About this document

In 'Consultation on the final 2010-15 reconciliation' we invite 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, although one, in respect of the revenue correction mechanism, could be adjusted through revenue in the period 2015-2020.

In this appendix, we set out the proposals in respect of Thames Water. It shows how we have assessed the claims the company has made, and the basis for our proposals.

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

Contents

1. Introduction

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.

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.

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.

In reaching our 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. In 'Consultation on the final 2010-15 reconciliation', 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 adjustments differ from those we made in our PR14 final determinations, and those proposed by companies.

In this appendix, we set out our proposals for the blind year reconciliation adjustments for Thames Water resulting from the company's actual performance during the period 2010-2015, including 2014-15. We have used correct data and final audited information for the full period for this final reconciliation. We have used revised data submitted by Thames Water in relation to the Revenue correction mechanism (see Table A3: number of households billed) and in relation to serviceability (see Table A7:

flooding other causes). We have also input revised data into the capital expenditure incentive scheme model to correct an input error we made when we included data that related to change protocol adjustments for Thames Tideway, which should have been excluded as it related to a separate control (See Table A11: input error).

We have structured this appendix to begin in section 2 with a summary of the adjustments. In section 3 we explain each of the adjustments in turn:

- Revenue correction mechanism (RCM);
- Change protocol (logging up, logging down, shortfalls);
- Service standard outputs;
- Serviceability performance;
- 2009 agreed overlap programme; and
- Capital expenditure incentive scheme (CIS).

In addition to the incentive arrangements listed above, we also cover the 2014-15 transition mechanism in section 3.7. We summarise how and when our proposed adjustments will be implemented in section 4.

For each mechanism we outline:

- Our position as set out in PR14 final determination;
- How our proposals differ from decisions taken at PR14; and
- How our proposals differ from companies' proposals.

There are a number of other PR09 incentive mechanisms not listed above, in particular the service incentive mechanism (SIM), the opex incentive allowance (OIA) and other revenue adjustments. 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.

In order to calculate the blind year adjustments, we have undertaken detailed calculations within our models for the RCM, CIS and serviceability shortfalls and the PR14 reconciliation rulebook legacy blind year model. While we provide an explanation of our interventions within this appendix, each model contains the detail of the specific calculation.

Populated models for the blind year update proposals are published alongside the consultation.

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

2. Summary of 2010-15 final reconciliation adjustments

Table A1 below sets out for each of the incentive tools for water and wastewater services a quantification of:

- PR14 final determination (FD) position;
- the company's view of the required adjustment (if stated in its blind year update submission); and
- our view resulting from the blind year reconciliation (BYR).

The main difference between the company and our view relates to the change protocol as set out in section 3.2. We have also corrected an input error that we made in the FD as set out in section 3.6.

The table shows adjustments made through revenue and those made through the RCV separately. This is because the PR09 incentive mechanisms are adjusted for in different ways. Mainly, they are adjusted through an adjustment to the RCV, however the RCM and the penalty / reward element of the CIS adjustment are both made through revenue.

Table A1 Revenue and RCV adjustments 2015-20 (£ million)

	Water service			Wastewater service		
	FD position	Company BYR view	Ofwat BYR	FD position	Company BYR view	Ofwat BYR
Revenue adjustments						
RCM	40.768	n/a	36.316	73.671	n/a	64.337
CIS	-15.061	n/a	-16.005	-72.320	n/a	-90.177
Total revenue adjustments[2]	25.707	n/a	20.311	1.351	n/a	-25.840

	Water service			Wastewater service		
	FD position	Company BYR view	Ofwat BYR	FD position	Company BYR view	Ofwat BYR
RCV adjustments						
Elements of CIS:						
Adjustment for actual expenditure 2010-15	-171.264	n/a	-155.757	-427.642	n/a	-414.515
Adjustment for change protocol – logging up/down	0.000	0.000	0.000	-171.206	-164.871	-177.093
Adjustment for change protocol – shortfalls	-5.788	-8.336	-8.336	0.000	-2.580	-2.580
Adjustment to overlap	0.000	0.000	0.000	3.987	3.987	3.987
CIS total[2 3]	-177.052	n/a	-164.093	-594.861	n/a	-590.201
Serviceability shortfall	0.000	0.000	0.000	-23.542	-33.747	-33.837
Total RCV adjustments[2 3]	-177.052	n/a	-164.093	-618.402	n/a	-624.038

Notes:
1. The revenue and RCV adjustments are added for comparison against the materiality threshold in the PR14 reconciliation rulebook blind year model.
2. Totals may not add up due to rounding.
3. The FD position has been updated for the RCV indexation correction that will be applied separately at PR19.

The adjustments for the Change protocol and 2009 agreed overlap programme are considered separately, but both are implemented through the CIS.

3. Adjustments by 2010-15 incentive mechanism

3.1 Revenue correction mechanism

Our view for the revenue correction mechanism (RCM) adjustment is detailed in table A2 below. This shows the components of the movement from the RCM adjustment included in the PR14 final determination.

Table A3 summarises our interventions in relation to the 2010-15 RCM adjustments.

For the RCM, we apply the PR14 vanilla wholesale WACC (real; pre-tax cost of debt, post-tax cost of equity) as the discount rate. As in the final determination, the PR14 discount rate is 3.6% for Thames Water.

Table A2 RCM total adjustments for 2015-20 (£ million)

	Water service	Wastewater service	Total
FD position	40.768	73.671	114.439
Impact of RPI changes[1]	-5.194	-5.619	-10.813
Impact of updated data from company	0.741	-3.714	-2.973
Impact of other adjustments	0.000	0.000	0.000
Impact of Ofwat intervention	0.000	0.000	0.000
Ofwat BYR	36.316	64.337	100.653
Change from FD position	-4.452	-9.334	-13.786

Note:

1. The calculated movement from the RCM adjustment included in the PR14 final determination relates to actual RPI being lower than forecast at PR14 for 2014-15.

The changes shown in table A2 above will be implemented in the PR14 reconciliation rulebook legacy blind year model as discussed in section 4.

Table A3 Interventions on proposed 2010-15 RCM adjustments

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
Back-billing amounts	Our assumptions for the draft determination did not include the back-billed amounts claimed by the company because we had concerns as to whether the back-billing amounts put forward were compliant with RAG4.04 and IN11/04. In addition, the company's proposed alternative approach to recognising the back-billed amounts based on its cash collection rates was not fully evidenced. We reviewed the company's representation and accepted the company's updated claim for back-billing except for the amount assumed in the forecast year 2014-15.	We considered that Thames Water had provided sufficient evidence in its representation to demonstrate that its updated alternative methodology for calculating its back-billing amounts can sufficiently demonstrate that it has received the outstanding back-billed amounts due from the customer. However, the amounts claimed in the forecast year 2014-15 were too uncertain to be accepted as a valid claim.	Thames submitted a back-billing claim of £7 million (£4m water; £3m sewerage) in 2014-15. We issued two queries on its back-billing claim. In an email dated 21 April 16, the company confirmed that it had identified an error. The company corrected its back-billing claim from £7m to £0.974m (£0.570m water; £0.404m sewerage) in tables W17 and S17. To ensure that it has mitigated the risk of inaccurately reporting its back-billing, it has obtained and checked against source data. The company asked KPMG to review its process and has checked the amounts to the methodology as agreed at the Draft Determination representation. The company	We have accepted the company's resubmission, and have not intervened.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
			will publish an amendment on its website to disclose the correction. The company has also updated its internal control processes to mitigate the risk of the error recurring.	
FD09 assumptions – Tariff basket revenues	Our assumptions included our view of the company's updated FD09 assumptions. We updated the company's FD09 revenue forecasts in the PR09 tariff basket model with the company's revised K profile generated from the updated PR09 financial model that contained the new K profile.	The company proposed a reduction to K for 2012-13 and subsequent take up of the carried forward unused K in 2013-14 that broadly equated to the equity issuance transaction costs allowed for in FD09. We agreed on 21 December 2011 that for the purposes of the RCM, we would adjust the final determination revenue in the RCM model to reflect the new profile of K effective from 2012-13. There are differences between the company's and our view of the updated FD09 assumptions used in the company's populated RCM model. The company applied different assumptions for 'FD09 Tariff basket revenues' compared with our view of its updated FD09 assumptions that is based on the company's revised K profile from 2012-13.	There has been no change from the final determination.	There has been no change from the final determination.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
FD09 assumptions – Measured non-households' revenue for the measured non-household group immediately above and below the 50 mega litre (Ml) threshold	Our assumptions included our view of the updated FD09 assumptions. We updated Thames Water's FD09 revenue forecasts in the PR09 tariff basket model with the company's revised K profile generated from the updated PR09 financial model that contained the new K profile. Our view of the company's revenue assumptions for the measured non-household group immediately below and above the 50 Ml tariff basket threshold originated from the company's updated FD09 revenue forecasts that came from the tariff basket model, which we used for PR09.	There are differences between the company's and our view of the updated FD09 assumptions used in the company's populated RCM model. The company applied different assumptions for 'FD09 Measured non-households' revenue for the measured non-household group immediately above and below the 50ML threshold' compared with our view of its updated FD09 assumptions. Our assumptions for the final determination included the updated FD09 revenue forecasts as contained in the PR09 tariff basket model in accordance with our published methodology: 'Setting price controls for 2015-20 – further information on reconciling 2010-15 performance'.	There has been no change from the final determination.	There has been no change from the final determination.
Number of households billed	Our assumptions for the final determination included the number of households billed in 2009-10 as submitted by the company in table 7 and 13 of its June return and the data the company submitted in its business plan table R3 to calculate our view of the RCM	There were differences with the number of households billed between the June return and the company's populated RCM model. The company did not explain why the number of households billed in 2009-10 had changed from its June return data	The company has submitted updated numbers for table R3 for 2014-15 and has provided revised numbers for 2013-14 customer numbers to correct for a calculation error.	We have accepted the company's submission, and have not intervened. We have calculated that the changes to historical data for the period 2010-14 result in an incremental impact on the

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
	adjustment compared with the values in the company RCM model.	submission. We intervened and applied the value as submitted in the June return.	The company also identified two minor corrections to years 2010-11 and 2013-14 for ‘Sewerage: Properties served by new appointee in supply area as at 1 April 2009’ in line 10 of table S17. The company stated 'For 2010-11 the number should be increased from 1.345k to 1.420k (an additional 75 properties), this was as a result of a small wastewater only inset being omitted from the line. For 2013-14 the number should be reduced from 6.768k to 6.391k (a reduction of 377 properties), this was as a result of a 'water only' inset being incorrectly included as wastewater in the submission.'	RCM of approximately £2.6 million in the company’s favour from the FD position.
Outturn financial year average RPI	Our assumptions for the outturn financial year average RPI, in the final determination, used the data that the company submitted in its business plan table A9 to calculate our view of the RCM adjustment compared with the values in the company RCM model.	There were inconsistencies with the outturn financial year average RPI between table A9 and the company’s populated RCM model. Our assumptions for the final determination used the data from table A9.	We now know actual RPI for 2014-15.	We have updated the company’s forecasted RPI for 2014-15 with actual RPI for 2014-15.

3.2 Change protocol (logging up, logging down and shortfalls)

Table A4 below summarises the company's view and our baseline view of total adjustments to capex included in the CIS reconciliation.

Table A5 summarises our interventions in relation to the company's proposed change protocol adjustments. As in the final determination, we have not intervened for Shaft G (Logging up – sewerage service), Hendon Way external flooding scheme (Logging down – sewerage service) and Deephams STW upgrade (Logging down – sewerage service).

Table A4 Summary of post-efficiency capex for logging up, logging down and shortfalls included in the CIS reconciliation (£ million)

2009-10 to 2014-15 – post-efficiency capex	Water service			Wastewater service			Total service		
	FD position	Company BYR view	Ofwat BYR	FD position	Company BYR view	Ofwat BYR	FD position	Company BYR view	Ofwat BYR
Logging up (two-sided)[1, 2]	0.000	0.000	0.000	72.162	63.004	58.356	72.162	63.004	58.356
Logging down (two-sided)[1, 2]	0.000	0.000	0.000	-243.368	-227.875	-235.449	-243.368	-227.875	-235.449
Shortfalls (one-sided)[1, 2]	-5.788	-8.336	-8.336	0.000	-2.580	-2.580	-5.788	-10.916	-10.916

Notes:
1. We exclude serviceability shortfalls from the numbers above as they are not part of the CIS reconciliation. Instead we make direct adjustments to the RCV.
2. Changes relating to 2009-10 were implemented in full in the opening RCV at PR14 final determination.

The changes for the five years 2010-15 included in table A4 are implemented through the CIS.

Table A5 Interventions on proposed 2010-15 change protocol adjustments

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
Security and Emergency Measures Direction – Shortfall (water service)	Thames Water did not propose a legacy adjustment in relation to the delivery risk associated with the SEMD programme on the grounds of triviality. Several elements of the programme were at risk of slippage into the 2015-20 price control period. We assessed the information provided by the company and determined that a shortfall should be applied to reflect the late delivery. We shortfalled £6.1 million capex and £0.5 million opex. In post efficiency terms, these values are £5.8 million (capex) and £0.5 million (opex).	The company did not include the relevant SEMD schemes in its overlap programme. It considered that the appropriate mechanism to take account of delays to the SEMD programme is logging down, in which case no adjustment should be made, as the item does not breach the triviality threshold (2% of service turnover). As the delayed outputs are still required, we considered it was appropriate to assess the variance to FD09 assumptions as a shortfall. Triviality does not apply in the case of the shortfalling mechanism. In determining the shortfall amount, we used values from FD09. These were indexed (using COPI for capex and RPI for opex) to 2012-13 prices. In its representation, the company commented that it was not formally challenging our intervention acknowledging that the shortfall adjustment was “relatively immaterial”.	In response to the Ofwat initiated pre-efficiency shortfall claim of £6.050 million in the final determination for 3 SEMD outputs undelivered, the company submitted a shortfall claim of the same value in its blind year submission. The company confirmed in its document 'Tables S13 and W13 reconciliation commentary' that the full programme of SEMD outputs was delivered by October 2015. Defra confirmed delivery in November 2015.	We have not intervened because the company has submitted a shortfall claim reflecting our intervention at the PR14 final determination. We acknowledge that one of the outputs delivered late relates to the sewerage service but for simplicity, we are content for the shortfall to apply to the water service as in the final determination.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
New billing system shortfall (both water and wastewater services)	In the notes to table A2.7 of the company's FD company specific appendix we wrote "Thames Water proposed a voluntary shortfall of £5.4 million to take account of the investment it incurred in 2010-15 to explore the introduction of a new billing system. This voluntary shortfall has not been included in our financial modelling for this price review. We will, however, include this as an adjustment for the reconciliation of performance for 2014-15 and include this shortfall on a net present value neutral basis across the water and wastewater wholesale price controls when we next set price limits so that customers are not disadvantaged."		The company has included a new pre-efficiency shortfall of £5.4 million, split equally between water and wastewater services, in relation to investment it incurred in 2010-15 exploring the introduction of a new billing system.	We have not intervened because the company has submitted a shortfall claim consistent with what we wrote at the PR14 final determination.
Transfer of private sewers – Logging up (sewerage service)	We reduced the pre-efficiency capex from the £25.7 million proposed by the company to £24.0 million. We also applied a challenge to the opex proposed as we considered the claimed costs were not entirely attributable to the transfer, did not entirely represent net additional costs or were not adequately	Our view of costs was based on our determination of the company's 2013 IDoK application, revised in the light of new information. Consequently, our assessment changed due to the extra information. In particular, our view changed in two key areas: i) revised data from all companies	The company's reported capex in 2014-15 was £6.790m as compared to £6.424m in their revised business plan, an increase of £0.366m.	As at the PR14 final determination, we have intervened in this area. For this company we have continued to apply the approach used at FD14 to calculate our intervention, which was that taken from TMS' IDOK in 2013. Updating the data for 2014-15 indicates the company was more

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
	substantiated. As a result, we reduced the pre-efficiency opex from the £39.7 million proposed by the company to £27.6 million. In post efficiency terms the value of the logging up claim was £22.5 million (capex) and £27.2 million (opex).	altered the industry average unit costs (capex per collapse and opex per blockage) and consequently the gap between the company's unit costs and the industry average, and ii) the disapplication of catch-up and ongoing efficiency adjustments that were made in error at the RBR to costs that already incorporated an efficiency challenge.		efficient over the 2010-15 period than our analysis indicated at FD14. We have increased our logging up adjustment to £25.370m pre efficiency for the period 2010-15, which represents £23.783m post efficiency.
Counters Creek – Logging up (sewerage service)	We did not intervene for this claim.		The company has reduced the logging up claim from £27.2 million (pre-efficiency) as agreed in the Change Protocol letter from Keith Mason to Nick Fincham dated 26 July 2013, to £15.4 million as a result of lower delivery in 2014-15 than forecast. The deliverables required were specified in Part B and Part C of the letter. The company reports actual expenditure totalling £11.192 million (pre efficiency) in 2013-14 and 2014-15 but that it has delivered the following: a) Part B - All detailed design completed therefore £3.2 million (pre efficiency) it	The company has included in its claim, expenditure forecast to be incurred on outputs that will not be delivered in the period 2010-15. We have intervened to reduce the final determination adjustment to reflect only expenditure on activities in the 2010-15 period as set out in our main document. We have therefore included a pre efficiency logging up adjustment of £11.192 million (£10.495 million post efficiency) based on the actual expenditure reported in 2013-14 and 2014-15. This amount is lower than the company's revised pre efficiency claim of

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
			considers should be logged up; b) Part B - Only half of the planning and surveys and 3rd party approvals completed therefore it considers only £3.1 million (pre efficiency) should be logged up; c) Part B - No SUDS pilots completed and the company has deferred these to 2015-20 but because the company has commercially committed to deliver these, it considers that the £1.9 million (pre efficiency) associated with these should be logged up; d) Part C - None of the local schemes completed so in theory it considers £12.1 million (pre efficiency) should be removed from the logging up adjustment. However, an odour abatement notice has been served on the Acton storm tanks and so the company is developing an integrated solution to solve sewer flooding and odour issues which they will deliver during 2015-2020. Therefore, the company considers the associated expenditure of	£15.360 million (£14.446 million post efficiency).

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
			£3.4 million (pre efficiency) should be logged up; and e) Part C - Only half of the 240 FLIPs delivered, so it considers only £3.8 million (pre efficiency) should be logged up. The company states that since the 2014 Business Plan "it has crystalized that the preferred route for the tunnel is not possible" and that an alternative route "would change the requirements for FLIPs and local schemes and as such they were put on hold." The requirements will only be available following the Phase 2 consultation which is due to be completed in Spring 2016. So, the company has reduced the logging up adjustment from £27.2 million (pre efficiency) to £15.4 million (pre efficiency) to take account of the outputs it has delivered during 2010-15 (£3.2 million + £3.1 million + £3.8 million) plus the SUDS pilots (£1.9 million) and the	

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
			Acton Foreshore scheme (£3.4 million) it plans to deliver in the 2015-20 period. The Counters Creek programme spans more than one AMP and the company confirms that the full outcome will be delivered in 2015-20.	
Swindon Network – logging up (sewerage service overlap programme)	We made a small logging up adjustment in 2010-15 to reflect the increased capex reported/forecast by the company during the period compared to original FD09 assumptions post efficiency.	In its revised business plan, the company increased 2010-15 actual spend by 6% compared to the December 2013 forecast but the 2015-20 forecast spend remained the same. The company forecast that the overall scheme cost (£21.7 million) would be slightly below that included in the baseline at FD09 less efficiencies (£22.0 million) but reported a significant overspend in 2010-15 compared to original forecasts. To ensure the company was not penalised in the CIS reconciliation due to its overspend in 2010-15 when the overall scheme cost was below original forecasts, we made a two-sided adjustment in 2010-15 of £4.0 million to	The company's actual capex in 2014-15 of £4.2 million is £3.6 million less than forecast in its business plan giving a total of £15.5 million for 2010-15 period - slightly higher than the FD09 baseline post efficiency assumption of £15.4 million. The overall capex forecast to complete the scheme in 2015-20 is largely the same, although the company has deferred capex from 2015-16 to 2017-18. Overall, the revised total scheme cost is £18.1 million which is 16% lower than the final business plan and still well below the FD09 baseline view.	We have retained the final determination adjustment of £4.0 million in line with the PR09 methodology for overlap schemes. This ensures the company is not penalised in the CIS reconciliation due to its overspend in 2010-15 when the overall scheme cost is below original forecasts. We have therefore not intervened in this area.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
		reflect the difference between the FD09 baseline less Thames Water's 2015-20 forecast and our 2010-15 baseline on a post efficiency basis. We accepted the company's lower capex forecast to complete the scheme in 2015-20 of £2.6 million which customers will benefit from in price limits. The company did not make a representation on the draft determination and so our assumptions were retained for the final determination.		
Sewer Flooding Programme – Logging down (sewerage service)	We applied a challenge to the pre-efficiency capex proposed by the company (£145.7 million). We increased the capex to £153.9 million. In post efficiency terms, the total capex to be logged down was £144.4 million. We also applied a very small challenge to the opex proposed by the company (less than £0.01 million).	The company based its approach using figures published in the 2013 IDoK. However, these were post efficiency values. We calculated our assessment using pre-efficiency values as the reporting requirements specify.	The company has submitted a lower pre-efficiency logging down claim of £137.3 million compared to £145.7 million in its business plan. This reflects an increased number of outputs now delivered over the period. The company has also delivered 151 outputs associated with its transition programme but these, quite rightly, are not included in the non-delivered outputs as these are for AMP6 outcomes.	We have not intervened in this area and we accept the company's final claim for this item.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
			In total, the company has delivered 891 removals (852 removals plus 39 specific Counters Creek outputs). This compares to the FD09 output of 1,659 (original FD09 of 1,707 removals less 48 for Counters Creek) leading to an overall non-delivery of 807 removals and 9 removals for Counters Creek. The company has subsequently completed a review of 2010-15 sewer flooding data and submitted an update to its AMP5 reconciliation submission in June 2016. The company confirmed that the sewer flooding register had not changed as a result of the review.	
Sewer Flooding Mitigation Programme – Logging down (sewerage service)	We applied a challenge to the pre-efficiency capex proposed by the company (£3.4 million). We increased the capex to £3.5 million. Though the company did not propose any opex our assessment of the logging down claim was that it should have included a very small element of logging down	The company provided an underlying profile of capital expenditure that we traced back to pre-efficiency figures at FD09. We applied the lack of delivery separately between internal and external mitigation because these were specified separately in FD09. At FD09 we prorated	Based on its actual performance for the 2010-15 period, the company has revised the number of undelivered outputs from 568 to 588 and increased the value of the pre-efficiency logging down claim from £3.4 million to £3.6 million.	We have not intervened in this area and we accept the company's final claim for this item.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
	opex (£0.009 million). In post efficiency terms, the values in the logging down claim were £3.3 million (capex) and £0.009 million (opex).	changes in operating expenditure by changes in capital expenditure. We reflected this in our evaluation of the logging down claim.		
Lee tunnel – Logging down (sewerage service)	We accepted the updated value for this logging down item provided by Thames Water in the light of delays that were only confirmed since the submission of data tables in the revised business plan (June 2014).	In its representation on the draft determination (ref: Appendix B document WWS15) the company stated that the value of the log down claim included in Table S13 (June 2014 update) on which Ofwat had based its draft determination was out of date. The company's current view (post efficiency) was stated in technical appendix TJ070 as being £13.4 million greater than the Table S13 value. This equates to £14.4 million (pre efficiency). Accordingly, our final determination assumptions were based on a log down value of £38.3 million + £14.4 million = £52.7 million (£49.1 million in post efficiency terms). Note: a corresponding adjustment was made to the value of the 2015-20 special cost factor claim for the Lee tunnel (PR14 FD).	In line with the final determination, the company has increased the pre-efficiency logging down value for 2014-15 from £38.3 million in its Business Plan to £52.7 million as in FD, to represent the forecast spend in 2015-20 as agreed with Ofwat. We reflected this as a logging down adjustment in 2010-15 and as an addition to the baseline in 2015-20. The company reports on page 4 of 'Logging up, logging down and shortfall reconciliation February 2016,' that the difference from the FD09 allowance based on actuals is actually £60.9 million. This additional £8.1 million downward adjustment for a delay to the secondary lining which impacted on the installation of MECA equipment, represents a timing difference which the company is not seeking to be reflected in the logging down	The company has included in its claim, expenditure forecast to be incurred on activity outside the 2010-15 period. We have intervened to reduce the final determination adjustment to reflect only expenditure on activities in the 2010-15 period as set out in our main document. We are therefore logging down £60.9 million pre efficiency (£56.7 million post efficiency).

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
			adjustment in 2010-15 as that would mean an asymmetrical treatment of this in relation to the 2015-20 baseline. The company confirms that the Lee Tunnel programme is on track to be fully delivered in 2015-16.	

We have not intervened in the following claims:

- Security and Emergency Measures Directive (Shortfall – water service)
- Shaft G (Logging up – sewerage service)
- Hendon Way (Logging down – sewerage service)
- New billing system (Shortfall – water and sewerage services)
- Swindon network (Overlap – sewerage service)
- Sewer flooding programme (Logging down – sewerage service)
- Sewer flooding mitigation (Logging down – sewerage service)
- Deephams STW upgrade (Logging down – sewerage service)

3.3 Service standard outputs

Service standards are regulatory outputs that we set out in FD09 supplementary reports[1]. Where relevant companies reported their performance for 2014-15 on these service standards as part of their submissions for the blind year reconciliations.

In our PR14 final determination, the company proposed a shortfall in respect of an enhanced service level output for sewer blockages, which we accepted. The company's submission for the blind year reconciliation maintained this shortfall, in respect of which we have not intervened.

In our PR14 final determination we were also concerned about the performance of the completed odour reduction schemes at Farnham, Guildford, Slough and Cranleigh STWs. Although we did not apply a shortfall, we said that "we require the company to adequately demonstrate in 2015/16 that the benefits from these schemes together with the schemes at Beckton STW and Long Reach STW have been achieved. If the evidence does not demonstrate achievement of the benefits required, we will pursue a shortfall at PR19."

In its blind year submission, the company reports that it commissioned a deep dive audit by Halcrow Management Sciences Ltd to provide independent assurance of delivery of these FD09 outputs. This audit covered detailed evidence including emissions testing

[1]In the 2009 final determination supplementary reports we said: "Both the project activity (as proposed in your final business plan) and the service standard are the defined output. You must demonstrate delivery of the stated service standard output through the June return. We recognise that companies may decide to prioritise activity differently in order to achieve the service output in a more efficient manner. All material changes to the project activity must be reported and explained through your June return."

data, annual odour management plans and community data including complaints. Halcrow confirmed that the new odour abatement equipment is in place, has been commissioned and has passed performance tests.

We accept the company's evidence, in the form of a statement of findings from the audit, that the benefit from the odour nuisance reduction schemes has been achieved for customers. There are therefore no interventions in this area.

3.4 Serviceability performance

Table A6 quantifies the value and impact of any serviceability shortfall on the RCV. Table A7 summarises our interventions in relation to the company's proposed adjustments for serviceability.

The changes we have made in the blind year reconciliation work compared to our final determination, are the increase in the amount of shortfall value due to worsening performance in flooding other causes.

Table A6 post-efficiency serviceability shortfall value (£ million)

Post-efficiency shortfall		2010-15
Water service	FD position	0.000
	Company view	0.000
	Ofwat BYR	0.000
Wastewater service	FD position	-23.542
	Company view	-33.747
	Ofwat BYR	-33.837

The changes between our PR14 final determination and our proposals shown in table A6 above will be implemented in through the PR14 reconciliation rulebook legacy blind year model at PR19, discussed in section 4.

Table A7 Impact of serviceability shortfalls on the RCV

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
Water infrastructure - Unplanned interruptions to supply exceeding 12 hours	For the purposes of the final determination we removed the shortfall of £19.5 million (£18.0 million post efficiency) applied at the draft determination following additional information provided by the company.	Thames Water had two breaches of the upper control limit in 2010-11 and 2013-14. In its revised business plan the company stated that two power failure events as a result of winter storms in 2013-14 had caused interruption events. For the draft determination, these exclusions were not accepted. In its draft determination, representation the company did not provide any additional evidence to enable the exclusion of these events. The company did, however, provide additional evidence relating to two other incidents in 2013-14; Hoddesdon (February 2014) and Hurtwood (December 2014) where it viewed that health and safety considerations delayed the response to these incidents and therefore these incidents should be excluded from the assessment. The evidence	The actual performance for 2014-15 is worse than forecast (3,124 vs 2,243) but within the control limits.	The company has reported performance within the control limits for 2014-15. There has been one breach of the upper control limit in the period 2011-12 to 2014-15. We consider this indicator to be stable in 2014-15 and have not applied a shortfall.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
		presented in relation to the exclusion of these two incidents on health and safety grounds does not sufficiently demonstrate that they were outside of the company's control; hence we did not exclude these from our assessment. The company also provided additional information to demonstrate that the 2014-15 forecast outturn for the indicator will be below the upper control limit. While the indicator retained a marginal assessment, based on the additional information provided, we removed the shortfall applied at the draft determination as a failure in 2013-14 is for only a single year and is not persistent. At PR09 we allowed all companies until 2011-12 to have all indicators in a stable position and therefore the poor performance in 2010-11 has not been taken into account. We did, however, require the company to confirm the projected performance for 2014-15 as part of the 2015 review of serviceability. We		

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
		noted that if this was not achieved, we may consider a shortfall adjustment. Any material adjustments would be applied at the next price review.		
Wastewater infrastructure - Pollution incidents (Cat 1, 2 and 3)	As part of its draft determination representations, Thames Water stated that the £24.9 million shortfall applied should be recalculated to £18.2 million pre efficiency (£16.8 million post efficiency) based on exclusions related to organisation process improvements leading to increased self-reporting. However, for the purposes of the final determination we applied a shortfall adjustment of £13.5 million (post efficiency) for deteriorating performance in this indicator. In accordance with our revised shortfall calculation methodology the shortfall (which was applied for the years 2012-13, 2013-14 and 2014-15) was capped at 1 standard deviation. The overall scale of the shortfall does not exceed 50% of the sub-service capital expenditure and therefore no further cap was applied.	The company had two breaches of the upper control limit, in 2012-13 and 2013-14. It was also predicting to be above the upper control limit in 2014-15. The company considered its performance was marginal and offered a revised shortfall of £18.2 million (was £10.8 million in the revised business plan).The company provided some additional evidence regarding the performance of the indicator. It stated that organisational improvements have caused an increase in the number of self-reported incidents and that these should be excluded from the assessment. The evidence provided did not sufficiently demonstrate what these organisational improvements were and how exactly they caused an increase in the proportion of self-reporting. Therefore, we did not exclude these incidents as part of the	The actual performance for 2014-15 is better than forecast (192 vs. 216 incidents), but above the upper control limit.	We have applied the same shortfall adjustment of £13.5 million (post efficiency) as for the final determination because the company has had three breaches of the upper control limit in 2012-13, 2013-14 and 2014-15.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
	Our final determination shortfall was £10.9 million lower than the shortfall we applied at the draft determination.	assessment. The value of the shortfall applied was £3.3 million less than the revised shortfall offered by the company. The reduction reflected the revised shortfall calculation methodology.		
Wastewater infrastructure - Flooding other causes (FOC)	As part of its draft determination representation Thames Water stated that the £10.3 million shortfall applied should be recalculated to £4.4 million (post efficiency) based on exclusions related to heightened awareness after the transfer of private drains and sewers. However, for the purposes of the final determination we applied a shortfall adjustment of £7.1 million (post efficiency) for marginal performance in this indicator. In accordance with our revised shortfall calculation methodology the shortfall (which was applied for 2011-12, 2012-13 and 2013-14) was capped at 1 standard deviation. The overall scale of the shortfall does not exceed 50% of the sub-service capital expenditure and therefore no further cap was applied.	The company had three breaches of the upper control limit in 2011-12, 2012-13 and 2013-14. The company stated that performance was recovering and forecast 2014-15 to be below the upper control limit. In its representation, the company states that the adoption of private drains and sewers in October 2011 heightened awareness of the reporting of sewer flooding incidents on the legacy network. The company has utilised a model in order to calculate the impact of this on the reported numbers. We consider that the company's scenario concerning the impact of the adoption of private sewers on their legacy network is plausible but it has not been sufficiently well evidenced for us to consider for exclusion. We also consider that the	In November 2015 the company informed us that it had incorrectly reported sewer flooding data for the 2010-15 period which understated the number of properties flooded. The company submitted revised sewer flooding data in June 2016 for the last four years of the 2010-15 period following an internal investigation, with independent assurance from KPMG and oversight by the company's Board Audit Committee. The revised data shows worse performance in 2011-12, 2012-13, 2013-14 and 2014-15 than that which had been taken into account in the final determination 2014. Having accurate information for the complete 2010 to 2015 period the company noted "The total required AMP5 serviceability shortfall	We have retained the 'deteriorating' assessment for this indicator. We have applied an additional shortfall adjustment of £10.296 million (post efficiency) to reflect the breach of the upper control limit in 2011-12, 2012-13, 2013-14 and 2014-15 resulting in an overall shortfall of £17.441 million (post efficiency) for this indicator. The Ofwat view of the combined shortfall adjustment comparable to the amount proposed by the company is £33.837 million (post efficiency). This includes a shortfall for pollution incidents of £13.529 million, a shortfall for flooding other causes of £17.441 million and a shortfall for not delivering a service improvement for sewer blockages of £2.867 million (covered in section 3.3

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
	Our final determination shortfall was £3.0 million lower than the shortfall we applied at the draft determination.	regression modelling presented by the company in its letter to Ofwat titled ‘Sewer flooding other causes serviceability indicator’ and referenced in the draft determination representation does not adequately support the scenario. There may well be other contributory factors that the company has not considered. UKWIR industry research in this area is also inconclusive as it highlighted significant variation between companies. The company also stated that extreme rainfall increased the number of flooding other causes incidents. An analysis was provided comparing rainfall with the number of properties flooded. We did not consider that this analysis is conclusive. We have been presented with data from other companies that show that an increase in rainfall has reduced the number of blockages and, therefore, the number of flooding other causes incidents. Indeed, in 2012-13 Thames Water also saw a slight reduction in blockages	(including ESL Blockages) is £36.1m in pre-efficiency terms and £33.8m in post-efficiency terms and 2012-13 prices. This represents an increase of £10.3m compared to the shortfall of £23.5m included in the FD.” The value the company calculated reflects the combined serviceability shortfalls for pollution incidents and flooding other causes, plus a shortfall for not delivering a service improvement for sewer blockages covered in section 3.3 above.	above). The overall shortfall is in line with company’s proposed shortfall.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
		coupled with an increase in the number of flooding events. Our position on this indicator and possible exclusions remained unchanged from the letter sent to the company on 4 December 2013. Therefore, we did not exclude these incidents from our analysis and we applied a shortfall for the final determination.		
Wastewater infrastructure - Sewer blockages	For the purposes of the final determination, we are accepting the company's proposed capex shortfall of £3.1 million pre efficiency (£2.9 million post efficiency) and £3.7 million opex.	The company has offered a shortfall for failure to achieve the enhanced service level output for blockages. We agree that the enhanced service level has not been achieved and consider the company's proposed value to be reasonable.	The actual performance for 2014-15 is worse than forecast (58,219 vs. 52,933 blockages).	As in the final determination, we have not intervened in this area because the company has proposed a shortfall which we consider reasonable.

3.5 The 2009 agreed overlap programme

Table A8 below confirms the 2009 agreed overlap programme assumptions. There are no changes from our final determination. The adjustment relates to the Swindon network scheme details of which are set out in table A5.

Table A8 PR09 agreed overlap programme adjustments and assumptions (£ million)

		2010-15
		Two-sided adjustments for inclusion in the CIS
Water service	FD position	0.000
	Company BYR view	0.000
	Ofwat BYR	0.000
Wastewater service	FD position	3.987
	Company BYR view	3.987
	Ofwat BYR	3.987

Any changes between our PR14 final determination and our final reconciliation shown in table A8 are implemented through the CIS.

3.6 CIS

Table A9 provides details of the CIS ratios and performance incentive. It also gives the monetary amounts of the CIS performance reward or penalty and true-up adjustments to allowed revenues.

Table A10 provides details of the RCV adjustments and quantifies the impact of this final 2010-15 reconciliation, compared to the PR14 final determination position (updated for the indexation correction we decided to implement in February 2016).

In table A11 we summarise our interventions in relation to the company's CIS adjustments.

Table A9 CIS true-up adjustments

		Water service	Wastewater service	Total service
Restated FD09 CIS bid ratio[1]	FD position	125.700	125.292	n/a
	Ofwat BYR	125.892	108.812	n/a
Out-turn CIS ratio	FD position	107.545	99.987	n/a
	Ofwat BYR	108.111	100.034	n/a
Incentive reward/penalty (%)[2]	FD position	-2.885	0.422	n/a
	Ofwat BYR	-2.972	-0.122	n/a
Reward/penalty (£m)	FD position	-41.934	12.729	-29.205
	Ofwat BYR	-43.333	-3.696	-47.029
Adjustments to 2015-20 revenue (£m)[3]	FD position	-15.061	-72.320	-87.381
	Ofwat BYR	-16.005	-90.177	-106.183

Notes:
1. The restated FD09 CIS bid ratio takes account of the adjustments for the change protocol (table A4) and the 2009 agreed overlap programme (Table A8).
2. The reward/(penalty) is adjusted for the additional income included in the 2010-15 determination and the financing cost on the difference between actual spend and capital expenditure assumed in the 2010-15 determination to derive the value of the adjustment to 2015-20 revenue.
3. The adjustment to 2015-20 revenue values shown in this table assumes a single year adjustment in the first year, and does not include the NPV profiling used for the final determination.

Table A10 CIS RCV adjustments (£ million)

	Water service	Wastewater service
FD position	-75.655	-388.859

	Water service	Wastewater service
Impact of indexation correction	-101.398	-206.001
Corrected FD position	-177.052	-594.861
Impact of updated actuals	12.960	4.660
Ofwat BYR	-164.093	-590.201

The changes to revenue shown in table A9 and the impact of updated actuals for the RCV shown in table A10 above will be implemented through the PR14 reconciliation rulebook legacy blind year model at PR19, discussed in section 4. The indexation correction will be applied separately at PR19.

Table A11 Interventions on proposed CIS adjustments

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
Methodology	We used the post-tax basis of the PR09 cost of capital for the discount rate when calculating the future value of the revenue adjustment in the 2010-15 period.	As explained in policy chapter A4 (PR14 FD), we changed the methodology in the CIS model.	Updated to reflect 2014-15 actual expenditure, RPI and COPI. 2014-15 expenditure includes £1.2m which is a reallocation of Thames Tideway Tunnel funded water project expenditure into “business as usual” water. The company states that the re-allocation is expenditure on strengthening a water pipe on Victoria embankment that falls in scope of CIS. The company updated the 2013-14 expenditure to reinstate expenditure it had classified as transition expenditure in 2013-14 in its business plan. As stated in our PR14 final determination (policy chapter A4, page 73) the 2014-15 transition mechanism applies only to 2014-15.	We agree with the £1.2m reallocation from the Thames Tideway Tunnel. We have used the company's updated data and therefore have not intervened.
Input Error	When submitting its revised business plan in June 2014 Thames Water proposed to have a separate control for expenditure related to the activities it is undertaking in respect of the Thames			As explained in the main consultation document we have used correct data and final audited information for the full period for all companies.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
	Tideway Tunnel (TTT). We welcomed its proposal. However, in response to the company proposal we should have excluded data relating to change protocol (logging up/down) adjustments for the TTT from the Wholesale Wastewater price control. Unfortunately we did not exclude all expenditure relating to TTT from our data input to the Capital Incentive Scheme Model. This error was in the draft determination that we published in August 2014 and in the PR09 CIS model published shortly after the draft determination, but neither we nor Thames Water identified this and it remained in our final determination in December 2014. The impact relating to 2010-15 is approximately £16 million in excess allowed revenue. This has disadvantaged customers.			We note that the company provided revised data over the 2010-15 period for both RCM and serviceability that we have used for this final reconciliation.

Area of intervention	What we did at FD	Why we did it at FD	What has changed in BYR	What we have done for BYR and why
Change protocol adjustments	In carrying out our assessment, we included our view of the applicable change protocol amounts for water and wastewater.	We applied Ofwat's published methodology.	See section 3.2 and section 3.5 above.	See section 3.2 and section 3.5 above.

3.7 The 2014-15 transition programme

Table A12 confirms the company's proposed transition programme. There are no interventions in this area.

Table A12 Transition programme in 2014-15 (£ million)

Net capital expenditure	FD position	Company BYR view	Ofwat BYR
Water service	39.087	24.653	24.653
Wastewater service	137.189	51.491	51.491

4. Implementing the changes

Our PR14 reconciliation rulebook describes how we will implement the changes between our PR14 final determination and our proposals. This includes the application of the £10,000 materiality threshold to the aggregate of the revenue and RCM adjustments.

The PR14 reconciliation rulebook legacy blind year model draws together the RCM, CIS and serviceability shortfall adjustments applied in the final determination and from the blind year update, calculates the differences, performs the materiality test and preserves the present value of the blind year adjustments for those that will be implemented at PR19. Table A13 shows the output values from the legacy blind year adjustment model.

Table A13 adjustments to be implemented (£ million)

	Water service	Wastewater service
RCM revenue adjustment[1]	-4.452	-9.334
Total adjustment revenue carry forward to PR19	-1.127	-21.311
Total adjustment RCV carry forward to PR19	15.467	-6.726

Note:

1. To allow companies to manage potential volatility in customer bills, we have given them the option of implementing the RCM revenue adjustment through WRFIM in either 2017-18, 2018-19, 2019-20 or in PR19. We expect companies' responses to this consultation to propose how they want RCM adjustments to apply taking account of customer interests.

The CIS RCV indexation correction is not included in the RCV carry forward in table A13 above because it will be applied separately at PR19 in accordance with the PR14 reconciliation rulebook (section 7.2 process for adjusting CIS for both indexation and the blind year).