water companies' operations.

2.67 Operational and investment decisions are a matter for companies. For example at FD09 we set out to Affinity Water in the confidential supplementary report that accompanied our determination:

"Capital maintenance expenditure represents a substantial portion of all capital expenditure. We expect the associated serviceability outputs of a final determination accepted by a company to be honoured. Whilst the incentive is to deliver stable serviceability for less than assumed in price limits, the downside risk kept by the company is to invest sufficiently and if necessary more than assumed in price limits or else face a shortfall."

2.68 This is consistent with the view of the CMA in the case of it determining price limits for Bristol Water in 2015. It set out that serviceability was a

"measure of the effectiveness of the management process in determining how to achieve the required outcomes (one of which was avoiding long duration disruptions to customer supplies) and then managing their systems to ensure the desired outcomes were achieved. Spending the amount allowed at a price review is insufficient in itself, if the outcomes are not met."

2.69 We do not consider that Affinity Water has identified factors that were outside its management control. We consider it is appropriate that companies manage the risks identified, rather than customers bearing the risk in terms of a reduction in their service. Where companies do not manage the risks and this leads to the company failing the pre-determined standards it is appropriate that we recoup expenditure on behalf of customers.

Should single incidents be excluded from our assessment?

2.70 Affinity Water states

> **"We question the basis upon which an operational response to a single incident and can be used as the basis for an assessment of the underlying 'serviceability' of the wider asset base."**

2.71 In our final determination document at PR09 we set out that in relation to serviceability,

> **"We expect all companies to maintain their asset networks so that they are capable of maintaining the flow of services to consumers now and in the future."**

2.72 Serviceability was not focused on the state of companies' assets, but on the ability of a company to maintain service to customers. We also made no distinction between single incidents and multiple incidents. However, 2011-12 and 2014-15 are not the only years that Affinity Water has failed to deliver the required standard to its customers.

2.73 At FD09, while we expected companies to deliver stable serviceability for all indicators, we noted we would not take action for failures in 2010-11 to allow companies one year to improve where this was necessary. We note that Affinity Water's performance on the interruptions indicator in 2010-11 was just above the upper control limit. It failed in this year but we had already said that we would not take this into account when considering a shortfall.

2.74 Affinity Water has failed to deliver the performance it committed to in 2015-16 and 2016-17 for this same indicator. It has indicated it will return £3.28 million to customers.

2.75 While 2010-11 2015-16 and 2016-17 are out of scope in this reconciliation, they provide useful context. Affinity Water has not delivered the required standard for properties being interrupted for more than 12 hours in five out of the last seven years that it has reported.

2.76 We have not taken action where companies failed an indicator for a single year between 2011-12 and 2014-15. However, Affinity Water's interruptions indicator in its central region was not stable in two out of four of these years. It is appropriate to take action in line with our stated position at FD09.

Ofwat view of indicators that require a shortfall adjustment

2.77 Considering all of the above we do not consider that there is any reason to change the proposals that we set out in our 5 October 2016 consultation and hence we consider that the same companies and indicators as set out in our draft reconciliation require shortfall adjustments.

2.78 In particular, we consider that the position stated in our October consultation document remains appropriate and where companies delivered less than stable performance for an indicator in both 2011-12 and 2014-15 we should recover expenditure.

2.79 We next consider the proportionality of the shortfalling methodology.

Proportionality of the shortfall adjustment

2.80 Affinity Water and Dee Valley Water have set out in their representations that the shortfall adjustments for the interruptions indicator are disproportionate to their circumstances.

2.81 Our proposed shortfall set out in the 5 October 2016 consultation, was respectively 2.7% and 3.1% of the allowed expenditure for Affinity Water and Dee Valley Water's water infrastructure capital maintenance. At FD09 we set out that the maximum shortfall for not delivering stable serviceability could be 50% of the assumed capital maintenance expenditure for the particular asset group.

2.82 As we set out in our consultation, we took the following actions at FD14 to ensure that the allowed expenditure to recoup that we determined by our shortfalling methodology is proportionate.

2.83 First, 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. We therefore amended our calculation methodology at final determinations.

2.84 In the PR14 draft determinations, we took 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 level did not impact the shortfall calculation. In response to proportionality concerns

in our PR14 final determination we changed our calculation so that we did not double 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.

2.85 Second, 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 exceeding 12 hours. We also found that another indicator, that for water treatment works coliforms, was more volatile than other indicators. 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 (reducing the proposed shortfall by 25%), and a volatility factor of 0.875 to the water treatment works coliforms indicator. Further details regarding our analysis and how we arrived at these adjustments are set out in policy chapter A4 to our 2014 final determinations. We therefore reduced the shortfall that we proposed in October 2016 for Affinity Water and Dee Valley Water in accordance with this.

2.86 In autumn 2014, we also asked all companies to provide 2010-15 actual capital maintenance expenditure by serviceability indicator. It is important to recognise that this information we collected at PR14 on expenditure per indicator was not provided by all companies, although Affinity Water did provide information, and the information that was provided by companies was not audited or assured. It needs to be treated with caution, but provides a sense check of shortfall values. We noted that if we had used this information it would have increased shortfalls, including those for the interruptions indicator.

2.87 Of the expenditure that companies reported that could be allocated to indicators for the water infrastructure service, around 20% was allocated to the interruptions indicator. At PR09 we stated that we would recover up to 50% of expenditure allowed in price limits for capital maintenance if there were serviceability failures. This would imply a limit of recouping up to 10% of allowed expenditure (that is 50% of 20%) for the water infrastructure service for failures for the interruptions indicator. But under our methodology the maximum expenditure that we can recover for failing the interruptions indicator is 6.3% of expenditure allowed for the infrastructure service. We consider this is further evidence that our methodology is roughly proportionate and certainly not too high.

2.88 We note that the CMA also decided to recoup the same level of expenditure from Bristol Water for failing to deliver stable serviceability as we determined using this methodology at FD14. The CMA commented,

"Regarding the proportionality of the shortfall, we noted that this was calibrated based on the level of asset investment which was allowed, and the methodology set out in advance….In our view, the calculation of the associated shortfall was laid out in PR09, and we considered that it would be inappropriate for us retroactively to adjust this."

2.89 Affinity Water decided to continue to use the interruptions indicator as an incentive mechanism for the 2015-20 period. It considered the appropriate outcome delivery incentive penalty for failing its 2015-20 performance commitment for unplanned interruptions to supply over 12 hours is £6,065 per property. This is higher than the equivalent average amount of expenditure that we proposed to recoup per property, £4,810 per property, using our standard methodology.

2.90 These two incentive mechanisms were calculated on different basis and work in different ways. But, we consider that the similarities between the financial impact for Affinity Water per property/year in the 2015-20 period is further support of the proportionality of the shortfall adjustments for the 2010-15 period.

2.91 We do not consider that any significant new evidence has been presented that our shortfalling methodology, which determines the amount of expenditure that should be recouped for customers, is disproportionate. In addition we do not consider that there is any company specific factor that warrants amending the methodology. We therefore do not consider any change is required to our proposed shortfalling adjustments.

Ofwat view of adjustments required at PR19

2.92 Considering all of the above we do not consider that there is any reason to change the proposals that we set out in our 5 October 2016 consultation and hence the adjustments that we expect to make are the same.

2.93 A comparison of the shortfall position for companies at final determinations and our updated view is shown in table 2.1 below. The difference between these amounts is the adjustment that we expect to make at PR19.

Table 2.1: Serviceability shortfalling, PR14 FD compared to this reconciliation

Company	Indicator	PR14 FD £m	Updated £m	Ofwat view of adjustment required at PR19
Anglian Water	Interruptions	0.0	6.0	6.0
Dŵr Cymru	Interruptions	12.6	12.6	0.0
Severn Trent Water	Interruptions	0.0	10.0	10.0
	Water Treatment Works coliforms	24.9	24.9	0.0
	Sewer blockages	9.8	9.8	0.0
	Pollution incidents (enhanced standard)	13.6	13.6	0.0
Southern Water	Flooding other causes	3.3	2.5	-0.7
	Sewage treatment population equivalent	51.6	51.6	0.0
Thames Water	Pollution incidents	13.5	13.5	0.0
	Flooding other causes	7.1	17.4	10.3
	Sewer blockages (enhanced standard)	2.9	2.9	0.0
Affinity Water (VCE)	Interruptions	0.0	4.7	4.7
Bristol Water	Interruptions	4.1	4.1	0.0
Dee Valley Water	Discolouration contacts	0.7	0.6	-0.1
	Interruptions	0.0	0.2	0.2
South East Water	Interruptions	4.9	4.9	0.0
Total		**149.0**	**179.4**	

3. Capital expenditure incentive scheme

3.1 This chapter sets out our view of the reconciliation for the capital incentive scheme (CIS). It includes consideration of the change protocol and PR09 overlap mechanisms that are inputs to the CIS.

3.2 We have carefully considered the representations that we received from companies. We have already revised proposals for the change protocol and PR09 overlap after considering company views as we published on 24 March 2017. As we explain in this chapter, we have not made any subsequent change to these revised proposals. We provide our view on one further issue for Thames Water, on which we were waiting for data when we consulted in March.

3.3 This chapter sets out the background of the CIS, before summarising and considering the representations of each company. It concludes by setting out our view of the reconciliation that we expect to implement at PR19. The adjustments to the RCV for serviceability and CIS are set out in tables 3.5 and 3.6. The CIS revenue adjustments are set out in tables 3.11 and 3.12.

Background

3.4 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.

3.5 At PR09, we set the CIS baseline at the efficient capital expenditure that a water company required in the 2010-15 period reflecting the outputs each company had to deliver. We compare a company's actual expenditure with our CIS baseline to assess if there is any under or out performance.

3.6 The company set out its view of the expenditure it required at PR09. We use the ratio between the PR09 company view of efficient expenditure and the CIS baseline, the CIS ratio, in calculating how to share out or under performance

between customers and the company. We set out how we would do this at PR09.

3.7 We also set out at PR09 two further incentive mechanisms that are inputs to the CIS. These are the 2009 agreed overlap programme (the overlap mechanism) and the change protocol.

Overlap mechanism

3.8 We introduced the overlap 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).

3.9 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.

3.10 This is an important input into the CIS. We need to ensure that if expenditure for these overlap projects was either brought forward or delayed it will not have an impact on how we make assessments under CIS. As we set out in our 24 March 2017 consultation, this reconciliation was completed at FD14 and no further adjustments are necessary. The responses we received agreed with our approach. Accordingly we have used the reconciliation completed at FD14 as the input into CIS.

Change protocol

3.11 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 allows us to update the CIS baseline that we set at PR09. We described the CIS baseline in paragraph 3.5. As we set out in our 24 March 2017 consultation, this reconciliation is focused on outputs. The responses we received agreed with our approach.

3.12 We completed a reconciliation for the change protocol at FD14. Companies have not presented any new proposals for adjustments for changes in circumstances. Therefore in this reconciliation we have only needed to reflect

any changes in information since FD14 for the material changes we and companies had already identified.

3.13 The only outstanding issue on the change protocol following our 24 March 2017 consultation is in regard to integrated outputs which would ultimately help to resolve sewer flooding in an area of London around Counters Creek.

3.14 Thames Water has been assessing how to address sewer flooding issues in the Counters Creek area since before 2010. Thames Water has identified that this would require a major infrastructure project, which could not be delivered before 2015. At the 2009 price review (PR09) we agreed Thames Water should deliver a number of outputs to make progress towards an overall solution, although its understanding of the problem was at an embryonic stage.

3.15 By April 2013, Thames Water stated that it understood the underlying problem and subsequently identified further integrated outputs that could be delivered by 31 March 2015 as part of a wider solution. It noted that the benefits to customers included

"reduced incidents of flooding at the earliest opportunity" and

"Without the use of the Change Protocol, customers would need to wait a further two years for the next phase of work to commence in AMP6. This delay would be unacceptable to customers"

3.16 In a letter dated 26 July 2013, we agreed with Thames Water in principle to a number of integrated outputs with an associated expenditure of £27.2 million to be delivered by 31 March 2015. We set out that we expected customers to receive the benefits as Thames Water had described them.

3.17 The outputs Thames Water proposed in April 2013 included further design, land investigations, stakeholder engagement, and a number of projects to reduce sewer flooding that were needed in addition to the major infrastructure project, but which could be delivered in a short time frame.

3.18 In February 2016, Thames Water reported that it only delivered four of the additional outputs in whole or in part that amounted to a value of £10.0 million. It did not comment on the outputs that it had originally proposed at PR09.

3.19 In March 2017 we asked Thames Water for clear evidence to substantiate that it had delivered both the outputs it had suggested it had delivered by 31 March

2015 and those from PR09 for which we had not yet received evidence of delivery.

3.20 Thames Water set out evidence it considered substantiated its contention that it had delivered:

- 120 out of 240 FLIPS, which are devices that reduce the risk of flooding at an individual property level. (£3.75 million); and
- Design work, although the majority of the work was not finalised until 31 May 2015. (£5.6 million).

3.21 Thames Water has accepted that it had delivered little or no progress on two outputs that were originally set at PR09 (£3.4 million) for delivery before 31 March 2015.

3.22 For the remaining output included in the change protocol agreement "Surveys and third party approvals" (£3.7 million). It set out that it

"chose to restrict how much work it carried out on land investigations and stakeholder engagement, so as not to confuse the public with another large sewer that was not subject to the same planning process and with potential to jeopardise the DCO for Tideway."

3.23 Thames Water held public consultations in December 2014 and May 2015. The objections that these consultations identified means that the design completed by May 2015 is not feasible. Thames Water continues to seek a design that it can implement.

3.24 Thames Water states in its March 2017 response that

"The design activities prior to 31 March 2015 were necessary to get to the consultation stage and therefore part of the overall process of delivering the benefits to customers. The delivery of the design activities prior to 31 March 2015 has therefore assisted in ensuring that customers receive the benefits of the scheme earlier than would otherwise have been the case. These detailed design outputs which we delivered as part of the change protocol, did therefore accelerate the scheme, as we consider that the circumstances requiring further design to be undertaken (i.e. the outcome of the public consultation) would also have occurred had we started later."

3.25 We disagree. Stakeholder engagement is an essential part of design work and extends beyond formal consultations. Thames Water chose not to proceed with stakeholder engagement, despite requesting that we recognise the need for this as part of an urgent customer priority in April 2013. Stakeholder engagement throughout the period could have identified objections before the detailed design work had been undertaken; and/or helped to influence stakeholders to accommodate the design.

3.26 Based on the above assessment and evidence, we consider that Thames Water has not delivered the benefits that it described in its change protocol application. The only benefit that customers have received is from the 120 FLIPS (£3.75 million). Thames Water has not delivered outputs originally specified at PR09 (£3.40 million) and did not report this to us, before its March 2017 response.

3.27 In our March 2017 consultation we did not include any expenditure for Counters Creek in the CIS baseline pending further information, although it did include expenditure expected at PR09. We have adjusted the CIS baseline upwards in line with the net amount £0.35 million, (£3.75m less £3.40m).

Financial impact of CIS

3.28 The CIS mechanism gives rise to two adjustments:

1. **CIS RCV adjustment:** this ensures that total actual capital expenditure is included in the RCV. We subtract the capital expenditure allowed in the PR09 final determinations from the RCV and add back the actual expenditure.

2. **CIS revenue adjustment:** this applies the reward or penalty and 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.

3.29 For further background please see chapter 4 of our 5 October 2016 consultation document in which we recapped on the approach we used at PR14 and explained how and why our proposed adjustments differed from those we made in our PR14 final determinations, and those proposed by companies.

Discussion of consultation responses

3.30 We received seven responses to our 24 March 2017 consultation that agreed with our proposals. There are also seven responses to our 5 October 2016 consultation that we have not yet addressed. We have grouped these according to subject.

Construction Output Price Index (COPI)

3.31 We received two responses on this issue.

3.32 As we set out in our 5 October 2016 consultation we need the Construction Output Price Index – All new construction data (COPI) to calculate the 2010-15 reconciliation adjustment. COPI was published quarterly by the Department for Business Innovation and Skills (BIS). Following concerns over the reliability of the index, BIS suspended its publication, with the last provisional number being published for the second quarter of 2014.

3.33 The Office for National Statistics (ONS) is in the process of developing a new output prices index that starts at January 2014.

3.34 Consequently, we do not have a consistent series of price indexation data covering the whole period 2010-2015, but rather one series produced by BIS, covering the period to the end of the second quarter 2014 and another series produced by the ONS, beginning in the first quarter of 2014, running to the end of the price control.

3.35 We need to link the two series together. The ONS has published a background note[1] 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, ie March 2015.

3.36 Although we have adopted the ONS guidance, this does not inform the decision as to which quarter, or quarters, to use when linking the two series together. The BIS and ONS data exist for the first two quarters of 2014.

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

3.37 In our 5 October 2016 consultation we proposed to use the first quarter. We note that BIS revised its data after initial publication for up to 5 successive quarters, and that the revisions typically become smaller with each iteration.

3.38 Consequently, we believe that the most robust BIS data 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.

3.39 South Staffordshire Water considers that the more robust approach for the projection of COPI would be to use BIS published data from the second quarter of 2014, rather than quarter one. The company shows that past trends in revisions since 2012 indicate that BIS revisions are generally upwards. The published provisional data point for quarter two is 123, but our method produces a figure of 120.7 for this quarter. It considers that this must be wrong.

3.40 United Utilities considers that the approach we proposed is based upon appropriate assumptions and is in line with the guidance published by the ONS.

3.41 South Staffordshire Water's view relies on the assertion that the new ONS index is less accurate than the BIS discontinued index. The movement that it considers is wrong is between two periods of the ONS index. We do not think there is any reason to consider the second quarter of 2014 of the discontinued index, which was not revised by BIS, as more robust than the new ONS index.

3.42 Therefore we continue to consider that the first quarter is the appropriate data to rely upon as we set out in our 5 October 2016 consultation. We note that United Utilities supports this approach.

3.43 We note on 14 November 2017, the ONS published revised figures on its new COPI data back to January 2014 as it had changed its methodology. It noted further improvements are still planned. We have not, given the continuing uncertainty, taken account of these provisional revisions to the ONS data in our view of the reconciliation for 2010-15. We will consider if it is appropriate to take account of data that the ONS produce when taking decisions on the 2010-15 reconciliation at PR19. Unless we advise otherwise we expect companies to use the values set out in this report as the basis of their business plan submissions.

3.44 We note that the ONS revision still showed the same downward movement between the first and second quarters of 2014. This adds further evidence that the first quarter is the appropriate data to rely upon when linking the two series.

Using complete and accurate information

3.45 Alongside companies providing 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. As we set out in our 5 October 2016 consultation documents eleven companies informed us of instances where the data we had used for 2010-14 should be updated for the various incentive mechanisms.

3.46 In addition when completing the draft reconciliation we found we made an input error in the CIS model for Thames Water at FD14. This led to a £16 million error in the company's favour at FD14. We corrected this in the draft reconciliation. Welsh Water have also provided representations that we had made an error at PR14, which we had subsequently corrected in our draft reconciliation.

3.47 Thames Water sets out in its response that we should restrict this reconciliation to updating available data, but without correcting further errors. It considers that as the input error in the CIS model at PR14 was not related to a lack of clarity around the input data, correcting it would appear to be a retrospective re-opening of the 2014 final determination to correct for one particular error. It contends that this would undermine the certainty of the regulatory framework and increase the perceived regulatory risk, thereby increasing the cost of capital, and ultimately acting to the detriment of customers.

3.48 In its response, Thames Water raised two points relating to the errors it had made in reporting sewer flooding for the 2010-15 period.

3.49 First, it agreed we should make corrections to FD14 to fully reflect that its performance on sewer flooding was worse than we had been led to believe at FD14, and return more money to customers through the serviceability shortfalling adjustment mechanism as set out in chapter 2.

3.50 However, it suggested that this has led to its sewer flooding targets for 2015-20 to be based on wrong data leading them to be too stretching. It highlighted that these sewer flooding targets have not been corrected.

3.51 We note that, in its submission in February 2016 for this reconciliation, Thames Water had highlighted an error made at FD14 in relation to the revenue correction mechanism. This followed our request in Information Notice IN 15/17 for water companies to highlight data prior to 2014-15 that should be amended.

In our draft reconciliation we corrected this and the impact was in Thames Water's favour. In its November 2016 response Thames Water noted that when highlighting this error it had not suggested whether or not these errors should be corrected.

3.52 Thames Water has not provided evidence to support its view that correcting an unambiguous error will increase risk. As we set out below in paragraph 3.57 we consider consistently correcting unambiguous errors helps to provide confidence in the accuracy and legitimacy of the regulatory process. We do not agree that this will increase risk. Furthermore, its argument is not consistent with Thames Water highlighting errors to us.

3.53 We do not agree that an unambiguous error has occurred regarding Thames Water's 2015-20 sewer flooding targets as we set out below in paragraphs 3.58 to 3.62

3.54 Dŵr Cymru notes that the revenue adjustment to be carried forward to PR19 arising from water service logging up, logging down and shortfalls is -£1.6m larger than it was expecting. This is because we made an input error in our final determinations, whereas the revised position we consulted on was entered correctly. This was similar to the input error made for Thames Water described above in paragraph 3.46 although the input error made for Dŵr Cymru was not identified in advance of our draft reconciliation. We had to update figures for Dŵr Cymru in the draft reconciliation and entered these correctly, thus rectifying the error made at FD14.

3.55 Dŵr Cymru considers that a similar correction is required for the FD14 judgement on the blind year adjustment for 2009-10. The company suggests that either we should correct the 2009-10 adjustment or reset the water service logging up, logging down and shortfalls correction made in this consultation so that the only change to FD14 for the 2014-15 "true up" (that is this reconciliation) arises from the change between the forecast numbers and the actual numbers.

3.56 We agree with Dŵr Cymru that we should in principle correct unambiguous errors in a consistent way. However, we do not consider that there is any inconsistency in our approach. We do not consider that the alleged "errors" that Dŵr Cymru refer to from 2009-10 are in fact unambiguous errors and we have been in correspondence over the 2010-15 period about them. We were fully aware of these issues when we set price limits in 2014. The reconciliation process is not an opportunity to revisit the exercise of regulatory judgments

made at FD14. In contrast, our data input error regarding the water service logging up, logging down and shortfalls is an unambiguous error. We simply did not implement our intentions as stated in the company specific appendix that we published at FD14.

3.57 In our 5 October 2016 consultation we set out that if we did not make corrections for unambiguous errors it could "potentially undermin[e] confidence in the accuracy and legitimacy of the regulatory process." We continue to consider that correcting unambiguous errors is appropriate for this 2010-15 reconciliation and therefore disagree with Thames Water's and Welsh Water's representations.

Thames Water – 2015-20 sewer flooding targets

3.58 Thames Water has asserted that there is an error in its sewer flooding targets in 2015-20. It is not clear to us that this was in nature an unambiguous error.

3.59 First, any potential error of this nature would only have been understood following substantial analysis and review by the company, with various judgements being made. We consider an "error" such as this different in nature to a simple unambiguous input error.

3.60 Secondly, the company actually proposed its expected performance in 2014-15 and performance commitments for 2015-20 based on sewer flooding information from the period 2002-04. Therefore, the errors Thames Water made in reporting in 2010-15 will not have affected the proposed information for 2015-20.

3.61 Thirdly, at PR14 we imposed sewer flooding performance commitments for Thames Water, as those it proposed it were not stretching enough. These targets were based on performance comparisons to other companies. We also note that actual corrected performance in 2014-15 was lower than Thames Water had forecast in its plan. There does not appear to be any reason to think that the revised information for 2010-15 would have changed the targets that we imposed.

3.62 Therefore it does not appear to us that there was an unambiguous error. We set out in May 2016 a process for companies that identified unambiguous errors in outcomes in Information Notice IN 16/07, but Thames Water has not asked for this to be considered.

Presentational Issues

3.63 Severn Trent Water considers that we should use a different process to calculate the CIS adjustment for this reconciliation.

3.64 In February 2016 we decided to make a correction following an earlier consultation[2]. Our process adjusts the RCV for the indexation correction and then calculates the difference between the corrected FD14 RCV and that which we now calculate in this reconciliation. This difference is the amount that needs to be adjusted at PR19. The indexation correction will be applied separately.

3.65 Severn Trent Water suggests that we should make a comparison that takes no account of the indexation correction, and then subsequently calculate the RCV indexation correction.

3.66 The two methods will produce similar answers overall but change the balance between the indexation correction and the reconciliation adjustment. Severn Trent Water considers that this would better implement our policy of not making any adjustment until PR19.

3.67 Affinity Water sought assurance that the amounts for the CIS indexation correction that we published in July 2015 are the adjustment that will be made at PR19. Our 5 October 2016 consultation showed what the correction would have been at 31 March 2015, rather than the correction that will be made at PR19 which is after RCV run-off (depreciation) in the 2015-20 period.

3.68 South East Water also noted that stakeholders may misinterpret the figures that we published on the CIS indexation correction, for the actual adjustment we will make at PR19.

3.69 Adopting Severn Trent Water's approach to calculate the reconciliation adjustments would mean that we would depart from the approach consulted on as part of reconciliation rule book and our calculation of the impact of the CIS adjustment as set out in July 2015.

3.70 We consider that in principle either approach could be justified – the Ofwat approach has benefit of providing early certainty around adjustment to RCV at

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

2020. The Severn Trent Water approach is better aligned with not taking account of impact of CIS inflation correction until 2020. We note the two approaches lead to the same outcome overall.

3.71 We do not propose to modify our approach, as it would increase uncertainty around the CIS inflation adjustment and companies have had the opportunity to challenge our methodology when we consulted on the rulebook. This provides the certainty that Affinity Water and South East Water made specific representations on.

Ofwat view of the adjustments required at PR19

3.72 This section sets out our view of the adjustments that we expect to make at PR19.

RCV Adjustments

3.73 As set out in paragraph 3.28, under CIS any capital expenditure for the 2010-15 period is added to the RCV. In February 2016 we decided to make a correction following an earlier consultation[3] and therefore this element is shown separately. Tables 3.1 and 3.2 show what the adjustments would be if we had made that at 31 March 2015. Tables 3.3 to 3.6 set out the actual adjustments that will be applied at PR19.

Table 3.1 The link between actual 2010-15 capital expenditure and the RCV – Water

£m (2012-13 prices)	Actual capex	Capex in PR09 RCV	Difference	FD14 adjustment as at 31 March 2015	Inflation correction as at 31 March 2015	Updated view of CIS adjustment as at 31 March 2015	Total
Anglian	834.3	1,051.6	-217.3	-140.8	-61.9	-14.5	-217.3
Dŵr Cymru	765.9	616.6	149.3	157.9	-35.7	27.0	149.3
Northumbrian	611.5	813.9	-202.5	-149.0	-46.9	-6.6	-202.5
Severn Trent	1,202.6	1,265.6	-63.0	-7.7	-73.1	17.9	-63.0
South West	286.1	337.4	-51.3	-29.9	-19.4	-2.0	-51.3
Southern	583.6	538.7	44.9	77.3	-31.3	-1.1	44.9

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

£m (2012-13 prices)	Actual capex	Capex in PR09 RCV	Difference	FD14 adjustment as at 31 March 2015	Inflation correction as at 31 March 2015	Updated view of CIS adjustment as at 31 March 2015	Total
Thames	1,576.4	1,740.5	-164.1	-75.7	-101.4	13.0	-164.1
United Utilities	1,352.5	1,552.6	-200.1	-138.0	-88.8	26.7	-200.1
Wessex	391.2	559.0	-167.9	-137.0	-33.3	2.5	-167.9
Yorkshire	661.1	814.9	-153.8	-109.2	-47.1	2.5	-153.8
Affinity	461.2	476.9	-15.7	14.8	-27.8	-2.8	-15.7
Bristol	286.6	277.5	9.1	16.3	-9.3	2.2	9.1
Dee Valley	34.3	39.3	-5.1	-2.8	-2.3	0.0	-5.1
Portsmouth	47.9	44.7	3.1	5.6	-2.6	0.1	3.1
Bournemouth	48.9	51.0	-2.2	0.9	-3.0	0.0	-2.2
South East	431.2	449.0	-17.8	7.5	-25.8	0.5	-17.8
South Staffordshire	169.2	190.1	-21.0	-11.0	-10.9	0.9	-21.0
Sutton & East Surrey	103.4	117.5	-14.1	-6.5	-6.7	-0.8	-14.1

Table 3.2 The link between actual 2010-15 capital expenditure and the RCV – Wastewater

£m (2012-13 prices)	Actual capex	Capex in PR09 RCV	Difference	FD14 adjustment as at 31 March 2015	Inflation correction as at 31 March 2015	Updated view of CIS adjustment as at 31 March 2015	Total
Anglian	1,054.0	1,328.1	-274.1	-193.3	-79.1	-1.8	-274.1
Dŵr Cymru	740.9	652.0	88.9	120.4	-37.7	6.2	88.9
Northumbrian	547.6	585.2	-37.6	-4.9	-34.2	1.4	-37.6
Severn Trent	1,366.5	1,554.2	-187.7	-98.5	-89.9	0.7	-187.7
South West	419.4	434.1	-14.7	12.6	-25.1	-2.2	-14.7
Southern	1,369.2	1,473.9	-104.7	-36.3	-84.1	15.8	-104.7
Thames	3,020.2	3,610.4	-590.2	-388.9	-206.0	4.7	-590.2
United Utilities	2,414.0	2,454.2	-40.2	65.3	-144.0	38.5	-40.2
Wessex	509.7	610.8	-101.1	-65.3	-35.6	-0.2	-101.1
Yorkshire	1,038.8	1,288.3	-249.5	-176.9	-75.2	2.7	-249.5

3.74 As we explained in February 2016 the indexation correction will be made after taking into account RCV run off in the period. Table 3.3 and 3.4 show the

adjustments that will be applied. These figures are consistent with the original spreadsheet published in July 2015, that we updated in October 2016.

Table 3.3 Inflation correction that will be applied at PR19 – Water

£m (2012-13 prices)	Inflation correction as at 31 March 2015	Run off	Inflation correction (input at PR19)
Anglian	-61.9	11.3	-50.6
Dŵr Cymru	-35.7	5.6	-30.0
Northumbrian	-46.9	11.3	-35.6
Severn Trent	-73.1	11.7	-61.5
South West	-19.4	3.4	-16.1
Southern	-31.3	6.0	-25.2
Thames	-101.4	17.2	-84.2
United Utilities	-88.8	19.1	-69.7
Wessex	-33.3	5.6	-27.7
Yorkshire	-47.1	7.1	-40.0
Affinity	-27.8	5.1	-22.6
Bristol	-9.3	2.5	-6.9
Dee Valley	-2.3	0.6	-1.7
Portsmouth	-2.6	0.5	-2.1
Bournemouth	-3.0	0.6	-2.5
South East	-25.8	4.5	-21.3
South Staffordshire	-10.9	2.8	-8.0
Sutton & East Surrey	-6.7	2.2	-4.5

Table 3.4 Inflation correction that will be applied at PR19 – Wastewater

£m (2012-13 prices)	Inflation correction as at 31 March 2015	Run off	Inflation correction (input at PR19)
Anglian	-79.1	14.1	-65.0
Dŵr Cymru	-37.7	4.1	-33.6
Northumbrian	-34.2	7.5	-26.7
Severn Trent	-89.9	20.4	-69.5
South West	-25.1	5.4	-19.7
Southern	-84.1	21.9	-62.3
Thames	-206.0	47.4	-158.6

£m (2012-13 prices)	Inflation correction as at 31 March 2015	Run off	Inflation correction (input at PR19)
United Utilities	-144.0	25.9	-118.1
Wessex	-35.6	7.3	-28.3
Yorkshire	-75.2	14.0	-61.2

3.75 Tables 3.5 and 3.6 set out the Ofwat view of the adjustments to the RCV for the 2010-15 reconciliation that will be applied at PR19, taking into account the time value of money. This incorporates both the serviceability shortfalls from table 2.1 and the RCV adjustments from tables 3.1 and 3.2.

Table 3.5 Ofwat view of RCV reconciliation adjustments to be applied at PR19 - Water

£m (2012-13 prices)	Ofwat view of CIS adjustment as at 31 March 2015	Ofwat view of serviceability shortfall as at 31 March 2015	Total RCV adjustment as at 31 March 2015	Total RCV adjustment (input at PR19)
Anglian	-14.5	-6.0	-20.6	-24.5
Dŵr Cymru	27.0	0.0	27.0	32.3
Northumbrian	-6.6	0.0	-6.6	-7.9
Severn Trent	17.9	-10.0	7.9	9.4
South West	-2.0	0.0	-2.0	-2.4
Southern	-1.1	0.0	-1.1	-1.3
Thames	13.0	0.0	13.0	15.5
United Utilities	26.7	0.0	26.7	31.8
Wessex	2.5	0.0	2.5	3.0
Yorkshire	2.5	0.0	2.5	3.0
Affinity	-2.8	-4.7	-7.5	-9.0
Bristol	2.2	0.0	2.2	2.6
Dee Valley	0.0	-0.2	-0.2	-0.2
Portsmouth	0.1	0.0	0.1	0.2
Bournemouth	0.0	0.0	0.0	0.0
South East	0.5	0.0	0.5	0.6
South Staffordshire	0.9	0.0	0.9	1.1
Sutton & East Surrey	-0.8	0.0	-0.8	-1.0

Table 3.6 Ofwat view of RCV reconciliation adjustments to be applied at PR19 – Wastewater

£m (2012-13 prices)	Ofwat view of CIS adjustment as at 31 March 2015	Ofwat view of serviceability shortfall as at 31 March 2015	Total RCV adjustment as at 31 March 2015	Total RCV adjustment (input at PR19)
Anglian	-1.8	0.0	-1.8	-2.2
Dŵr Cymru	6.2	0.0	6.2	7.4
Northumbrian	1.4	0.0	1.4	1.7
Severn Trent	0.7	0.0	0.7	0.8
South West	-2.2	0.0	-2.2	-2.7
Southern	15.8	0.7	16.5	19.7
Thames	4.7	-10.3	-5.6	-6.7
United Utilities	38.5	0.0	38.5	45.9
Wessex	-0.2	0.0	-0.2	-0.2
Yorkshire	2.7	0.0	2.7	3.2

Revenue Adjustment

3.76 As set out in paragraph 3.28 the reward or penalty for revenue under or out performance is implemented under CIS using a revenue adjustment. This 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.

3.77 Before we can make this comparison we must first update the CIS baseline using our change protocol mechanism as set out in paragraph 3.11.

3.78 Tables 3.7 and 3.8 set out the capital expenditure performance where actual expenditure is compared to our updated CIS baseline.

Table 3.7 2010-15 Capital Expenditure under/out performance – Water

£m (2012-13 prices)	CIS baseline in FD14	Movement in change protocol adjustments since FD14	Updated baseline	Actual capex 2010-15	Under/out performance
Anglian	941.7	0.0	941.7	834.3	107.4
Dŵr Cymru	541.3	-0.4	540.9	765.9	-225.0
Northumbrian	724.2	0.0	724.2	611.5	112.8
Severn Trent	1,106.8	-8.3	1,098.5	1,202.6	-104.1
South West	298.8	0.0	298.8	286.1	12.7

£m (2012-13 prices)	CIS baseline in FD14	Movement in change protocol adjustments since FD14	Updated baseline	Actual capex 2010-15	Under/out performance
Southern	410.5	-6.8	403.7	583.6	-179.9
Thames	1,460.4	-2.3	1,458.1	1,576.4	-118.3
United Utilities	1,440.6	0.0	1,440.6	1,352.5	88.0
Wessex	494.8	0.0	494.8	391.2	103.6
Yorkshire	749.8	0.0	749.8	661.1	88.7
Affinity	398.3	0.0	398.3	461.2	-62.9
Bristol	250.6	0.0	250.6	286.6	-36.0
Dee Valley	35.6	0.0	35.6	34.3	1.3
Portsmouth	38.9	-0.2	38.7	47.9	-9.2
Bournemouth	43.7	-0.2	43.5	48.9	-5.4
South East	375.5	0.0	375.5	431.2	-55.7
South Staffordshire	168.3	0.0	168.3	169.2	-0.9
Sutton & East Surrey	99.6	0.0	99.6	103.4	-3.8

Notes:
1. Outperformance is where actual expenditure is lower than the CIS baseline and is denoted by positive values.
2. Underperformance is where actual expenditure is higher than the CIS baseline and is denoted by negative values.

Table 3.8 2010-15 Capital Expenditure under/out performance – Wastewater

£m (2012-13 prices)	CIS baseline in FD14	Movement in change protocol adjustments since FD14	Updated baseline	Actual capex 2010-15	Under/out performance
Anglian	1,213.5	-3.0	1,210.4	1,054.0	156.5
Dŵr Cymru	620.3	-0.7	619.6	740.9	-121.3
Northumbrian	508.6	10.9	519.5	547.6	-28.1
Severn Trent	1,385.6	-1.1	1,384.6	1,366.5	18.1
South West	412.4	1.4	413.8	419.4	-5.6
Southern	1,277.2	1.2	1,278.3	1,369.2	-90.9
Thames	3,026.7	-9.8	3,016.9	3,020.2	-3.3
United Utilities	2,247.3	-21.5	2,225.8	2,414.0	-188.2
Wessex	568.9	-0.8	568.1	509.7	58.4
Yorkshire	1,188.0	-0.3	1,187.7	1,038.8	148.9

Notes:
1. The movement in the change protocol since FD14 is the real change. This does not take account of the difference between the assumptions of 2014-15 RPI at FD14 and actual RPI.
2. Outperformance is where actual expenditure is lower than the CIS baseline and is denoted by positive values.
3. Underperformance is where actual expenditure is higher than the CIS baseline and is denoted by negative values.

3.79 Tables 3.9 and 3.10 set out the rewards and penalties for each company, as well as the correction required 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. These totals are calculated as if they were being implemented at PR14. Tables 3.11 and 3.12 below set out how we use these figures to calculate the adjustment required at PR19. The precise calculation of these elements are set out in the spreadsheets that accompany this document.

Table 3.9 CIS Revenue reward/penalty - Water

£m (2012-13 prices)	Under/out performance	CIS ratio	Initial CIS reward / penalty	Adjustments for PR09 additional income and financing	Ofwat updated view of CIS revenue adjustment as at PR14
Anglian	107.4	89	28.9	-26.2	2.8
Dŵr Cymru	-225.0	142	-62.4	6.2	-56.1
Northumbrian	112.8	84	31.9	-23.7	8.2
Severn Trent	-104.1	109	-26.7	-21.1	-47.8
South West	12.7	96	3.3	-7.4	-4.1
Southern	-179.9	145	-36.3	22.7	-13.6
Thames	-118.3	108	-43.3	27.3	-16.0
United Utilities	88.0	94	30.0	-55.5	-25.5
Wessex	103.6	79	28.7	-15.7	13.0
Yorkshire	88.7	88	27.0	-9.8	17.1
Affinity	-62.9	Note 1	-18.7	9.5	-9.1
Bristol	-36.0	114	-10.7	4.4	-6.3
Dee Valley	1.3	96	0.4	-1.3	-0.9
Portsmouth	-9.2	124	-2.4	0.2	-2.2
Bournemouth	-5.4	112	-1.4	-0.1	-1.5
South East	-55.7	115	-16.5	9.2	-7.3

£m (2012-13 prices)	Under/out performance	CIS ratio	Initial CIS reward / penalty	Adjustments for PR09 additional income and financing	Ofwat updated view of CIS revenue adjustment as at PR14
South Staffordshire	-0.9	Note 2	-0.6	-3.6	-4.2
Sutton & East Surrey	-3.8	104	-2.1	-1.0	-3.1

Notes:
1. The CIS ratios for each of Affinity Water's three areas are: Central 116; Eastern 94; and South East 120.
2. The CIS ratios for each of South Staffordshire Water's two areas are: South Staffordshire 102 and Cambridge 95.

Table 3.10 CIS Revenue reward/penalty – Wastewater

£m (2012-13 prices)	Under/out performance	CIS ratio	Initial CIS reward / penalty	Adjustments for PR09 additional income and financing	Ofwat updated view of CIS revenue adjustment as at PR14
Anglian	156.5	87	48.0	-33.5	14.6
Dŵr Cymru	-121.3	120	-33.7	-1.8	-35.5
Northumbrian	-28.1	105	-7.0	-7.1	-14.1
Severn Trent	18.1	99	6.3	-24.2	-18.0
South West	-5.6	101	-2.6	-4.5	-7.0
Southern	-90.9	107	-25.8	-6.1	-31.9
Thames	-3.3	100	-3.5	-86.5	-90.0
United Utilities	-188.2	108	-43.6	7.7	-35.9
Wessex	58.4	90	18.8	-18.0	0.8
Yorkshire	148.9	87	51.4	-42.5	8.8

3.80 Tables 3.11 and 3.12 show how we take the difference between the updated view of the CIS revenue adjustments and the adjustment we made at FD14. After taking into account the time value of money, this provides the revenue adjustment at PR19. The precise calculations can be seen in the spreadsheets that are published alongside this document.

Table 3.11 CIS revenue adjustment to be applied at PR19 – Water

£m (2012-13 prices)	Ofwat updated view of CIS revenue adjustment as at PR14	FD14 CIS revenue adjustment as at PR14	CIS revenue adjustment as at PR14 (Difference)	CIS revenue adjustment (input at PR19)
Anglian	2.8	-3.7	6.5	7.7
Dŵr Cymru	-56.1	-47.9	-8.2	-9.8
Northumbrian	8.2	5.6	2.6	3.1
Severn Trent	-47.8	-42.5	-5.3	-6.3
South West	-4.1	-4.7	0.6	0.8
Southern	-13.6	-12.9	-0.6	-0.8
Thames	-16.0	-15.1	-0.9	-1.1
United Utilities	-25.5	-17.0	-8.5	-10.1
Wessex	13.0	13.4	-0.4	-0.5
Yorkshire	17.1	16.1	1.1	1.3
Affinity	-9.1	-9.8	0.7	0.9
Bristol	-6.3	-6.1	-0.2	-0.2
Dee Valley	-0.9	-0.9	0.1	0.1
Portsmouth	-2.2	-2.2	-0.1	-0.1
Bournemouth	-1.5	-1.5	0.0	0.0
South East	-7.3	-7.5	0.1	0.2
South Staffordshire	-4.2	-4.2	0.0	-0.1
Sutton & East Surrey	-3.1	-3.3	0.2	0.3

Table 3.12 CIS revenue adjustment to be applied at PR19 – Wastewater

£m (2012-13 prices)	Ofwat updated view of CIS revenue adjustment as at PR14	FD14 CIS revenue adjustment as at PR14	CIS revenue adjustment as at PR14 (Difference)	CIS revenue adjustment (input at PR19)
Anglian	14.6	11.3	3.3	3.9
Dŵr Cymru	-35.5	-34.7	-0.7	-0.9
Northumbrian	-14.1	-16.3	2.2	2.6
Severn Trent	-18.0	-19.2	1.2	1.4
South West	-7.0	-8.1	1.1	1.3
Southern	-31.9	-28.5	-3.4	-4.1
Thames	-90.0	-72.3	-17.7	-21.1

£m (2012-13 prices)	Ofwat updated view of CIS revenue adjustment as at PR14	FD14 CIS revenue adjustment as at PR14	CIS revenue adjustment as at PR14 (Difference)	CIS revenue adjustment (input at PR19)
United Utilities	-35.9	-27.2	-8.7	-10.4
Wessex	0.8	0.7	0.1	0.1
Yorkshire	8.8	6.6	2.2	2.6

4. The 2014-15 transition mechanism

Background and operation

4.1 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.

4.2 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 Infrastructure Cost Review programme to understand the impacts and causes of cyclical investment in the water sector.

4.3 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.

4.4 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.

4.5 For further background please see chapter 7 of our 5 October 2016 consultation document.

Consultation responses

4.6 We did not receive any responses on this area.

Updated view

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

4.8 We now know that actual capital expenditure reported under the transition mechanism was £212 million, with £88 million in water, and £124 million in wastewater as shown in table 4.1.

Table 4.1 – Actual transition expenditure

£m (2012-13 prices)	Water	Wastewater	Total
Anglian	25.3	27.0	52.3
Dŵr Cymru	0.7	1.4	2.1
Northumbrian	0.0	3.7	3.7
Severn Trent	10.8	0.0	10.8
South West	1.5	1.0	2.5
Southern	1.5	14.3	15.8
Thames	24.7	51.5	76.1
United Utilities	10.1	15.9	26.0
Wessex	0.5	4.5	5.0
Yorkshire	9.7	4.8	14.5
Affinity	2.1	-	2.1
Bristol	0.7	-	0.7
Dee Valley	0.1	-	0.1
Portsmouth	0.0	-	0.0
Bournemouth	0.0	-	0.0
South East	0.0	-	0.0
South Staffordshire	0.0	-	0.0
Sutton & East Surrey	0.0	-	0.0

4.9 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.

4.10 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.

5. Next steps

5.1 We have provided this early view in order to help streamline the process of PR19. We expect companies to use the values set out in this report as the basis of their business plan submissions.

5.2 To the extent that the reconciliation at PR19 is different to the assumptions we made as part of the price review 2014, it will impact customers' bills in the 2020-25 period.

5.3 We describe the process and mechanism of how we will apply the further 2010-15 reconciliation adjustments to revenue and RCV in chapter 12 of Delivering Water 2020: PR19 methodology.

Appendix 1 - Reconciliation Rulebook

Companies made specific points on the version of the reconciliation rulebook that we published alongside the 5 October 2016 consultation. Their comments and our responses are set out below.

Northumbrian Water made detailed comments about.

1. The change in treatment of Adjustments to Other Cost Inclusions that was made in Feb 2016; and
2. The correct classification and treatment of 'other cash items' in the totex model.

These are detailed points that we will consider as we move towards PR19.

Welsh Water noted that the one of the inputs to the Wholesale Revenue Forecasting Incentive Model had changed to "Wholesale revenue governed by price control" from "Total revenue governed by price control" and questioned if this was correct. This was an error and the reference should have remained "Total revenue governed by price control". We have rectified this in the updated reconciliation rulebook published with the PR19 methodology.

South East Water and United Utilities noted that the WFRIM model published at the time of the consultation paper would not be appropriate if the proposed licence modification that we referred to in the paper was subsequently made. When we made the licence modification we published a new version of the model.