December 2014

Setting price controls for 2015-20

Final price control determination notice: company-specific appendix – Thames Water

OFWAT

Contents

Minor corrections to this company specific appendix were published on 13 February 2015.

Overview

This appendix sets out the details of the final determination of price controls that are specific to Thames Water. As set out in 'Policy chapter A1 – introduction' ('policy chapter A1'), the final determination protects customers in accordance with our statutory duties (summarised in policy chapter A1) and 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans' (our 'final methodology statement'). We have also had regard to relevant guidance from the UK Government and the principles of best regulatory practice to be transparent, accountable, proportionate, consistent and targeted.

We published 'Draft price control determination notice: company-specific appendix – Thames Water' (the 'draft determination' for Thames Water) on 29 August 2014. Thames Water is a non-enhanced company. The company has been treated in the same way as the other non-enhanced companies.

The customer challenge group (CCG) played an important role in both the development of the company's original plan and the company's revised proposals in response to our challenges and published guidance.

Since the first submission of its business plan in December 2013, Thames Water's proposals have evolved to take into account 'Setting price controls for 2015-20 – risk and reward guidance' (our 'risk and reward guidance'), the outcome of our risk-based review (RBR), our draft determination and other relevant policy consultations.

Thames Water's revised business plan had a number of strengths. The company addressed a number of our concerns from the RBR and the company was below our cost assessment threshold on wholesale water and very close to our cost threshold on wholesale wastewater. However, we had to intervene at draft determination in a number of areas. We made significant interventions in order to protect the interests of customers in respect of Thames Water's activities on the Thames Tideway Tunnel (TTT). Due to the scale of the difference between the company's plan and our cost assessment for TTT costs (£331 million), we published the outcome of our assessment of the company's cost claims in respect of the TTT on 6 August, along with two other companies (for individual controls for those companies), in order to give the company more time to reconsider its proposals or to supply us with further evidence.

We made adjustments for the company's performance in 2010-15 in our draft determination. We also intervened in the non-household retail control, removing the company's proposed new costs which were above our materiality threshold. In addition, we made a number of interventions around outcomes and the associated delivery incentives that were common to all companies.

The company's representation on the draft determination was comprehensive. The more material representations on the draft determination focused on:

- a claim that our proposal to apply a 5% cap to the company's wholesale water totex is incorrect, inconsistent and does not protect customers. The company provided further evidence in respect of the cost claim for the Counters Creek flooding mitigation scheme;
- a new £93.2 million claim of additional bad debt costs for the household retail control in respect of the transient nature of its customers which reside in Thames Water's London service area;
- a proposal to advance £250 million of revenues from 2020-25 to 2015-20 to smooth increases in average household bills, while ensuring that bills do not increase during 2015-20 in real terms before the inclusion of the bill impact of the TTT; and,
- a £250 million reduction in forecast costs for Thames Water's activities on the TTT in 2015-20. This was accompanied by a broadly defined uncertainty mechanism.

We also received representations from Thames Water's CCG, the Consumer Council for Water (CCWater) and the Environment Agency. The CCG asked that we consider any unintended consequences of our policy to apply a totex cap for companies whose forecast totex was substantially below our cost threshold. The CCG stated its support for the Counters Creek sewer flooding scheme. The Environment Agency and CCWater commented and raised specific issues on a number of the Thames Water's performance commitments (PCs).

The CCG, CCWater and the Environment Agency commented on the TTT Control. The Environment Agency reiterated the statutory need for the TTT project. The CCG and CCWater commented on the possible bill impact once the overall TTT scheme was taken into account and referred to customers' preference for a smooth and gradually increasing bill profile. The CCG raised concerns around the potential impact to customers of introducing additional cost and risk to customers associated with the timing of the appointment of the Infrastructure Provider and our proposal that the TTT Control should endure beyond 2020.

In reaching the final determination, we have carefully considered the representations we received on the draft determination (which was based upon the latest business plan submitted to us) and taken account of the most up-to-date information available where appropriate. As a result, this has led to changes that we consider are in the interests of customers and in line with our other statutory duties. These include the following.

- We have adjusted our wholesale cost assessment for the Counters Creek scheme. However, we are applying a 25% reduction to the net costs. This is because we are concerned that the design is not sufficiently mature. We have ensured customers are protected in the event of delay or cancellation of the project.

- We have not accepted the new claim for additional bad debt costs of £93.2m in respect of the transient nature of Thames Water's customers.

- We have not accepted the proposal to use the PAYG ratio to advance revenues from 2020-25 as Thames Water has not provided convincing evidence of the benefits to customers of the proposed bill profile. But in recognition of the need for smooth movements in bills once the bill impact of the TTT is taken into account, we have used PAYG to profile Thames Water's average bill within 2015-20.

- We welcome Thames Water's agreement to remunerate its activities in respect of the TTT within a separate price control. We have revised our assessment of totex for the TTT Control following representations from Thames Water. While we have not accepted Thames Water's broad uncertainty mechanism, we have expanded the uncertainty mechanism and we have introduced a new, tightly defined, Notified Item for the final determination.

- In line with all non-enhanced companies, we have reduced the allowed return to 3.6% for the wholesale business to reflect the significant movement in the cost of new debt since the publication of our risk and reward guidance in January 2014.

We have maintained our decision, made at the draft determination, to continue our policy to protect customers' interests by applying a cap to a company's totex if the company forecast it to be substantially below our cost threshold.

We provide a summary of the key elements of Thames Water's final determination in section A1: 'Final determination – at a glance'. The remainder of this document sets out our final determination in more detail and is structured according to the binding price controls we are setting for the wholesale and retail elements of the appointee (the whole regulated business):

- wholesale water;
- wholesale wastewater;
- TTT;
- household retail; and
- non-household retail.

As we explained in our final methodology statement, these controls are binding, confirmed through the modifications already made to the price setting elements of companies' licence conditions (and in the case of Thames Water, the amendments we have made to enable the separate price control for its activities on the TTT). This means that the companies cannot recover more revenue than allowed under each specific price control and cannot transfer costs between controls. The revenue allowance for each price control is determined by the costs specific to that particular price control. This provides the companies with more effective

incentives. It also helps to avoid distortion to the non-household market, which will be fully open to competition from 2017, as provided for in the Water Act 2014.

To support these separate, binding controls, throughout this document we also provide details on:

- the responses that we have received to our draft determinations and any consequential adjustments that we have made;
- the outcomes for the company to deliver and associated outcome delivery incentive (ODI);
- the efficient costs that we consider the company can achieve;
- the adjustments we are making to the wholesale water, wastewater and TTT price controls to reflect the company's performance in 2010-15;
- the weighted average cost of capital (WACC) for the wholesale water, wastewater and TTT price controls, and the retail household and non-household net margins;
- the return on regulatory equity (RoRE) range;
- the financial ratios under the notional capital structure;
- the uncertainty mechanisms that form part of each price control; and
- where appropriate, the assumptions we have made to arrive at the allowed revenue for each price control.

Implementing these price limits

Thames Water must deliver its obligations as required by the Water Industry Act 1991, other relevant legislation and its Instrument of Appointment ("licence"). This price control determination has been made under the terms of Thames Water's licence and the Water Industry Act 1991. We consider that Thames Water must act in an economic and efficient manner in delivering all of its obligations.

Policy chapter A1 sets out the milestones leading up to April 1, 2015 that will ensure effective business plan delivery. These cover menu choices, charges approval, reporting and assurance requirements during 2015- 20, and the 2014 price review (PR14) reconciliation.

In IN 14/15: '2014 price review – timetable for setting charges for 2015-16 and making menu choices' we set out the requirement for companies to notify us of their menu choices by 16 January 2015. We will make any adjustment to the company's allowed revenues that result from its menu choice as part of the price review in 2019 (PR19). A company's menu choice will be influenced by our decisions in this final determination. We confirm in annex 4 of this document a commitment that the ODIs will be recalibrated in the true up calculations, based on a sharing rate that is consistent with the company's menu choice. To facilitate this, we expect the company to publish its ODIs with the cost-sharing rate that is implied by its menu

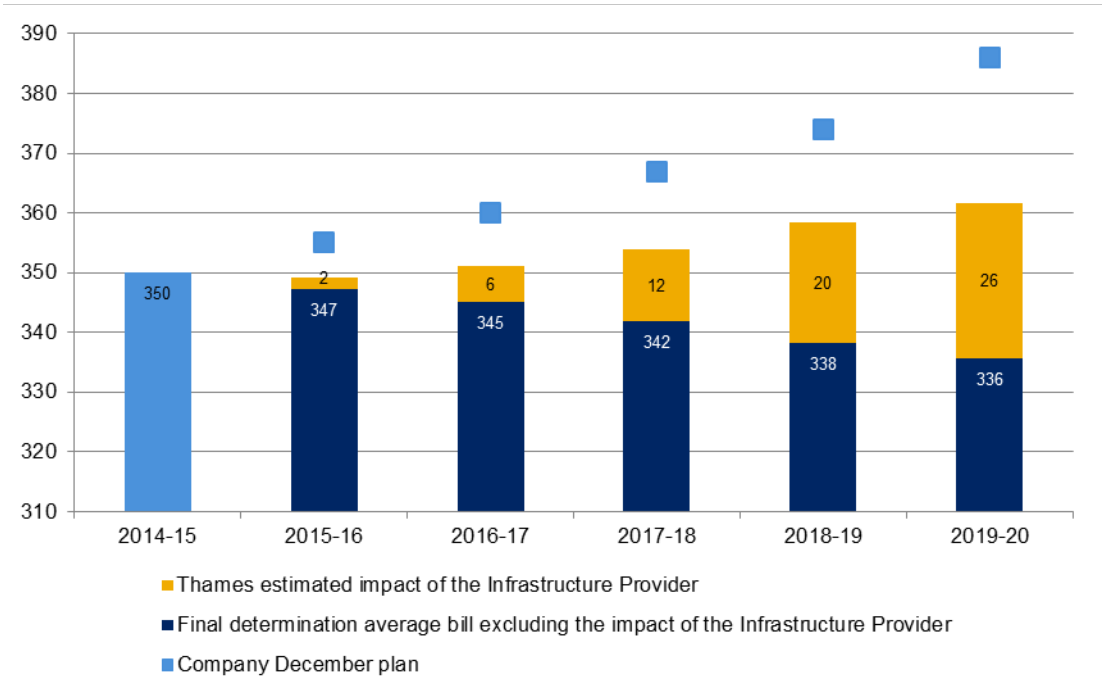
choice on 16 January 2015. This will allow inclusion of the recalibrated ODIs within the framework for reporting and assurance from 1 April 2015, which we will publish on 9 February 2015. We require companies' Boards to provide assurance that the recalibrated ODIs conform with the final determination and are consistent with their menu choice. Any modifications should be confined to correctly adjusting the incentive rates for the difference between the FD assumption on the cost-sharing rate and the rate associated with their final menu choice.

This price determination sets out the allowed revenues that Thames Water can recover from its customers in the period 2015-20. Thames Water is responsible for converting the allowed revenues into charges. In IN 14/17: 'Approval of charges 2015-16 – our approach, process and information requirements for large and small companies' and the accompanying policy document, we set out the timeline and process for charging approval. Companies are required to provide us with their charges schemes, associated assurances, and the other information requirements, and to provide any new appointees in their area with their charges schemes by 16 January 2015. By 2 February 2015, each company is required to publish its charges scheme.

A1 Final determination – at a glance

This chapter provides a summary of the final determination for Thames Water. It summarises what the final determination will mean for customers, with respect to the average bills they will pay and the outcomes that the company will deliver in return, and for the company in terms of its allowed costs and revenues, RoRE and financeability ratios. We also summarise the interventions we have made to the company's revised plan.

Combined average household bill (£)



Note: The comparative bills from company's December business plan is based on the data submitted in its business plan but projected using our financial model, thereby ensuring consistency with the final determination projection. So the company's proposed bills illustrated above may not necessarily be the same as those described in the revised business plan.

The chart above shows the average bills proposed in the company's December plan, the average bills in our final determination and the level of current bills (2014-15).

The actual average bill for Thames Water's customers will include the effect of:

- The bill impact of the price controls that are the subject of this price determination. This includes all of Thames Water's regulated activities, including the preparatory works it will undertake in respect of the TTT.
- The bill impact arising from the activities to be undertaken in respect of the financing and construction of the TTT by a separate Infrastructure Provider (IP).

We have not determined the IP's revenues at this price review. Instead, the IP's revenues (particularly during the construction phase) will be calculated by reference to the terms of its licence and by reference to the outcome of a competitive procurement process that is currently being undertaken by Thames Water. The assumptions made for the bill impact of the IP are those stated by Thames Water in its business plan. We have taken account of the average bill impact, including the effect of the IP, when considering the appropriate bill profile for the final determination.

All bills are shown without the impact of inflation and are indicative, as final bills will depend on the growth in the number of customers, changes in their usage and the specific charges that the company sets each year within the overall price controls that we have determined.

The impact of our final determination means that average bills in 2019-20 will be £336 (excluding the projected impact of the Infrastructure Provider (IP)), which is 4.1% lower than current average bill levels. Including Thames Water's projected bill increase in respect of the IP, bills in 2019-20 would be £362, which is 3.3% higher than current average bill levels. This is lower than the projected bill increase of 10% in Thames Water's December 2013 business plan.

The difference between the company's December plan, and the bill level implied by the bill impact of our final determination and the bill impact assumed for the IP, is the result of the company's acceptance of our risk and reward guidance, other revisions to its plan and the interventions we have made in its plan. This represents a cumulative saving of £68 for the average customer over the 2015-20 period.

The outcomes committed to by Thames Water

Thames Water has committed to delivering outcomes that reflect its customers' views. These are supported by 53 associated PCs that identify the company's committed level of performance under each outcome. Financial incentives apply to 27 of these PCs where it will incur a penalty for performance worse than its commitments. On 10 PCs, the company demonstrated that its customers were willing to pay for improved performance and supported the company being able to earn a reward for outperformance.

The table below sets out the outcomes proposed by Thames Water. These outcomes reflect the priorities of customers set out in research and engagement with the CCG. We have undertaken a comparative assessment of outcomes where it was possible to draw comparisons across the sector and, where necessary, we have intervened to challenge companies to deliver an upper quartile level of performance. Details of the types of incentives and level of PCs associated with these outcomes are set out in annex 4.

Wholesale water	Wholesale wastewater
• We will provide a safe and reliable water service that complies with all necessary standards and is available when our customers require it	• We will provide a safe and reliable wastewater service that complies with all necessary standards and is available when our customers require it
Outcomes that apply across each wholesale control: • Demonstrate to our customers and stakeholders that they can trust us, that we are easy to do business with and that we care • We will limit our impact on the environment and achieve a socially responsible, sustainable business for future generations, including reducing levels of leakage. • We will provide the level of customer service our customers require, in the most economic and efficient manner, to ensure that bills are no more than necessary	
Retail	**TTT**
• Improving customer service by doing the basics excellently and by getting things 'right first time' • Offer a choice of easy to use contact options • Improving cash collection from those that can pay and helping those that are struggling to pay	• Thames Water is committed to improving outcomes for customers and for the environment, notably by intercepting significant sewage discharges into the tidal River Thames, working together with the IP to ensure the timely and cost-efficient delivery of the TTT project

Allowed costs and revenue for Thames Water

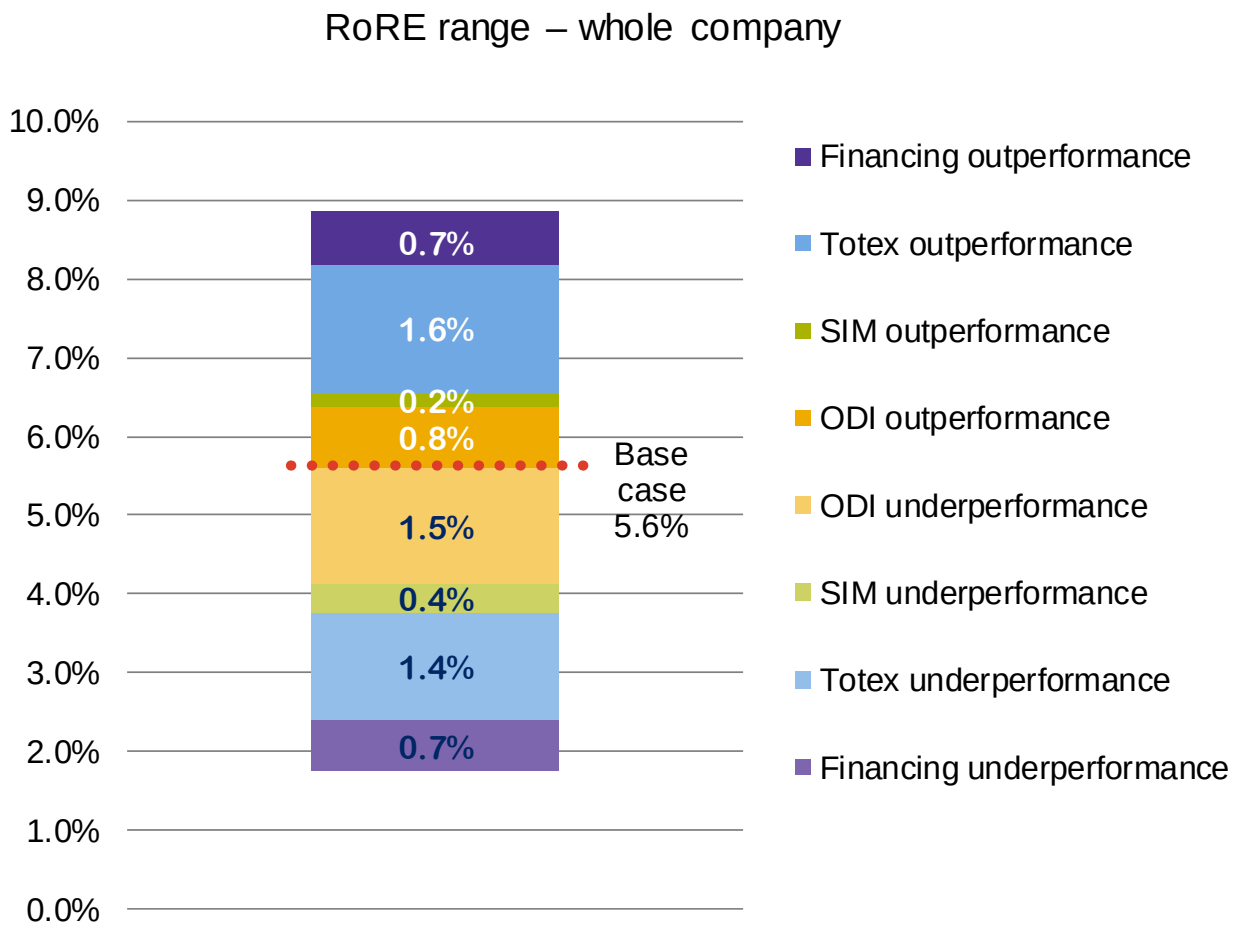
The table below shows the wholesale totex we have allowed over the period from 2015 to 2020. The final determination allows Thames Water to receive revenues of £9,488.1 million (over the period from 2015 to 2020). This combines allowed revenues for the wholesale (including TTT) and household retail controls. For non-household retail, we have also set average revenue controls per customer for each of the customer types proposed by the company. The £151.2 million of non-household revenue shown in the table below is indicative, as it does not assume any gains or losses from competition or the company charging customers at levels different to the relevant default tariffs.

Wholesale	Water	Wastewater	TTT
Totex 2015-20 total (£m)	3,326.1	3,763.6	405.2
Allowed WACC (%)	3.60%	3.60%	3.60%
Allowed wholesale revenue 2015-20 (£m)	3,962.9	4,423.6	240.9
Retail	**Household**	**Non-household**	
Cost allowance – 2015-20 total (£m)	769.4		
Margin (%)	1.00%	2.50%	
Retail allowed revenue (£m)	860.7	151.2	
Average bill per household customer – retail component only (£)	34		

Note: Wholesale figures in 2012-13 prices as wholesale revenue will be affected by inflation and retail figures in nominal prices as retail revenue will not be affected by inflation. This is consistent throughout this final determination unless otherwise stated.

RoRE ranges – appointee

Thames Water has estimated the range of returns on RoRE that it could earn dependent on its performance and external risk factors over the price control period. The RoRE range reflects the company's views and is based on an efficient company with the notional capital structure[1]. We have identified the RoRE impact separately for ODIs, total expenditure (totex) performance, financing and the service incentive mechanism (SIM).We note that Thames Water's actual returns may differ from notional returns due to differences between notional and actual capital structure, notional and actual cost of debt, and level of cost efficiency compared to allowed totex and household retail average cost to serve (ACTS).



Source: Our calculations based on information from Thames Water
Note: Numbers presented based on calibration of the ODIs against an assumed menu choice of a 50% sharing factor

[1] The notional capital structure is the capital structure that reflects Ofwat's assumption of an appropriate level of gearing to use in determining the allowed WACC.

Our calculation of notional financeability ratios

Ofwat has a statutory duty to secure that a company is able to finance the proper carrying out of its functions. We interpret this financing duty as requiring that we ensure that an efficient company with a notional capital structure is able to finance its functions. A company's actual capital structure is a choice for the company and it bears the risk associated with its choices. An efficient company is assumed to be able to deliver its plans based on the expenditure allowance in our final determination.

Thames Water provided assurance that its plan was financeable on the basis of a notional and its actual structure. The notional financial ratios on which this final determination is based, which take account of our interventions, are set out in section A5 and summarised on a 5-year average basis below.

We have assessed this final determination for Thames Water to be financeable on a notional basis.

Financial ratios for notional company	Ofwat calculation (average 2015-20)
Cash interest cover (ICR)	2.84
Adjusted cash interest cover ratio (ACICR)	1.40
Funds from operations(FFO)/debt	8.43%
Retained cash flow/debt	5.92%
Gearing	64.58%
Dividend cover (profit after tax/dividends paid)	0.89
Regulatory equity/regulated earnings for the regulated company	16.56
Regulatory capital value (RCV)/Earnings before interest, taxes, depreciation and amortisation (EBITDA)	11.82

Summary of interventions

In reaching our final determination we have intervened in the company's business plan, where necessary, to safeguard the interests of customers. In doing so, we have carefully considered all representations we have received on the draft determination and taken account of the most up-to-date information available where appropriate. We summarise the most significant interventions in the table below.

Outcomes	Wholesale costs
• **Cap:** We have imposed an overall cap and collar on ODIs of +/- 2% of RoRE. • **Comparative assessments**: We have updated our comparative assessment and interventions on PCs, deadbands, collars and caps that are applied consistently for all the non-enhanced companies. • **Company-specific assessments:** We have made interventions to ensure that Thames Water is subject to effective incentives that protect customers in areas that are not comparable across companies. These include not making allowance for performance reductions due to the introduction of a new customer billing system and strengthening the protections for customers associated with delivery of construction activities on the TTT Control. We have disallowed a PC related to advance collection of IP revenue as we consider customers are better protected through modifications to Thames Water's licence.	• Thames Water's plan contained **wholesale water** totex of £3,249 million, 13.4% below our threshold of £3,754 million. Given that the difference exceeds 5%, and consistent with the approach for all companies that are significantly below our final determination threshold, we have capped the cost threshold at £3,411 million: 5% above the company plan view of totex. • Thames Water's plan contained **wholesale wastewater** totex of £3,757 million, 1.8% below our threshold of £3,824 million. We have updated our threshold for the final determination to include an allowance of £91 million for the Counters Creek sewer flooding scheme. • Thames Water's representation included a reduction in **TTT Control** totex to £404 million compared with £655 million in the June plan. This was accompanied by a broadly scoped uncertainty mechanism. The company's totex is 4.3% above our assessment of £387 million.
Retail	**Reconciling 2010-15 performance**
• We have used the 2013-14 price base for setting household and non-household retail price controls. • **ACTS adjustment**: We have not accepted the new claim Thames Water included in its representation for the first time of £93.2 million in respect of bad debt which the company claimed was caused by a high transient population within its customer base. • **Household retail new costs** We have allowed costs associated with a Customer Relationship and Management and Billing (CRMB) system that fell within the materiality threshold and accepted the company's offer of a £5.4 million shortfall for non-delivery of a previous system. • **Non-household retail:** We have not accepted the company's new costs above the level of the materiality threshold. • **Cost allocation:** We accept the company's allocation of costs between the wholesale and retail controls.	• We changed the company's proposed revenue adjustments by £15.2.m (in the customers' favour) and its proposed RCV adjustment by £40.5 million(in customers' favour) • We have applied a £23.5 million serviceability shortfall to wholesale wastewater for pollution incidents, sewer flooding other causes and blockages. We have removed the serviceability shortfall associated with interruptions to supply.

Risk and reward	Financeability and affordability
• Based on the latest market evidence for the cost of new debt we have reduced the company's **allowed return** from 3.7% to 3.6% for the wholesale water, wholesale wastewater and TTT Control.	• We have not accepted the proposal put forward by Thames Water in its representation to advance revenues into 2015-20 to smooth projected increases to average household bills beyond 2020. Thames Water has not provided convincing evidence of the benefits to customers of the proposed bill profile. But in recognition of the need for smooth movements in bills once the bill impact of the TTT is taken into account, we have used **PAYG** rates to profile Thames Water's average bill within 2015-20 without advancing revenues from beyond 2020. • In recognition of the uncertainties associated with the TTT project, we applied a £20.5 million uplift to our cost assessment to allow for a central view of costs. We also introduced an **uncertainty mechanism** to compensate the company for certain, narrowly defined and high impact, low probability events, which cause the current procurement process for an Infrastructure Provider to be unsuccessful for circumstances beyond Thames Water's prudent management control. As such we have not accepted the broad uncertainty mechanism proposed by Thames Water for the TTT Control.

A2 Wholesale water

A2.1 Consideration of representations on our draft determination

In policy chapter A1, we provide a list of the respondents to the draft determinations published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our price control methodology or company-specific interventions.

Our general policies relevant to the wholesale water control are set out in the following policy chapters that accompany our final determinations. These include our responses to representations on sector-wide issues.

- 'Policy chapter A2 – outcomes' ('policy chapter A2').
- 'Policy chapter A3 – wholesale water and wastewater costs and revenues' ('policy chapter A3').
- 'Policy chapter A4 – reconciling performance for 2010-15' ('policy chapter A4').
- 'Policy chapter A7 – risk and reward' ('policy chapter A7').
- 'Policy chapter A8 – financeability and affordability' ('policy chapter A8').

Table A2.1 lists the representations we have received that are specific to Thames Water's wholesale water control and sets out where to find more information on our responses in this document.

Table A2.1 Representations specific to the wholesale water control of Thames Water

Area	Company specific representations	Detailed commentary in this company-specific appendix
Outcomes, PCs and incentives	Thames Water CCG CCWater Environment Agency	Annex 4
Outcome delivery and reporting	Thames Water	Annex 4
Calculating allowed wholesale water expenditure	Thames Water CCG	Section A2.3.1 and Annex 1
Calculation of revenues: PAYG and RCV run-off	Thames Water CCG	Section A2.3.2 and A7

Area	Company specific representations	Detailed commentary in this company-specific appendix
Return on RCV	Thames Water CCWater	Section A2.3.3
Reconciling 2010-15 performance	Thames Water	Annex 3
Uncertainty mechanisms	Thames Water	Section A2.4

A2.2.1 Outcomes, performance commitments and incentives

In policy chapter A2, we discuss our approach to outcomes for the wholesale and retail controls. Thames Water has developed and committed to delivering outcomes that reflect its customers' views. These are supported by specific PCs and associated incentives (ODIs) whereby the company can be rewarded or penalised for its performance during the period from 2015 to 2020.

The company's outcomes have been developed through customer engagement, with input from its CCG. The CCG's role was to challenge how well the company's outcomes, PCs and delivery incentives reflect the views and priorities of customers, both now and in the future, as well as environmental priorities.

Consistent with the draft determination, our assessment of the specific PCs proposed by each company for wholesale water has focused on:

- comparative assessments where it was possible to compare PCs and incentives across the sector and so challenge companies to deliver an upper quartile level of performance so that companies are focused on delivering benefits for customers and the environment; and
- company-specific assessments to ensure that the PCs proposed by each company are challenging, appropriately incentivised and supported by customer engagement.

We summarise the outcomes, PCs and ODIs for the wholesale water control for Thames Water in Table A2.2 below.

For some PCs and incentive types, we have intervened to change the underlying performance level or incentives. Where we have intervened we have done so to ensure that companies are subject to effective incentives that protect customers against under-delivery and, where merited, reward companies for outperformance. We summarise our interventions in table A2.2. Full detail of the wholesale water

outcomes, PCs and incentives, and our consideration of relevant responses, is provided in annex 4.

Consistent with our proposal at draft determination we are intervening to impose an overall cap and collar on ODIs for the 2015-20 period, thereby limiting total rewards and penalties. The cap and collar will apply in line with the approach set out in policy chapter A2. Thames Water provided a number of representations on the overall cap and collar for ODIs; our assessment of these is discussed in table A2.13 of policy chapter A2 and summarised in annex 4 to this document.

Table A2.2 Wholesale water outcomes, performance commitments and incentives

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
Demonstrate to our customers and stakeholders that they can trust us, that we are easy to do business with and that we care	A1 Improve handling of written complaints by increasing 1st time resolution	Reputational	**No intervention**
	A2 Number of written complaints per 10,000 connected properties	Reputational	**No intervention**
	A3 Customer satisfaction surveys (Internal CSAT monitor)	Reputational	**No intervention**
	A4 Reduced water consumption from issuing water efficiency devices to customers	Financial – penalty only	**No intervention**
	A5 Provide a free repair service for customers with a customer side leak outside of the property	Reputational	**No intervention**

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
We will provide a safe and reliable Water service that complies with all necessary standards, is available when our customers require it	B1 Asset Health Water Infrastructure	Financial – penalty only	**Company-specific assessments** – We have accepted the company's proposal for the incentive rate. We have maintained the draft determination position of removing the deadband and the inclusion of 2019-20 within the incentive framework
	B2 Asset Health Water Non Infrastructure	Financial – penalty only	**Company-specific assessments** – We have maintained the draft determination position of removing the deadband and the inclusion of 2019-20 within the incentive framework
	B3 Compliance with drinking water quality standards – Ofwat/DWI KPI	Financial – penalty only	**Comparative assessments –** We have maintained our position on PCs since draft determination but the penalty deadbands and collars have been made less demanding. We have extended the incentive framework to include 2019-20.

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
	B4 Properties experiencing chronic low pressure (DG2)	Reputational	**No intervention**
	B5 Average hours lost supply per property served, due to interruptions >4hr	Financial – reward and penalty	**Comparative assessments –** As a result of our updated comparative assessment, the company is now forecast to be an upper quartile performer. So we have reversed our interventions at draft determination on the penalty collar, penalty deadband and the reward cap. We have still extended the incentive framework to include 2019-20.
	B6 Security of Supply Index – Ofwat KPI	Financial – penalty only	**Company specific assessment –** We have extended the incentive framework to include 2019-20.
	B7 Compliance with SEMD advice notes (with or without derogation)	Financial – penalty only	**No intervention**
	B8 Ml/d of sites made resilient to future extreme rainfall events	Financial – reward and penalty	**No intervention**

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
We will limit our impact on the environment and achieve a socially responsible, sustainable business for future generations, including reducing levels of leakage	C1 Greenhouse gas emissions from water operations	Reputational	**No intervention**
	C2 Leakage	Financial – reward and penalty	**Company specific assessment –** We have extended the incentive framework to include 2019-20.
	C3 Abstraction Incentive Mechanism (AIM)	Reputational	**No intervention**
	C4 We will educate our existing and future customers	Reputational	**No intervention**
	C5 Deliver 100% of agreed measures to meet new environmental regulations	Financial – penalty only	**No intervention**
We will provide the level of customer service our customers require, in the most economic and efficient manner, to ensure that bills are no more than necessary	D1 Energy imported less energy exported	Reputational	**No intervention**

A2.2.2 Outcome delivery and reporting

Thames Water's proposed approach to the measurement, reporting and governance of outcomes and our assessment of this approach is summarised in annex 4.

A2.3 Calculating the wholesale water price control

A2.3.1 Calculating allowed wholesale water expenditure

The cost of delivering wholesale water and wastewater services is a major driver of customer bills, comprising more than 90% of the value chain. In order to protect the interests of customers, we have determined the efficient level of costs for the company to deliver the outcomes that matter to customers both today and tomorrow and to allow it to meet its statutory obligations.

Our approach to determining efficient wholesale expenditure is set out in policy chapter A3.

Table A2.3 below notes the comments that we have received that are specific to this aspect of the wholesale water control of Thames Water and outlines how our interventions have been influenced by our consideration of these responses.

Table A2.3 Representations specific to the wholesale water totex for Thames Water

Respondent	Summary of comment	Ofwat response
Thames Water	The company made four key claims in relation to the 5% cap. Thames considered the cap failed to protect customers or maintain incentives, that it was based on an incorrect premise and that the solution was inconsistent between companies. Thames Water proposed alternative solutions.	We considered a range of options. We consider that the 5% cap for Thames is proportionate and we have retained the policy for the final determination. Further detail is set out in policy chapter A3.
CCG	The CCG requests that we consider the potential impact of unintended consequences of the proposed cap	We discuss these issues in policy chapter A3.

Respondent	Summary of comment	Ofwat response
CCWater	CCWater was broadly supportive of our challenge to the company's wholesale costs at draft determination but considered that we need to ensure that our models are fit for purpose to achieve this at final determination.	

Following representations, the company's proposed wholesale water totex is £3,249 million over 2015-20 (versus £3,160 million in its December plan). This would be 13.4% below our pre-cap final determination threshold of £3,754 million. However, we have applied a 5% cap on this, which results in a revised, post-cap threshold of £3,411 million.

The proposed wholesale water allowed expenditure for Thames Water is detailed in table A2.4 below. We provide a further breakdown of some of the calculations in annex 1. Further information about our assessment of each claim is set out in the populated version of the final determination cost threshold models.

Table A2.4 Wholesale water allowed expenditure (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total 2015-20
Final determination cost threshold						3,411.1
Costs excluded from menu	11.4	10.9	10.9	10.9	10.9	55.0
Menu cost baseline[1]	635.3	676.4	696.2	685.3	663.0	3,356.1
Company's view of menu costs[2]						3,197.5
Implied menu choice						95.3
Allowed expenditure from menu	627.8	668.4	687.9	677.2	655.2	3,316.5
Costs excluded from menu	11.4	10.9	10.9	10.9	10.9	55.0

	2015-16	2016-17	2017-18	2018-19	2019-20	Total 2015-20
Total allowed expenditure[3]	639.1	679.3	698.8	688.1	666.1	3,371.4
Less pension deficit repair allowance	9.1	9.1	9.1	9.1	9.1	45.3
Totex for input to PAYG	630.1	670.3	689.8	679.0	657.0	3,326.1

Notes:
1. Menu baseline is equal to the final determination threshold less pension deficit recovery costs, third party costs and market opening costs related to 2014-15 (see annex 1).
2. Based on company plan totex (reflecting its representation on its draft determination) minus costs for items excluded from the menu. The company will make a final menu choice by 16 January 2016 and any difference between this and the implied menu choice will be reconciled as part of PR19.
3. Includes pension deficit recovery costs.

A2.3.2 Calculation of revenues: PAYG and RCV run-off

In section A7.5, we discuss financeability at an appointee (whole regulated company) level.

Table A2.5 shows the PAYG rates and associated totex recovery for wholesale water, which we have used as the basis for this final determination. This reflects our intervention on PAYG rates as described in section A7.5 on financeability.

Table A2.5 Thames Water's wholesale water PAYG rates

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex (£m)	630.1	670.3	689.8	679.0	657.0	3,326.1
PAYG (%)	0.5	0.5	0.6	0.6	0.6	0.6
Resulting PAYG (£m)	344.2	368.5	402.9	406.8	405.1	1,927.6

Table A2.6 shows the RCV run-off amounts included within the wholesale water charge. This reflects a run-off rate of 3.65% for the RCV as at 31 March 2015 and 20 years for the totex additions to the RCV over 2015-20. This reflects our intervention on RCV run-off rates as described in section A7 on financeability.

Table A2.6 Thames Water's wholesale water RCV run-off (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Run-off of 2015 RCV	236.1	194.0	141.6	122.3	114.8	808.7
RCV run-off of totex additions	7.1	21.6	36.2	50.1	63.1	178.1
Total RCV run-off	243.1	215.7	177.8	172.4	177.8	986.8

A2.3.3 Return on the RCV

As stated in policy chapter A3, the return on the RCV is a key component of allowed wholesale revenues. The return on the RCV is the wholesale WACC applied to the RCV during the 2015-20 period. The RCV is calculated as the RCV at the start of the period plus totex that is not funded on a PAYG basis minus RCV run-off (or regulatory depreciation).

In our risk and reward guidance, we set out a single industry allowed return for both wholesale water and wastewater services based on market evidence, which at the time was 3.7%. The company accepted this guidance in its revised business plan. As set out in policy chapter A7, based on the latest market evidence for the cost of new debt we have set the wholesale cost of capital at 3.6%. This results in a return on capital of £890.8 million over 2015-20.

Table A2.7 shows our calculation of the opening RCV at 1 April 2015 taking account of the adjustments for 2010-15 performance discussed in section A2.3.4 below. The average RCV, set out in Table A2.7 for each year, takes into account the proportion of totex additions to the RCV determined by the PAYG rate and RCV run-off as set out in Table A2.4 and Table A2.5 above.

Table A2.7 Thames Water's wholesale water opening RCV (£ million)

	2015-16
Closing RCV 31 March 2015	4,854.1
Land sales	-17.0
Adjustment for actual expenditure 2009-10	-3.1
Adjustment for actual expenditure 2010-15[1]	-69.9
Net adjustment from logging up and logging down	0.0

	2015-16
Adjustment for shortfalls	-5.8
Adjustment for serviceability shortfalls	0.0
Enhanced reward	0.0
Other adjustments	0.0
Opening RCV 1 April 2015	4,758.2

Notes:
1. Land sales adjustment is set out in Table AA3.22
2. 2009-10 actual expenditure adjustment is set out in Table AA3.22
3. A component of the capital expenditure incentive scheme (CIS) adjustment as set out in Table AA3.16
4. The net adjustment from the change protocol is set out in Table AA3.8
5. The serviceability shortfall adjustment is set out in Table AA3.10
6. Other RCV adjustments are set out in Table AA3.22
7. 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.

Table A2.8 Thames Water's wholesale water return on RCV (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20
Opening RCV	4,758.2	4,800.9	4,887.0	4,996.1	5,095.9
RCV additions (from totex)	285.8	301.8	286.9	272.2	251.9
Less RCV run-off	243.1	215.7	177.8	172.4	177.8
Closing RCV	4,800.9	4,887.0	4,996.1	5,095.9	5,169.9
Average RCV (year average)	4,779.6	4,844.0	4,941.6	5,046.0	5,132.9
Return on capital	172.1	174.4	177.9	181.7	184.8

A2.3.4 Reconciling 2010-15 performance

When we last set price controls in 2009 (PR09), we included a number of incentive mechanisms designed to encourage companies to improve and deliver services more efficiently, and, to manage uncertainty. Consistent with the broad approach set out at the time of final determination in 2009 we have made adjustments at this price review (PR14) to 2015-20 revenues to take account of company performance in the 2010-15 period.

Our approach to reconciling 2010-15 performance is set out in policy chapter A4.

The company proposed adjustments to the opening RCV and allowed revenue for the wholesale water services to reconcile performance in 2010-15. We have intervened and, as a result, the revenue adjustments for wholesale water have changed from -£0.8 million to -£16.3 million. We summarise these interventions in Table A2.9 below. The impact on the opening RCV of 2010-15 adjustments is shown in A2.7 and we discuss our interventions in this area further in annex 3.

When making these final determinations we do not have the full information on companies' performance in 2014-15. We set out in 'Setting price controls for 2015-20 – further information on reconciling 2010-15 performance' that we would reconcile for the revenue correction mechanism (RCM), change protocol and serviceability in 2015, and in 2016 for the CIS, when we have the company's actual performance for 2014-15. This remains our intention. In practice this will mean that the actual information submitted (and appropriately challenged by us) in summer 2015 will be reconciled at the next wholesale price review in 2019-20.

Table A2.9 Thames Water's wholesale water revenue adjustments to reflect 2010-15 performance (£ million)

Area of intervention	Intervention		Total revenue adjustment 2010-15 (post intervention)	
		Company view	Draft Determination	Final Determination
SIM	This final determination includes our view of the company's SIM penalty, which we have calculated as -0.9%. This is unchanged from the draft determination when we intervened on the company's resubmitted plan estimate. This intervention increases the penalty by £5.1 million.	-35.8	-40.9	-40.9
RCM	We have intervened in the following areas. • Back billing • Final determination 2009 (FD09) assumptions	50.5	30.1	40.8

Area of intervention	Intervention		Total revenue adjustment 2010-15 (post intervention)	
		Company view	Draft Determination	Final Determination
	• Number of households billed • Outturn financial year average RPI Combined, these interventions reduced revenue by £9.7 million compared to the company's revised business plan.			
Opex incentive allowance (OIA)	There are no interventions in this area.	0.0	0.0	0.0
CIS	As explained in policy chapter A4, we have changed the methodology in the CIS model for all companies with respect to the discount rate used when calculating the future value of the revenue adjustment in the 2010-15 period. We have included our view of the applicable change protocol amounts for water. Combined these interventions reduced revenue by £0.6 million compared with the company's revised plan	-15.5	-16.1	-16.1
Other adjustments	There are no interventions in this area.	0.0	0.0	0.0

The main changes we have made in the final determination in reconciling the company's 2010-15 performance result from:

- our removal of the serviceability shortfall for unplanned interruptions to supply;
- accepting the company's additional evidence on back-billing; and
- our revised adjustment to the RCV for actual expenditure in 2009-10.

A2.3.5 Calculation of allowed revenue

We set out the calculation of the allowed revenue for Thames Water's wholesale water control in Table A2.10.

Overall, Thames Water's wholesale water revenue allowance will be £790.7 million in 2015-16, increasing by 1.1% to £799.4 million in 2019-20'

Table A2.10 Thames Water's wholesale water allowed revenue (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex	630.1	670.3	689.8	679.0	657.0	3,326.1
PAYG ratio (%)	54.6%	55.0%	58.4%	59.9%	61.7%	
Totex additions to the RCV	285.8	301.8	286.9	272.2	251.9	1,398.5
RCV (year average)	4,779.6	4,844.0	4,941.6	5,046.0	5,132.9	
Wholesale allowed revenue build up:						
PAYG[1]	353.3	377.6	412.0	415.9	414.2	1,972.9
Return on capital	172.1	174.4	177.9	181.7	184.8	890.8
RCV run-off	243.1	215.7	177.8	172.4	177.8	986.8
Tax[2]	0.0	0.0	0.0	0.0	0.0	0.0
Income from other sources[3,4]	-5.9	-5.9	-5.9	-5.9	-5.9	-29.4
Reconciling 2010-15 performance	-3.3	-3.3	-3.3	-3.3	-3.3	-16.3
Ex ante additional menu income	3.7	3.9	4.0	4.0	3.8	19.5
Wholesale allowed revenue adjustments:						
Equity issuance cost	0.0	0.0	0.0	0.0	0.0	0.0

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Revenue solving adjustment	0.0	0.0	0.0	0.0	0.0	0.0
Profiling adjustments[5]	0.0	0.0	0.0	0.0	0.0	0.0
Manual adjustments	0.0	0.0	0.0	0.0	0.0	0.0
Capital contributions from connection charges and revenue from infrastructure charges	27.6	27.7	27.7	27.8	27.8	138.6
Final allowed revenues	**790.7**	**790.1**	**790.3**	**792.5**	**799.4**	**3,962.9**

Notes:
1. PAYG includes the PAYG calculated from totex and the pension deficit repair allowance.
2. Including tax on adjustments for reconciling 2010-15 performance and ex-ante additional menu income.
3. We have adjusted other income values to remove the deferred income element relating to IFRIC18, as this is an accounting adjustment.
4. Our assessment of income from other sources is discussed in policy chapter A3.
5. Our bill profiling adjustments are discussed in section A7.6

A2.4 Uncertainty mechanisms

We have set the company's allowed revenues for the 2015-20 period. All companies face uncertainty about future costs and revenues and this is reflected in the rate of return and the established framework in the licence.

We outline our approach to incremental uncertainty mechanisms in policy chapter A7, where we set out our response to the representations made by stakeholders in support of sector wide uncertainty mechanisms.

We have allowed all companies an uncertainty mechanism for business rates, as the revaluation of business rates in 2017 is a material risk that is largely outside the control of companies. This mechanism allows a proportion of the costs to be passed through to customers, reflecting the fact that companies have more control than customers in managing the risk.

In table A2.1 below, we set out Thames Water's proposed wholesale water uncertainty mechanisms and our final assessment of these proposals.

Table A2.11 Thames Water's proposals for wholesale water uncertainty mechanisms

Thames Water's proposals	Our final assessment
In the draft determination we accepted Thames Water's proposed uncertainty mechanism for water business rates but adjusted the proposed sharing rate to 75:25 (customer:company). Thames Water said that the 10% materiality threshold that is included in the licence is too high for the water business Notified Item to provide effective risk mitigation.	As set out in policy chapter A7, we consider that companies already have a number of risk protections such as totex menu sharing, and the water business rates uncertainty mechanism is designed to provide additional protection where companies face material cost risks beyond their control. We do not consider that water business rate costs should be subject to a different materiality threshold than other costs included in an IDoK. For our final determination, we confirm the uncertainty mechanism included in our draft determination. The specific text of this Notified Item is in the Annex to the final determination letter.
No other uncertainty mechanisms for wholesale water were included in our draft determination and Thames Water did not propose any beyond those that will already form part of the regulatory framework for 2015-20.	Thames Water has not objected to our approach in the draft determination. We have not included any additional uncertainty mechanisms for Thames Water

A3 Wholesale wastewater

In this chapter, we outline our final determination for Thames Water's wholesale wastewater control, excluding the TTT. We outline our final determination for the TTT in the following chapter.

A3.1 Consideration of representations on our draft determination

In policy chapter A1, we provide a list of the respondents to the draft determination published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our industry-wide approach or company-specific interventions.

Our general policies relevant to the wholesale wastewater control are set out in the following policy chapters that accompany our final determinations. These include our responses to representations on sector-wide issues.

- Policy chapter A2.
- Policy chapter A3.
- Policy chapter A4.
- Policy chapter A7.
- Policy chapter A8.

Table A3.1 lists the representations we have received that are specific to Thames Water's wholesale wastewater control and sets out where to find more information on our responses in this document.

Table A3.1 Representations specific to the wholesale wastewater control of Thames Water

Area	Company specific representations	Detailed commentary in this company appendix
Outcomes, PCs and incentives	Thames Water Environment Agency CCG CCWater	Annex 4
Outcome delivery and reporting		Annex 4

Area	Company specific representations	Detailed commentary in this company appendix
Calculating allowed wholesale wastewater expenditure	Thames Water CCG Environment Agency	Section 3.3.1 and Annex 1
Calculation of revenues: PAYG and RCV run-off	Thames Water CCG CCWater	Sections A3.3.2 and A7.5
Return on RCV	Thames Water CCWater	Section A3.3.3
Reconciling 2010-15 performance	Thames Water	Annex 3
Uncertainty mechanisms	Thames Water	Section A3.4

A3.2 Outcomes, performance commitments and incentives

In policy chapter A2, we discuss our approach to outcomes for the wholesale and retail controls.

The company's outcomes have been developed with input from its CCG. The CCG's role was to challenge how well the company's outcomes, PCs and delivery incentives reflect the views and priorities of customers, both now and in the future, as well as environmental priorities.

Similar to the wholesale water control, our assessment of the specific PCs proposed by each company for wholesale wastewater has focused on a comparative assessment of outcomes and a company-specific assessment.

We summarise the outcomes, PCs and ODIs for the wholesale wastewater control for Thames Water in table A3.2 below.

For some PCs and incentives types we have intervened to change the underlying performance level or incentives. These interventions are summarised in table A3.2 below. Full detail of the wholesale wastewater outcomes, PCs and incentives, and our consideration of relevant representations, is provided in annex 4.

Consistent with our proposal at the draft determination, we are intervening to impose an overall cap and collar on ODIs for the 2015-20 period, thereby limiting total rewards and penalties. The cap and collar will operate in line with the approach set out in policy chapter A2. Thames Water provided a number of representations on the overall cap and collar for ODIs; our assessment of these is discussed in table A2.13 of policy chapter A2 and summarised in annex 4 to this document.

The PCs that are excluded from the cap and collar for wholesale wastewater are SB3 – Properties protected from flooding due to rainfall, only the Counters Creek specific penalty for non-delivery, SB8 – Lee Tunnel Shaft G and SB9 – Deephams penalty.

Table A3.2 Wholesale wastewater outcomes, performance commitments and incentives

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
Demonstrate to our customers and stakeholders that they can trust us, that we are easy to do business with and that we care	A1 Improve handling of written complaints by increasing first time resolution	Reputational	**No intervention**
	A2 Number of written complaints per 10,000 connected properties	Reputational	**No intervention**
	A3 Customer satisfaction surveys (Internal CSAT monitor)	Reputational	**No intervention**
We will provide a safe and reliable Wastewater service that complies with all necessary standards and is available	B1 Asset Health Wastewater Non Infrastructure	Financial – penalty only	**Company specific assessment** – We have maintained the draft determination position of removing the deadband and the inclusion of 2019-20 within the incentive framework

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
when our customers require it	B2 Asset Health Wastewater Infrastructure	Financial – penalty only	**Company specific assessment –** We have accepted the company's proposal for the incentive rate. We have maintained the draft determination position of removing the deadband, the inclusion of 2019-20 within the incentive framework and inclusion of assets transferred under s105A of the Water Industry Act.
	B3 Properties protected from flooding due to rainfall	Financial – reward and penalty	**Comparative assessment –** We have confirmed our draft determination position to protect customers from delivery risk of the Counters Creek scheme. We have accepted the company's proposals in regard to the net benefit delivered.

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	B4 Number of internal flooding incidents, excluding those due to overloaded sewers – 'sewer flooding other causes'	Financial – reward and penalty	**Comparative assessment –** We included assets transferred under s105A of the Water Industry Act and the inclusion of 2019-20 in the incentive framework. We have adopted a more demanding committed performance level and adjusted the deadband and penalty collar from the draft determination as a result of our comparative assessment. In line with the comparative assessment, we have reinstated a reward incentive.
	B5 Contributing area disconnected from combined sewers by retrofitting sustainable drainage	Financial – reward and penalty	**No intervention**
	B6 Compliance with SEMD (Security and Emergency Measures Direction) advice notes, with or without derogation	Financial – penalty only	**No intervention**
	B7 Population equivalent of sites made resilient to future extreme rainfall events	Financial – penalty only	**No intervention**

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
	B8 Lee Tunnel including Shaft G	Financial – penalty only	**Company specific assessment –** We have introduced a PC related to the special cost claim
	B9 Deephams Wastewater Treatment Works	Financial – penalty only	**Company specific assessment –** We have introduced a PC related to the special cost claim
We will limit our impact on the	C1 Greenhouse gas emissions from wastewater operations	Reputational	**No intervention**

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
environment and achieve a socially responsible, sustainable business for future generations, including reducing levels of leakage	C2 Total category 1-3 pollution incidents from sewage related premises	Financial – reward and penalty	**Comparative assessment** – We have maintained the more demanding penalty rate proposed at draft determination, including 2019-20 in the incentive framework and assets transferred under s105A of the Water Industry Act 1991. We have accepted the company's proposal to align category 1 and 2 incidents with other companies. We have not altered the committed performance level, deadbands or caps and collars as the company was identified as an upper quartile performer in our comparative assessment.
	C3 Sewage treatment works discharge compliance	Financial – penalty only	**Company specific assessment** – We have adopted a 100% committed performance level and introduced a penalty deadband at 98.88%. We have retained our intervention at draft determination to include 2019-20 in the incentive framework.

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	C4 Water bodies improved or protected from deterioration as a result of TW activities	Reputational	**No intervention**
	C5 Satisfactory sludge disposal compliance	Reputational	**No intervention**
	C6 We will educate our existing and future customers	Reputational	**No intervention**
	C7 Modelled reduction in properties affected by odour	Financial – reward and penalty	**Company specific assessment –**We have maintained the more demanding reward cap proposed at draft determination.
	C8 Deliver 100% of agreed measures to meet new environmental regulations	Financial – penalty only	**No intervention**
	C9 Reduce the amount of phosphorus entering rivers to help improve aquatic plant and wildlife.	Financial – reward and penalty	**Company-specific assessment –**We have changed the incentive structure to allow rewards only for outperformance of statutory obligations and adopted the company's proposal for ex-post incentive.

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
We will provide the level of customer service our customers require, in the most economic and efficient manner, to ensure that bills are no more than necessary	D1 Energy imported less energy exported	Reputational	**No intervention**

A3.3 Calculating the wholesale wastewater price control

In its December 2013 business plan, Thames Water included the costs associated with the delivery of the elements of the TTT within its wholesale wastewater control. The company provided insufficient evidence to justify that the uncertainty mechanisms it proposed to apply to these activities as part of the wastewater control would represent best value to customers.

Following our RBR, we explored with Thames Water a proposal for a separate price control for its activities on the TTT. We considered that a separate wholesale price control for Thames Water's activities on the TTT would benefit customers as it would increase transparency, and help to ensure Thames Water delivers its activities in the project efficiently and ensure effective regulation of those activities.

Thames Water subsequently proposed that the delivery of its components of the TTT could be achieved through a separate price control in its June plan and we proposed the introduction of a separate price control for Thames Water's activities on the TTT in the draft determination.

Following 'Proposed modifications to condition B of Thames Water's licence to enable its Thames Tideway Tunnel activities to be regulated under a separate price

control: A consultation under section 13 of the Water Industry Act 1991', we amended Thames Water's licence in 'Water Industry Act 1991, Section 13(1) Modification of the Conditions of Appointment of Thames Water Utilities Limited'. This allows Thames Water's wastewater services activities for the TTT project to be delivered within a separate wholesale price control (the 'TTT Control') and so the wholesale wastewater costs for Thames Water exclude any costs for the TTT Control, which are considered separately in section A4.

A3.3.1 Calculating allowed wholesale wastewater expenditure

Our approach to calculating allowed wholesale expenditure is set out in policy chapter A3.

Following representations, the company's proposed wholesale wastewater totex is £3,757 million over 2015-20 (versus £3,744 million in its December plan). This is 2% below the final determination cost threshold (post additions) of £3,824 million.

Table A3.3 below notes the comments that we have received that are specific to this aspect of the wholesale water control of Thames Water and outlines how our interventions have been influenced by our consideration of these responses.

Table A3.3 Representations specific to wholesale wastewater totex for Thames Water

Respondent	Summary of comment	Ofwat response
Thames Water	Counters Creek Sewer Flooding Scheme • **Funding the sewer flooding programme is in the interests of customers** – Thames Water states that the sewer flooding programme was built bottom-up based on customer valuations of what they were willing to pay for. It considered that reducing costs to the level of the draft determination would require a scope reduction with a commensurate reduction in net benefits to customers. • **That the costs lie outside of the implicit allowance** – Thames Water estimates that £168 million of costs for Counters Creek for the	We accept the need for this programme of work and passed on the basis of cost benefit. The Counter's Creek scheme is partially covered by the implicit allowance from the cost modelling.. As a result of our assessment of the robustness of costs, we have applied a 25% reduction to the remaining net costs because we have concerns that the design is not sufficiently mature. In doing so, we are seeking to protect customers in the

Respondent	Summary of comment	Ofwat response
	period 2015-20 lie outside of the Implicit Allowance calculated by the models and are claiming £121 million net of £48 million efficiency reductions. • **Robustness of costs**– Thames provided further evidence in its representations against our test for robustness of costs. This included revised estimates of costs for the Counters Creek scheme.	absence of sufficient evidence to support the costs.
CCG	The CCG stated its support for the Counters Creek scheme.	
Environment Agency	The Environment Agency stated that the costs for some sewer flooding schemes have not been included and that this could impact the company's ability to meet its obligations.	

The proposed wholesale wastewater allowed expenditure for Thames Water is detailed in Table A3.4 below. A further breakdown of some of the calculations is provided in annex 1. Further information about our assessment of each claim is set out in the populated version of the final determination cost threshold models.

Table A3.4 Wholesale wastewater allowed expenditure (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Final determination cost threshold (excluding TTT)						3,823.7
Costs excluded from menu	12.8	12.3	12.3	12.3	12.3	62.1
Menu cost baseline[1]	852.1	792.2	796.4	706.7	614.2	3,761.6
Company's view of menu costs[2]						3,688.0
Implied menu choice						98.0
Allowed expenditure	848.0	788.3	792.5	703.2	611.2	3,743.2

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
from menu						
Costs excluded from menu	12.8	12.3	12.3	12.3	12.3	62.1
Total allowed expenditure[3]	860.8	800.6	804.8	715.5	623.6	3,805.3
Less pension deficit repair allowance	8.3	8.3	8.3	8.3	8.3	41.7
Totex for input to PAYG	852.4	792.3	796.5	707.2	615.2	3,763.6

Notes:
1. Menu baseline is equal to the final determination threshold less pension deficit recovery costs, third party costs and market opening costs related to 2014-15 (see annex 1).
2. Based on company plan totex (reflecting its representation on its draft determination) minus costs for items excluded from the menu. The company will make a final menu choice by 16 January 2016 and any difference between this and the implied menu choice will be reconciled as part of PR19.
3. Includes pension deficit recovery costs.

A3.3.2 Calculation of Revenues: PAYG and RCV run-off

In section A7.5, we discuss financeability at an appointee (whole regulated company) level.

Table A3.5 shows the proposed PAYG rates and associated totex recovery for wholesale wastewater, which we have used as the basis for this final determination.

Although the TTT control is separate, the financial modelling retains it as part of the wholesale wastewater control. This means that there are some technical adjustments to the PAYG and RCV rates within the wastewater control to achieve the desired outcome of having a zero PAYG and RCV run-off for the TTT control (as set out in section A7.5).

This reflects our intervention on PAYG rates as described in section A7.5 on financeability.

Table A3.5 Thames Water's wholesale wastewater PAYG rates

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex (£m)	852.4	792.3	796.5	707.2	615.2	3,763.6
PAYG (%)	46.3%	49.9%	48.9%	52.5%	54.0%	50.3%

Resulting PAYG (£m)	394.7	395.1	389.2	371.1	332.3	1,882.4

Table A3.6 shows the RCV run-off amounts included within the wholesale wastewater charge. This reflects a run-off rate of 5.10% for the RCV as it stands on 31 March 2015 and 23 years for the totex additions to the RCV over 2015-20. This reflects our intervention on RCV run-off rates as described in section A7.5 on financeability.

Table A3.6 Thames Water's wholesale wastewater RCV run-off (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Run-off of 2015 RCV	289.3	261.5	239.2	230.9	238.3	1,259.2
RCV run-off of totex additions	10.0	28.6	46.2	62.4	75.9	223.2
Total RCV run-off	299.3	290.2	285.4	293.3	314.2	1,482.4

A3.3.3 Return on the RCV

As discussed in section A2.3.3, we have used an allowed return of 3.6% in this final determination. This results in a return on capital of £1,036.9 million over 2015-20.

Table A3.7 shows our calculation of the opening RCV at 1 April 2015 taking account of the adjustments for 2010-15 performance discussed in section A3.3.4 below. The average RCV, set out in Table A3.7 below for each year, takes into account the proportion of totex additions to the RCV determined by the PAYG rate and RCV run-off as set out in Table A3.5 and Table A3.6 above.

Table A3.7 Thames Water's wholesale wastewater opening RCV (£ million)

	2015-16
Closing RCV 31 March 2015	6,421.4
Reallocation to TTT Control	-316.0
Revised wastewater opening RCV	6105.4
Land sales[1]	-22.5
Adjustment for actual expenditure 2009-10[2]	-96.8
Adjustment for actual expenditure 2010-15[3]	-221.6

	2015-16
Net adjustment from logging up and logging down[3,4,]	-167.2
Adjustment for shortfalls[3,4]	0.0
Adjustment for serviceability shortfalls[5]	-23.5
Other adjustments[6, 7]	-101.3
Opening RCV 1 April 2015	5,472.5

Notes:
1. Land sales adjustment is set out in Table AA3.22.
2. 2009-10 actual expenditure adjustment is set out in Table AA3.22.
3. A component of the CIS adjustment as set out in Table AA3.16.
4. The net adjustment from the change protocol is set out in Table AA3.8
5. The serviceability shortfall adjustment is set out in Table AA3.10.
6. Other RCV adjustments are set out in Table AA3.22 and relates to a logging down amount proposed by the company relating to wholesale wastewater (£101 million) in respect of 2005-10 s203 expenditure.
7. 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.

Table A3.8 Thames Water's wholesale wastewater return on RCV (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20
Opening RCV	5,472.3	5,630.7	5,737.7	5,859.6	5,902.4
RCV additions (from totex)	457.7	397.2	407.3	336.1	282.9
Less RCV run-off	299.3	290.2	285.4	293.3	314.2
Closing RCV	5,630.7	5,737.7	5,859.6	5,902.4	5,871.1
Average RCV (year average)	5,551.5	5,684.2	5,798.6	5,881.0	5,886.8
Return on capital	199.9	204.6	208.8	211.7	211.9

A3.3.4 Reconciling 2010-15 performance

When we last set price controls in 2009 (PR09), we included a number of incentive mechanisms designed to encourage companies to improve and deliver services more efficiently, and, to manage uncertainty. Consistent with the approach set out at the time of the final determination in 2009 we have made adjustments at this price review (PR14) to 2015 to 2020 revenues to take account of company performance in the 2010 to 2015 period.

Our approach to reconciling 2010-15 performance is set out in policy chapter A4.

The company proposed adjustments to the opening RCV and allowed revenue for the wholesale wastewater services to reconcile performance in 2010-15. We have intervened and as a result the revenue adjustments for wholesale wastewater have changed from -£13.4 million to -£13.2 million[2]. We summarise these interventions in Table A3.9 below. The impact on the opening RCV of 2010-15 adjustments is shown in Table A3.7 and we discuss our interventions in this area further in annex 3.

When making these final determinations we do not have the full information on companies' performance in 2014-15. We set out in 'Setting price controls for 2015-20 – further information on reconciling 2010-15 performance' that we would reconcile for the RCM, change protocol and serviceability in 2015, and in 2016 for the CIS, when we have the company's actual performance for 2014-15. In practice this will mean that the actual revenue, capital expenditure and RCV information submitted (and appropriately challenged by us) in summer 2015 will be reconciled at the next wholesale price review in 2019-20.

[2] These figures include the effect of the net present value adjustments on 2010-15 TTT expenditure that was not funded at PR09. Excluding the effect of TTT expenditure these figures change from -£51.2 million to -£47.1 million. The TTT Control adjustments are set out in table A4.8.

Table A3.9 Thames Water's wholesale wastewater revenue adjustments to reflect 2010-15 performance (£ million)

Area of intervention	Intervention		Total revenue adjustment 2010-15 (post intervention)	
		Company view	Draft Determination	Final determination
SIM	This final determination includes our view of the company's SIM penalty, which we have calculated as -0.9%. This is unchanged from draft determination when we intervened on the company's resubmitted plan estimate. Our intervention at draft and final determination increases the penalty by £5.4 million compared with the company's resubmitted plan.	-37.8	-43.3	-43.3
RCM	We have intervened in the following areas. • Back billing • FD09 assumptions • Number of households billed • Outturn financial year average RPI Combined these interventions reduced revenue by £10.4 million compared to the company's revised business plan.	84.1	66.7	73.7
OIA	There are no interventions in this area.	0.0	0.0	0.0
CIS	As explained in policy chapter A4, we have changed the methodology in the CIS model for all companies with respect to the discount rate used when calculating the future value of the revenue adjustment in the 2010-15 period. We have included our view of the applicable change protocol	-97.5	-76.0	-77.5

Area of intervention	Intervention		Total revenue adjustment 2010-15 (post intervention)	
		Company view	Draft Determination	Final determination
	amounts for wastewater. Combined these interventions increased revenue by £19.9 million.			

The main changes we have made in the final determination in reconciling the company's 2010-15 performance result from:

- our reduction in the serviceability shortfalls for pollution incidents and flooding other causes;
- accepting the company's additional evidence on back-billing; and
- our revised adjustment to the RCV for actual expenditure in 2009-10.

We have also accepted the company's updated information in relation to its logging down claim for the Lee Tunnel.

A3.3.5 Calculation of allowed revenue

The calculation of the allowed revenue for Thames Water's wholesale wastewater control is shown in table A3.10

Overall, we consider that Thames Water's wholesale wastewater revenue allowance should be £877.3 million in 2015-16, increasing by 2.3% to £897.6 million in 2019-20.

Table A3.10 Thames Water's wholesale wastewater allowed revenue (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex	852.4	792.3	796.5	707.2	615.2	3,763.6
PAYG rate	0.5	0.5	0.5	0.5	0.5	
Totex additions to the RCV	457.7	397.2	407.3	336.1	282.9	1,881.2
RCV (year average)	5,551.5	5,684.2	5,798.6	5,881.0	5,886.8	
Wholesale allowed revenue build up:						
PAYG[1]	403.1	403.5	397.5	379.4	340.6	1,924.1
Return on capital	199.9	204.6	208.8	211.7	211.9	1,036.9
RCV run-off	299.3	290.2	285.4	293.3	314.2	1,482.4
Tax[2]	0.0	0.0	0.0	0.0	0.0	0.0
Income from other sources[3,4]	-11.4	-11.4	-11.4	-11.4	-11.4	-56.8

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Reconciling 2010-15 performance	-9.4	-9.4	-9.4	-9.4	-9.4	-47.1
Ex ante additional menu income	2.1	1.9	1.9	1.7	1.5	9.1
Wholesale allowed revenue adjustments:						
Equity issuance cost	0.0	0.0	0.0	0.0	0.0	0.0
Revenue solving adjustment	0.0	0.0	0.0	0.0	0.0	0.0
Profiling adjustments[5]	0.0	0.0	0.0	0.0	0.0	0.0
Manual adjustments	0.0	0.0	0.0	0.0	0.0	0.0
Capital contributions from connection charges and revenue from infrastructure charges	15.0	15.0	15.0	15.0	15.1	75.1
Final allowed revenues	**898.4**	**894.4**	**887.8**	**880.4**	**862.5**	**4,423.6**

Notes:
1. PAYG includes the PAYG calculated from totex and the pension deficit repair allowance.
2. Including tax on adjustments for reconciling 2010-15 performance and ex ante additional menu income.
3. We have adjusted other income values to remove the deferred income element relating to IFRIC18, as this is an accounting adjustment.
4. Our assessment of income from other sources is discussed in policy chapter A3.
5. Our bill profiling adjustments are discussed in section A7.6.

A3.4 Uncertainty mechanisms

We have set the company's allowed revenues for the 2015-20 period. All companies face uncertainty about future costs and revenues this is reflected in the rate of return and the established framework in the licence. We outline our approach to incremental uncertainty mechanisms in policy chapter A7, where we set out our

response to the representations made by stakeholders in support of sector wide uncertainty mechanisms.

For the wholesale wastewater control, we are not allowing additional uncertainty mechanisms within this framework.

In Table A3.11 below, we set out Thames Water's proposed wholesale wastewater uncertainty mechanisms and our assessment of these proposals.

Table A3.11 Thames Water's proposals for wholesale wastewater uncertainty mechanisms

Assessment at draft determination	Our assessment
Outside the TTT Control, which is discussed separately in section A4, no uncertainty mechanisms for wholesale wastewater were included in our draft determination. The company made representations and provided some limited evidence on both the increase in wastewater business rates due to the 2017 revaluation and our approach to capping the increase in business rates due to asset growth.	We acknowledge there is uncertainty over future wastewater business rates costs, included in the totex menu, which we consider provides a reasonable way to share the impact of any future increase in wastewater rates between companies and customers. While Thames Water has given some estimates of the impact of rateable values at a number of sites, it provided no documentary support and we are unable to satisfy ourselves that these estimates are robust. Accordingly, we have not amended our approach for the final determination.

Table A3.11 above notes the comments that we have received that are specific to this aspect of the wholesale wastewater control of Thames Water and outlines how our final position has been influenced by our consideration of these responses.

A4 Thames Tideway Tunnel

A4.1 Consideration of representations on our draft determination

In policy chapter A1, we provide a list of the respondents to the draft determinations published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our price control methodology or company-specific interventions.

Our general policies relevant to the wholesale TTT control are set out in the following policy chapters that accompany our final determinations. These include our responses to representations on sector-wide issues.

- Policy chapter A2.
- Policy chapter A3.
- Policy chapter A4.
- Policy chapter A7.

Table A4.1 lists the representations we have received that are specific to Thames Water's TTT Control and says where to find more information on our responses in this document.

Table A4.1 Representations specific to the TTT Control of Thames Water

Area	Company specific representations	Detailed commentary in this company appendix
Separate price control	Thames Water CCG CCWater	Section A4.2
Outcomes, PCs and incentives	Thames Water CCG CCWater	Section A4.3 and Annex 4
Outcome delivery and reporting	Thames Water	Annex 4

Area	Company specific representations	Detailed commentary in this company appendix
Calculating allowed TTT expenditure	Thames Water CCG CCWater Environment Agency	Section A4.4.1 and Annex 1
Calculation of PAYG rates and RCV run-off	CCWater	Section A7.2
Return on the RCV	Thames Water	Section A4.4.3
Reconciling 2010-15 performance	Thames Water	Section A4.4.4
Calculation of allowed revenue	Thames Water	Section A4.4.5
Uncertainty mechanisms	Thames Water	Section A4.5

A4.2 Separate price control

The TTT is the main tunnel component of a solution to reduce overflows of untreated sewage into the River Thames in order to achieve compliance with the Urban Wastewater Treatment Directive. The Government has specified that the tunnel will be delivered by a third party Infrastructure Provider (IP) given the size and complexity of the project.

We are not determining the IP's revenues at this price review. Instead, the IP's revenues (particularly during the construction phase) will be calculated by reference to the terms of its licence and by reference to the outcome of a competitive procurement process being conducted by Thames Water. We consulted on the regulatory framework for the IP in 'Consultation on the regulatory framework for the Infrastructure Provider that will deliver the Thames Tideway Tunnel Project' in October 2014.

Thames Water still has an important role on the project during construction and into operations including:

- carrying out the procurement of an IP: as the entity legally responsible for putting the TTT project out to tender, Thames Water is running the procurement of the IP and main works contractors for the TTT project in

parallel to the PR14 process, with IP designation and appointment expected in 2015;
- obtaining the necessary planning consents to deliver the project;
- carrying out design for the project;
- acquiring the land necessary for construction activities to commence;
- delivering some of the site enabling works; and
- works to prepare for the interface between the TTT and the rest of Thames Water's sewerage system.

As set out in section A3.3, following the RBR of Thames Water's December 2013 business plan, we discussed with Thames Water the possibility of a separate price control for its activities on the TTT. Overall, we consider that separately regulating this part of the value chain better protects customers' interests as it increases transparency. It also facilitates specific uncertainty mechanisms where Thames Water's activities on the project carry a separate and different risk profile to the rest of its functions.

We consulted on the licence modifications necessary to enable the separate TTT control in October 2014. That consultation summarised the responses we received to the proposal to introduce a separate price control as proposed in the draft determination, including Thames Water, the CCG and CCWater's representations. We subsequently varied Thames Water's licence with Thames Water's consent on 8 December 2014, and published a document setting out our reasons for making the variations.

As set out in the consultation and subsequent position paper, our current expectation is that a separate control for Thames Water's activities on the TTT would exist at the next price control (that is, in 2020-25) and would need to remain in place to cover the period of construction of the TTT asset. However, at this stage, we cannot be definitive as to the required duration of the TTT price control. Therefore, we propose that we introduce the licence modifications on a time-limited basis until 2020 to enable us to make a separate price determination for Thames Water's TTT activities at this price review. We will consider further, in the period 2015-20, whether the provisions for a separate price control should extend beyond 2020. This would also allow us to take into account any development of the methodology for the next price review in 2019.

A4.3 Outcomes, performance commitments and delivery incentives

A4.3.1 Outcomes, performance commitments and incentives

In policy chapter A2, we discuss our approach to outcomes. Thames Water has developed and committed to delivering outcomes which reflect its customers' views. These are supported by specific PCs and associated incentives (ODIs) whereby the company can be rewarded or penalised for its performance during the period from 2015 to 2020.

Thames Water did not propose any ODIs or PCs for the TTT Control in its June business plan submission. To protect customers' interests, we introduced a set of PCs in our draft determination and invited Thames Water to develop these PCs further.

Thames Water responded by developing the PCs that were included in our draft determination and consulted with its CCG on those PCs. The CCG's role was to challenge how well the company's outcomes, PCs and delivery incentives reflect the views and priorities of customers, both now and in the future, as well as environmental priorities.

Thames Water has accepted all but one (for which it proposed an alternative approach) of the PCs in the draft determination. Thames Water also proposed two additional PCs.

We summarise the outcomes, PCs and ODIs for the TTT Control for Thames Water in Table A4.2 below. Full detail of the TTT Control outcomes, PCs and incentives, and our consideration of relevant representations, is provided in annex 4.

We have not accepted all of Thames Water's proposals. We summarise our interventions in Table A4.2 below. Where we have intervened we have done so to ensure that the company is subject to effective incentives that protect customers. Full detail of the TTT Control outcomes, PCs and incentives, and our consideration of relevant responses, is provided in annex 4.

Incentive T1C, concerning incentive penalties in the event of delays to completion of enabling construction works by the company, is the only financial incentive. Consistent with the approach we have followed for similar incentives for other companies and also for other similar incentives for Thames Water, this incentive is excluded from the overall cap and collar on ODIs. This means that the overall cap and collar for ODIs has no practical effect on the TTT price control. Thames Water

provided a number of representations on the overall cap and collar for ODIs; our assessment of these is discussed in table A2.13 of policy chapter A2 and summarised in Annex 4 to this document.

The PC that limits delays on the overall TTT programme timeline (T1C) is excluded from the cap and collar.

Table A4.2 TTT outcomes, performance commitments and incentives

Company proposal				Intervention
Outcome	**Performance commitment**		**Incentive type**	
Thames Water is committed to improving outcomes for customers and for the environment, notably by intercepting significant sewage discharges into the tidal river Thames, working together with the IP to ensure the timely and cost efficient delivery of the TTT project.	T1 Thames Water will limit the extent of delays on the overall programme timeline	T1A: Successful procurement of the Infrastructure Provider.	Reputational	**Company-specific assessment –** We introduced this PC at the draft determination and we have maintained this position.
		T1B: Acquisition of land rights for the project (subject to planning permission).	Reputational	**Company-specific assessment –** We introduced this PC at the draft determination and we have maintained this position.
		T1C: Completion of category 2 and 3 construction.* Thames Water proposed that this is linked to the rewards and penalties that are being developed for the Alliance Agreement to avoid duplication and distortion of incentives.	Financial – penalty only	**Company-specific assessment –** We have increased the scale of the penalty for delay, applying a consistent approach for incentives relating to special cost claims across all companies that recognises the benefits foregone if companies do not deliver. We have not accepted the proposed performance reward due to lack of evidence of customer willingness to pay for the reward. We have introduced a regulatory mechanism to recover costs for category 2 and 3 works for customers if Thames Water

Company proposal				Intervention
Outcome	**Performance commitment**		**Incentive type**	
				does not undertake the project for reasons outside its control (up to a maximum of £227 million). Further detail, including our full assessment of Thames Water's representation, is provided in annex 4.
	T2: Thames Water will engage effectively with the IP, and other stakeholders, both in terms of integration and assurance.		Reputational	**Company-specific assessment –** We introduced this PC at the draft determination and we have maintained this position.
	T3: Thames Water will engage with its customers to build understanding of the TTT project. Thames Water will liaise with the IP on its surveys of local communities impacted by construction.* Thames Water made changes to the detailed PC, set out in annex 4.		Reputational	**Company-specific assessment –** We have accepted the company's representation.

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
	T4: Thames Water will pass back to customers Section 106[3] development costs if they are carried out by the IP.	Financial	**Company-specific assessment –** We have not accepted this proposal as our allowed totex and cost-sharing mechanism for the TTT Control will be sufficient to allow the company to deliver its Section 106 obligations. Thames Water has not clearly explained why the IP should undertake any Section 106 activities that are currently the responsibility of Thames Water. Reallocating these activities to the IP would increase complexity, and Thames Water has not demonstrated any clear benefits to customers that would arise from such reallocations. Further detail is provided in annex 4.

[3] A person with an interest in land may enter into an enforceable obligation under section 106 of the Town and Country Planning Act 1990. These obligations are known as s106 agreements and they are a mechanism for making a development proposal acceptable in planning terms, that may not otherwise be acceptable. They focus on site specific mitigation of the impact of development.

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
	T5: Thames Water will collect revenue in advance of the Project Licence Award for the IP to smooth customer bill impacts. Thames Water's CCG expressed concern that if the IP's revenue was not collected in advance there was a risk that customers would not receive a smooth profile of bills.	Financial	**Company-specific assessment –** We consider customers are better protected if this is addressed through Thames Water's licence. Consequently, we have not accepted this proposal because we are dealing with this elsewhere. We will address this separately through a consultation on Thames Water's licence. Further detail is provided in and annex 4. A change to the company's licence would address the CCG's concerns.

A4.3.2 Outcome delivery and reporting

Thames Water's proposed approach to the measurement, reporting and governance of outcomes and our assessment of this approach is summarised in annex 4.

A4.4 Calculating the TTT Control

A4.4.1 Calculating allowed TTT expenditure

Our approach to calculating allowed TTT Control expenditure follows the approach adopted for the wholesale water and wastewater controls as set out in the wholesale policy chapters. The proposed TTT Control allowed expenditure for Thames Water is detailed in table A4.3.

Following representations, the company's proposed totex for the TTT Control is £404 million over 2015-20 (lower than the £508 million the company proposed in Thames Water's December 2013 plan and the £655 million proposed in the June 2014 plan). However, the company set out that its view of costs was predicated on the introduction of a broadly defined uncertainty mechanism for the TTT Control. We do not consider the mechanism proposed by Thames Water adequately protects customers. We have proposed an alternative approach, which comprises two elements:

- An adjustment of our assessment of costs to reflect a central view of the timing of the appointment of the Infrastructure Provider; and,
- A more tightly defined uncertainty mechanism than Thames Water proposes, which we discuss in section A4.5.

At the draft determination, we said that in order to provide the same incentives and opportunities to which the wholesale water and wastewater activities are exposed, we proposed that we would adopt the wholesale cost menu for the TTT Control at the final determination. We said that a menu would maintain an incentive on Thames Water to provide accurate information until it made its menu choice and (together with uncertainty mechanisms) would help mitigate the risk around our cost challenge.

Overall, Thames Water responded to most of the challenges we made at the draft determination and provided further evidence in support of its proposed costs. We therefore propose to apply the wholesale menu to the TTT Control. The menu will provide the company with discretion to choose its cost performance sharing rate based on its own view of an appropriate P50 cost (using the same menu and in line with the approach on the wholesale controls).

We have continued to apply a 100:0 cost sharing rate for land costs (and land income) so that customers will receive the full benefit of any increases in land values when, at a future date, Thames Water disposes of land it has acquired to develop the TTT. As land costs will remain subject to the 100:0 sharing rate, these costs will be excluded from the menu (as set out in annex 5), and Thames Water is required to separately report the costs it incurs on land and non-land costs through 2015-20.

Thames Water's proposed uncertainty mechanism would fully insulate the company from any delays to the appointment of the IP. The Thames Water CCG expressed concerns about the potential for cost and bill escalation if there is a delay in the appointment of the Infrastructure Provider (IP). We agree, and our assessment is that customers must be protected from cost escalations that are within Thames Water's control. To ensure that Thames Water is incentivised to minimise costs that are within its control, and consistent with the cost assessment in the wholesale controls, we have taken a central view of development risks associated with the appointment of the IP in assessing our totex baseline. We have based this on an assessment of costs to Thames Water's central view of the timing of the appointment of the IP. Our assessment is included in table A4.3.

In its representation, Thames Water set out the view that a risk allowance of £48.6 million should be provided if we chose to disallow its proposed uncertainty mechanism. We have allowed £20.5 million for development costs in line with our central view of timing of the appointment of the IP. In addition, as explained in section A4.5, we have widened the scope of the uncertainty mechanism we proposed in the draft determination to address remote circumstances that are demonstrably outside of Thames Water's control or influence. We consider that, overall, our approach provides improved benefits for customers as it will strongly incentivise Thames Water to deliver its obligations at efficient cost, while providing protection in the event that certain circumstances arise that are demonstrably outside of its control.

The Environment Agency expressed a concern in its representation that the TTT had not been fully funded through our draft determination. Our assessment is that the final determination gives Thames Water sufficient totex to undertake its activities efficiently, while placing strong incentives on the company to manage any cost over-runs in the normal course of business.

The proposed TTT Control allowed expenditure is summarised in table A4.3 below. We provide further detail on our cost assessment in annex 1.

Table A4.3 TTT allowed expenditure (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Final determination cost allowance						408.4
Costs excluded from menu						56.5
Ofwat's assessment of costs eligible for menu cost baseline[1]	158.7	63.1	54.9	51.6	23.7	351.9
Company view of costs eligible for menu cost baseline	138.1	65.7	57.0	53.5	25.0	339.3
Menu ratio						96.4
Allowed expenditure from menu	157.2	62.6	54.4	51.1	23.4	348.7
Costs excluded from menu (that is, land costs under 100:0 sharing)[2]	25.77	19.93	2.87	7.15	0.75	56.5
Total allowed expenditure[3,4]	183.0	82.5	57.3	58.2	24.2	405.2

Notes:
1. We profiled our view of expenditure based on the company's profile, after taking into account costs excluded from the menu, and that £20.5m of costs arising from potential delay to the appointment of the IP will be included in 2015-16 to arrive at a central cost estimate (given that we did not accept Thames Water's proposed uncertainty mechanism) as explained above.
2. Certain specific categories of land costs identified by Thames Water in its June business plan for 100:0 sharing will be set outside of the menu (annex 5 sets out which categories are excluded).
3. See annex 1 and the populated version of final determination initial cost threshold models for further details of our cost assessment.
4. Numbers may not add due to rounding.

A4.4.2 Calculation of PAYG rates and RCV run-off

Thames Water did not request any PAYG or RCV run-off for the TTT Control in its representations. This is because the project will not be operational in 2015-20 and will not deliver long-term benefits to customers until after 2020. Because the TTT will be completed post-2020, there is no RCV run-off for the TTT Control in 2015-20. This is consistent with usual accounting practice for depreciation and the absence of customer benefit from the RCV until after the project is operational.

A.4.4.3 Return on the RCV

As discussed in section A2.3.3, we have used an allowed return of 3.6% in this final determination. This results in a return on capital of £205.5 million over 2015-20.

Table A4.4 shows our calculation of the opening RCV at 1 April 2015 taking account of the adjustments for 2010-15 performance discussed in section A4.4.4 below. The average RCV, set out in Table A4.5 for each year, takes into account the proportion of totex additions to the RCV determined by the PAYG rate and RCV run-off as discussed in section A4.4.2 above.

Table A4.6 shows the net present value neutral adjustments in respect of financing costs that relate to the reconciliations set out in Table A4.8.

Table A4.4 Thames Water TTT opening RCV (£ million)

	2015-16
Allocation of RCV from the wholesale wastewater control as at 31 March 2015[1]	316.0
Land sales	0.0
Adjustment for actual expenditure 2009-10[3]	0.5
Adjustment for actual expenditure 2010-15	0.0
Net adjustment from logging up, logging down and shortfalls[4]	554.0
Other adjustments	0.0
Opening RCV 1 April 2015	870.5

Note:
1. The total amount funded for the TTT in 2005-10 and 2010-15 has been reallocated from the wholesale wastewater control.
2. 2009-10 actual expenditure adjustment is set out in Tables A4.7
3. Total amount logged up for TTT in 2010-15 net of income from land and Ofwat interventions. Our interventions are set out in Tables A4.7

Table A4.5 TTT return on RCV (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20
Opening RCV	870.5	1,053.5	1,136.0	1,193.3	1,251.5
RCV additions (from totex)	183.0	82.5	57.3	58.2	24.2
Less RCV run-off	0.0	0.0	0.0	0.0	0.0

	2015-16	2016-17	2017-18	2018-19	2019-20
Closing RCV	1,053.5	1,136.0	1,193.3	1,251.5	1,275.7
Average RCV (year average)	962.0	1,094.8	1,164.7	1,222.4	1,263.6
Return on capital	34.6	39.4	41.9	44.0	45.5

Table A4.6 TTT adjustments for financing costs in 2010-15 (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20
Financing costs revenue adjustment	6.785	6.785	6.785	6.785	6.785

A4.4.4 Reconciling 2010-15 performance

Thames Water's expenditure on the TTT was excluded from the CIS at PR09, however we have committed to log up the efficient costs that Thames Water incurred in delivering its activities on the TTT that were unremunerated at PR09.

In its June business plan, Thames Water proposed to log up costs of £597.0 million in respect of the TTT Control. The company subsequently reduced this to £577.1 million in its representation, including £316.2 million for acquiring land rights and £261 million for development and delivery of the project. The company improved the evidence in support of its costs in the representation and corrected a misstatement in its June plan, which had led us to conclude there had been double counting of one category of forecast costs for 2014-15 in the draft determination. We conclude Thames Water has provided sufficient evidence to justify £554.5 million of its requested costs; but did not do so for the remaining £22.7 million.

We summarise our views and the associated interventions in table A4.7 below. The interventions are explained in more detail in annex 3. The impact on the opening RCV of 2010-15 adjustments is shown in table A4.4.

Table A4.8 sets out the revenue adjustments relevant to the TTT Control in 2010-15.

Table A4.7 TTT change protocol adjustments (£ million)

Area of intervention	Intervention	Total 2010-15 (£ million)
Land – logging up	We have intervened in the following areas:	-13.2

Area of intervention	Intervention	Total 2010-15 (£ million)
	• reduction to forecast land costs in 2014-15 based on market evidence for land acquisition costs. • reduction because Thames Water used COPI rather than RPI to inflate costs which is inconsistent with our guidance	
Other costs (non-land) – logging up	We have intervened in the following areas: • reduction due to scope changes from 2014-15 to 2015-20, including for work likely to be re-phased based on new information received after the representations, and unwinding an accrual to ensure customers pay for expenditure in the year it is incurred. • reduction in costs associated with archaeological screening investigations at construction sites.. • reduction related to inflation (as above). • A £0.45 million increase for costs incurred in 2009-10.	-9.5
Total		-22.7

Note:

Numbers may not add due to rounding.

Table A4.8 Thames Water's TTT Control revenue adjustments to reflect 2010-15 performance (£ million)

Area of intervention	Intervention		Total revenue adjustment 2010-15 (post intervention)	
		Company view	Draft Determination	Final determination
Other adjustments – recovery of financing costs on unfunded 2010-15 TTT expenditure	This adjustment allows the company to recover the financing costs incurred during 2010-15 on the additional expenditure that we have accepted as a logging up adjustment to the RCV set out in tables AA3.8 and AA3.23. The £3.9 million difference in revenue is as a result of the interventions we have made on the value of the revised logging up adjustment proposed by the company. We explain our interventions in table AA3.10. These figures apply to the TTT Control and are stated in table A4.6.	37.8	32.0	33.9

A4.4.5 Calculation of allowed revenue

The calculation of the allowed revenue for Thames Water's TTT Control is shown in the table below.

Overall, Thames Water's TTT Control revenue allowance will be £42.1 million in 2015-16, increasing by 24% to £52.4 million in 2019-20.

Table A4.9 Thames Water TTT allowed revenue (£ million)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex	183.0	82.5	57.3	58.2	24.2	405.2
PAYG ratio	0.0%	0.0%	0.0%	0.0%	0.0%	
Totex additions	183.0	82.5	57.3	58.2	24.2	405.2
RCV (year average)	962.0	1,094.8	1,164.7	1,222.4	1,263.6	
Wholesale allowed revenue build up:						
PAYG	0.0	0.0	0.0	0.0	0.0	0.0
Return on capital	34.6	39.4	41.9	44.0	45.5	205.5
RCV run-off	0.0	0.0	0.0	0.0	0.0	0.0
Tax	0.0	0.0	0.0	0.0	0.0	0.0
Menu additional income	0.7	0.3	0.2	0.2	0.1	1.6
Financing costs for 2010-15	6.8	6.8	6.8	6.8	6.8	33.9
Final allowed revenues	**42.1**	**46.5**	**49.0**	**51.0**	**52.4**	**240.9**

Notes:
1. The company used the capital contributions from the connection charges line in the financial model to input income from land rental in the company's plan. As we have included this as an RCV adjustment, we have corrected the capital contributions line to zero.

A4.5 Uncertainty mechanisms

We have set the company's allowed revenues for the 2015-20 period. All companies face uncertainty about future costs and revenues this is reflected in the rate of return and the established framework in the licence.

We consider that appropriate risk sharing mechanisms provide companies with incentives to reduce costs and provide better services.

We outline our approach to incremental uncertainty mechanisms in policy chapter A7. In Table A4.10 below, we set out Thames Water's proposed uncertainty mechanisms for the TTT and our final assessment of these proposals.

Table A4.10 Thames Water proposals for the TTT Control – uncertainty mechanisms

Draft determination assessment and company representation	Our assessment
Thames Water accepted the uncertainty mechanism for reallocation of scope between IP and Thames Water in the event of programme delays. It also accepted the 100:0 cost sharing mechanism for certain categories of land costs.	No change to draft determination Notified Item on scope swaps which may be addressed via an interim determination or as a cost adjustment at the next price review. The Notified Item text is included in the company letter to this determination which is available on our website. We have maintained the 100:0 cost sharing mechanism for certain categories of land costs.
Thames Water accepted our materiality threshold of 10% of RCV and triviality threshold of 2% of TTT Control baseline totex.	No change to our draft determination. We have amended Thames Water's licence to reflect the materiality threshold and we confirm that we will apply a triviality threshold of 2% of TTT Control baseline totex (post the menu cost-sharing rate).
Thames Water proposed a more broadly defined Notified Item for the TTT to cover items 'relating to but not limited to': • Resilience • Continued development costs if there is a delay • Mark ups to contracts by bidders • Cost of refunding IP bid costs • Impact of the Development Consent Order (DCO) on Thames Water	We accept that there are some circumstances within the activities set out by Thames Water that pass the assessment criteria we have set for uncertainty mechanisms at this price review. We have proposed a Notified Item to cover these circumstances. Our detailed assessment is set out in annex 5 and in our TTT deep dive assessment (DD01). However, our assessment is that the broad definition of Thames Water's proposed uncertainty mechanism is not in customers' interests. Thames Water has control over 'business as usual' costs, and to protect customers it should be incentivised to minimise these costs through the standard price control incentives framework. The Notified Item itself is set out in the company Final Determination letter. Costs that qualify for the Notified

Draft determination assessment and company representation	Our assessment
	Item may be considered as part of an application for i. an interim determination (subject to the triviality and materiality thresholds stated above); or ii. as a cost adjustment at the next price review (subject to the triviality threshold stated above and a cost sharing rate of 75:25 consistent with the cost sharing rate that applies for the business rates Notified Item). We also confirm that we accept that a change to the Specification Notice or the Preparatory Work Notice will qualify as a Relevant Change of Circumstance. This does not affect the company's responsibility to meet all statutory obligations. The final determination provides funding for the company for the 2015–20 period within the range of existing mechanisms available to companies to manage uncertainty, which we discuss in more detail in annex 5, including: • totex sharing menu; • interim determination of K (IDoKs); • substantial favourable effects and substantial adverse effects clauses in Condition B of the licence.

A5 Household retail

A5.1 Consideration of representations on our draft determination

In policy chapter A1, we provide a list of the respondents to the draft determinations published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our industry-wide approach or company-specific interventions.

Our general policies relevant to the household retail control are set out in the following policy chapters that accompany our final determinations. These include our responses to representations on sector-wide issues.

- Policy chapter A2
- 'Policy chapter A5 – household retail costs and revenues' ('policy chapter A5').
- Policy chapter A7.

Table A5.1 lists the representations we have received that are specific to Thames Water's household retail control and sets out where to find more information on our responses in this document.

Table A5.1 Representations specific to the household retail control of Thames Water

Area	Company specific representations	Detailed commentary in this company appendix
Outcomes, PCs and incentives	Thames Water CCG CCWater	Annex 4
Outcome delivery and reporting	Thames Water	Annex 4
ACTS calculation	Thames Water	Section A5.3
Allocation of costs	Thames Water	Section 5.3.1 and Annex 1
Adjustments	Thames Water	Section A5.3.2
New costs	Thames Water, CCWater	Section A5.3.3 and Annex 2

Area	Company specific representations	Detailed commentary in this company appendix
Uncertainty mechanisms	None	Annex 3 and A5.5

A5.2 Outcomes, performance commitments and incentives

In policy chapter A2, we discuss our approach to outcomes for the wholesale and retail controls. Thames Water has developed and committed to delivering outcomes that reflect its customers' views.

The company's outcomes have been developed with input from its CCG. The CCG's role was to challenge how well the company's outcomes, PCs and delivery incentives reflect the views and priorities of customers, both now and in the future, as well as environmental priorities.

Our assessment of the specific PCs proposed by each company for household retail has focused on a company specific assessment to ensure that the performance proposed by each company is challenging, appropriately incentivised and supported by customer engagement.

Table A5.2 below summarises the outcomes, PCs and ODIs for Thames Water's household retail control.

Table A5.2 Household retail outcomes, performance commitments and incentives

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
Improving customer service by doing the basics excellently and by getting things 'right first time'	A1 Minimise the number of written complaints received from customers	Reputational	**No intervention**
	A2 Improve handling of written complaints by increasing first time resolution	Reputational	**No intervention**
	A3 Improve customer satisfaction of retail customers – charging and billing service	Reputational	**No intervention**
	A4 Improve customer satisfaction for retail customers – operations contact centre	Reputational	**No intervention**
	A5 Increase the number of bills based on actual meter reads (in cycle)	Reputational	**No intervention**
	A6 Service Incentive Mechanism (SIM)	Financial – Reward and Penalty	**No intervention**

Company proposal			Intervention
Outcome	**Performance commitment**	**Incentive type**	
Offer a choice of easy to use contact options	B1 Implement new online account management for customers supported by web-chat	Financial – penalty only	**Company-specific assessment –** We have retained the intervention made at draft determination to ensure customers are protected by introducing penalty for delays to the CRMB implementation.
Improving cash collection from those that can pay and helping those that are struggling to pay	C1 Increase the number of customers on payment plans	Reputational	**No intervention**
	C2 Increase cash collection rates	Reputational	**No intervention**

A5.3 Costs

Our approach to the household retail control is set out in policy chapter A5. As set out in policy chapter A5, we have adjusted companies' costs to align to the 2013-14 base year. Historical costs are therefore presented in 2013-14 prices, and all future costs and revenues in nominal prices. We set out our final household retail adjustments, the modification factors for household retail allowed revenue and the assumed number of customers we have used to calculate the total revenues in annex 2.

Thames Water made a representation on the price base that we use for setting household retail price controls. The company's representation is discussed alongside representations made by other companies in policy chapter A5. We have taken these representations into consideration and can confirm that the household retail price controls will be set using the 2013-14 price base.

Thames Water has also made representations on how the ACTS is calculated. In particular, the company made representations on:

- the treatment of legacy depreciation;
- the materiality threshold used for household retail; and
- our approach to input price pressure in the household retail price control.

The company's representations are discussed alongside representations made by other companies in policy chapter A5. We have taken these representations into consideration and present our conclusions on whether changes to the ACTS methodology are needed in policy chapter A5.

A5.3.1 Allocation of costs

In table A5.3 below, we summarise our assessment of Thames Water's cost allocation methodology.

Table A5.3 Our assessment of Thames Water's cost allocation methodology

Area assessed	Assessment
No potential material misallocations	Pass
Adequate assurance provided	Pass
Reconciliation to regulatory accounts and December business plan provided	Pass

We are satisfied that the company has addressed all of the actions we identified in the draft determination with one exception – to perform a cross-check on its allocation of doubtful debts based on write-offs against an allocation based on the movement in outstanding debts. The company has informed us that it is unable to perform this cross check, as it does not have the systems in place to do so.

We have accepted the company's allocation based on debt write offs. This is because we agree that this is a more suitable proxy cost driver for the allocation of doubtful debts than the movement in outstanding debt, in the absence of the direct attribution that our guidance prescribes. However, we note that from 2015-16 all companies will need to have the systems in place to be able to directly attribute their annual doubtful debt charge between household and non-household on a customer-type specific basis. We will confirm this in the regulatory accounting guidelines for 2015-16, which we will publish early in 2015 following consideration of responses to other matters covered in our recent consultation on regulatory reporting.

We have used the company's cost allocation between retail and wholesale and between household and non-household retail to set our final determination. The company has adjusted its allocation of depreciation according to Ofwat principal use guidance. The impact is to add £10.521 million to PR09 legacy depreciation related to household retail assets over 2015-20.

The company has also made a representation on the allocation of its costs between base costs and the additional costs to serve metered customers. The company has proposed a reallocation of its costs that moves costs from the additional cost to serve metered customers to base cost to serve. The company has provided external assurance of these allocations. We have accepted the company's revised cost allocations in this area.

A5.3.2 Adjustments

Thames Water has sought adjustments to the ACTS for:

- pension deficit repair costs;
- an adjustment for retail costs driven by population transience; and
- an adjustment for retail costs driven by the TTT.

Thames Water only included an adjustment for retail costs, primarily doubtful debt, driven by population transience in its representation. The company had sought an adjustment for retail costs driven by the TTT in its revised business plan; no further evidence was provided in its representation to support this earlier adjustment request.

The adjustments proposed by Thames Water and our decisions are quantified in Table A5.4. Our approach to assessing adjustment claims is set out in policy chapter A5.

Pension deficit repair costs

In the final determination we have included an adjustment for all companies to reflect the pension deficit recovery costs that our modelling shows is appropriate for household retail as set out in IN 13/17 'Treatment of companies' pension deficit repair costs at the 2014 price review'.

Retail costs driven by population transience

Thames Water did not request an adjustment related to the impact of population transience on retail costs in its December or revised business plan. The revised business plan did note that 'occupancy turnover' may have an impact on retail costs. In its representation, Thames Water proposed a new adjustment for the impact of high occupancy turnover and the higher proportion of rented accommodation in its operating region (population transience) on its retail costs, primarily doubtful debt.

We have not accepted Thames Water's claim for retail costs driven by population transience for the final determination. In particular, we consider the modelling evidence demonstrating the link between transience and doubtful debt was inconsistent and not sufficiently convincing and there was not sufficient evidence that the increased doubtful debt was beyond efficient management control. We have therefore not included an adjustment in the company's final determination.

Costs relating to the Thames Tideway Tunnel

Thames Water requested this adjustment to cover the additional retail costs (principally comprising bad debt and commissions) that arise from Thames Water acting as the principal to the billing arrangements with the Infrastructure Provider. The value of the company's proposed adjustment in its December business plan was £24.9m, but Thames Water reduced this to £13.5m in its revised business plan. We did not accept Thames Water's ACTS adjustment claim for increased retail costs due to the TTT in our draft determination. Our assessment remains unchanged.

Table A5.4 outlines our assessment of Thames Water's proposed ACTS adjustment. The value of the adjustments we have accepted in our final determination are summarised in Table A5.5.

Further details on our assessment are set out in Annex 2 – Household retail. Our approach to assessing adjustment claims is set out in policy chapter A5.

Table A5.4 Thames Water's proposal for ACTS adjustments

		Adjustment assessment criteria			
Adjustment	Value (£m over 2015-20)	Materiality	Beyond efficient management control	Impact company in materially different way	Value of adjustment appropriate
Population transience	93.2	Pass	Fail	Fail	N/a
TTT	13.5	Fail	N/a	N/a	N/a

Notes: For household retail, materiality is defined as being 2.25% of household retail opex plus depreciation over 2015-20.

Table A5.5 Household retail adjustments (£ million, nominal prices)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Adjustments included in final determination						
Population Transience	0.000	0.000	0.000	0.000	0.000	0.000
Thames Tideway Tunnel	0.000	0.000	0.000	0.000	0.000	0.000
Pension deficit repair costs	1.674	1.674	1.674	1.674	1.674	8.371
Adjustments included in final determination	**1.674**	**1.674**	**1.674**	**1.674**	**1.674**	**8.371**

Note: There will be no automatic indexation for retail price controls to RPI.

A5.3.3 New costs

In its revised business plan, Thames Water included £77.5 million of new costs related to an investment in its Customer Relationship Management and Billing system. In the draft determination, we noted that Thames Water's new costs were not materially increasing. However, as the company included £21.9 million for retail IT investment in its business plan for 2010-15 we exercised regulatory judgement and assessed the evidence associated with the new costs to ensure that customers would be protected from funding the same investment twice.

In the draft determination, we concluded that Thames Water had provided sufficient evidence for customer protection relating to the new costs. However, Thames Water had not provided sufficient and convincing evidence to support the need for the investment, options analysis on the new costs or the robustness of cost estimates. We therefore challenged the company in the draft determination to provide this evidence.

In its representations, the company provided further evidence to support the retail IT investment. It also proposed an outcome with associated PC (PC) and ODIs to protect customers which we have strengthened in the final determination relative to the company's revised business plan and representation position. Thames Water also 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.

Overall, we have accepted these costs which are not material when assessed against the materiality threshold, and the proposed outcome in the company's final determination. As outlined in policy chapter A5, we have allowed new costs up to the materiality threshold for any company proposing new costs. We consider this to be a proportionate approach. This will allow companies to include limited cost increases, which are not material when assessed against the materiality threshold, in their business plans, thereby avoiding the need for a full and detailed review of the evidence of all future such new costs.

Table A5.6 New household retail costs (£/customer)

	Value
Modification made to 2013-14 cost to serve (CTS) for ACTS calculation	0.28

Note: There will be no automatic indexation for retail price controls to RPI.

A5.3.4 Overall efficiency challenge

In its representation, Thames Water set out that the allowed revenues included in the draft determination would the company with too great an overall efficiency challenge. This is because the draft determination reduced Thames Water's allowed expenditure by 11% compared to the company's business plan. The representations discussed above on specific aspects of retail costs were intended to address this, by reducing the overall size of the company's efficiency challenge.

In the final determination, the reduction in allowed expenditure relative to the company's business plan for Thames Water is 4.9%. The reduction in the efficiency

challenge relative to the draft determination is primarily due to the reallocation of Thames Water's costs from the additional cost to serve metered costs to base costs.

We have considered Thames Water's position relative to other companies in household retail. Comparing the revenues companies requested to the revenues excluding net margins that we have allowed, eight companies face a higher efficiency challenge as a percentage than Thames Water for household retail. Furthermore, the methodology for setting household retail price controls allows companies with costs above the ACTS a three-year glide-path down to the ACTS, in order to allow inefficient companies time to realise efficiency improvements.

Overall, we therefore consider that the overall size of the efficiency challenge is appropriate.

Thames Water also argued that the allowed household retail revenues in the draft determination would leave the company's household retail business in an unsustainable financial position if it were a stand-alone company. These issues are discussed in the financeability and affordability chapter (see table A7.5).

A5.4 Calculating the allowed revenues

As set out in policy chapter A5, total allowed household retail revenues are calculated taking account of our assessment of the cost to serve per customer (after the impact of our efficiency challenge), the projected customer numbers in the company's revised business plan and the household retail net margin.

For the purposes of calculating the retail net margin, we have included revenue arising from the TTT Control and the pass through of revenue to the IP. In calculating the effect of the margin we have reallocated the revenue that Thames Water implies will be passed to the IP in 2015-16 to 2016-17. This is consistent with the approach Thames Water has proposed for the IP given the appointment of the IP is expected to be after bills have been issued for 2015-16. As the actual revenue that will be passed through to the IP is not known at this stage we will consider a true-up for the impact of the pass through of revenue to the IP on the calculation of the net margin when we next set price controls, if material.

The company proposed net margins of 1%. This is in line with our risk and reward guidance and our further consideration of margins following representations on draft determinations. We have therefore accepted the company's proposals.

The table below shows the household retail net margin over 2015-20.

Table A5.7 Household retail net margins (%)

	2015-16	2016-17	2017-18	2018-19	2019-20
Household retail net margin	0.01	0.01	0.01	0.01	0.01

Table A5.8 Components of the allowed household retail revenue (nominal prices)

	2013-14	2015-16	2016-17	2017-18	2018-19	2019-20
Company cost to serve (£/customer)						
Unmetered single service customers	21.7					
Unmetered water and wastewater customers	28.3					
Metered water only customers	30.3					
Metered wastewater only customers	26.9					
Metered water and wastewater customers	39.4					
Industry ACTS (£/customer)						
Unmetered single service customers	21.47					
Unmetered water and wastewater customers	27.91					
Metered water only customers	27.26					
Metered wastewater only customers	25.54					
Metered water and wastewater customers	34.26					

	2013-14	2015-16	2016-17	2017-18	2018-19	2019-20
Allowed cost to serve[1] (£/customer)						
Unmetered single service customers		20.7	20.7	21.1	21.3	21.6
Unmetered water and wastewater customers		27.0	27.0	27.4	27.7	28.1
Metered water only customers		28.6	27.9	27.6	27.1	27.4
Metered wastewater only customers		25.6	25.4	25.3	24.9	24.8
Metered water and wastewater customers		36.9	35.7	35.0	34.0	34.4
Total allowed (£m)						
Cost to serve (excluding net margin)		149.3	150.5	153.9	155.6	160.0
Forecast household wholesale charge (including forecast RPI[2])[3]		1,631.4	1,736.3	1,816.9	1,921.9	2,017.4
Household retail revenue (including an allowance for the net margin)[4]		165.6	167.9	172.1	174.9	180.2

Notes:
There will be no automatic indexation for retail price controls to RPI.
1. Allowed cost to serve includes pension deficit repair costs.
2. The household wholesale charge includes forecast RPI so that the total household retail revenue can be displayed on the same price base as other retail costs.
3. The allocation of allowed wholesale revenue to different wholesale charges will be at the company's discretion, subject to charging rules and licence conditions, however, our assumed allocation of wholesale revenue is binding for the purposes of determining the allowance for the net margin which is one component of allowed household retail revenue.
4. This number is indicative, as allowed revenue will depend upon actual customer numbers.

A5.5 Uncertainty mechanisms

We outline our approach to uncertainty mechanisms in policy chapter A7. We have not provided for any uncertainty mechanisms for Thames Water in household retail, consistent with our approach at draft determination. Thames Water has not made any representations on this aspect of our draft determination and so we have not changed our position for final determinations.

A6 Non-household retail

In 'Policy chapter A6 – non-household retail costs and revenues' ('policy chapter A6'), we outline our overall approach to the non-household retail price control.

In this chapter, we provide details of Thames Water's non-household retail final determination.

A6.1 Consideration of representations on our draft determinations

In policy chapter A1, we provide a list of the respondents to the draft determinations published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our industry-wide approach or company-specific interventions.

Our general policies relevant to the non-household control are set out in the policy chapter A6. This includes our responses to representations on sector-wide issues.

Table A6.1 lists the representations we have received that are specific to Thames Water's non-household retail control and says where to find more information on our responses to company-specific issues in this document.

Table A6.1 Representations specific to the non-household retail control of Thames Water

Area	Company specific representations	Detailed commentary in this company appendix
Net margins	N/a	Section A6.3
Cost proposals	Thames Water	Section A6.4
Form of control	Thames Water	Section A6.5

A6.2 Indicative non-household retail total revenue

Table A6.2 below shows the indicative total of non-household allowed revenue. The table is indicative, as it does not assume any gains or losses from competition or impacts from the company charging customers at levels different to the relevant default tariffs for the projected customers in each customer type. Furthermore, the controls for each customer type we have set now will only apply for two years; there will be a review in 2016. Years 2017-18 to 2019-20 below are shown for illustrative purposes only.

Table A6.2 Indicative non-household retail total revenue price control including net margins (£ million, nominal prices)

	2015-16	2016-17	2017-18	2018-19	2019-20
Indicative non-household retail total revenue price control including net margins	29.3	29.9	30.2	30.7	31.1

Note: There will be no automatic indexation for retail price controls to RPI. The non-household wholesale charge includes forecast RPI so that the total non-household retail revenue can be displayed in the same price base as other retail costs. Figures exclude retail services to developers and revenues associated with miscellaneous charges.

A6.3 Net margins

The company proposed net margins that equal 2.5% in aggregate. This is in line with our risk and reward guidance and our further consideration of margins following representations on draft determinations. We have therefore accepted the company's proposals.

A6.4 Cost proposals

In its representations, the company proposed a change to its cost allocations between different non-household retail customer types. The changes flow from the company making a small reduction to its projected costs. Upon reviewing the proposed changes, we did not identify any concerns with the company's proposals. We have therefore accepted the company's updated allocations.

The company made representations on our approach to deflating retail costs by the difference in RPI between 2012-13 and 2013-14. We agree that deflating companies' costs would not be appropriate for final determinations, as it would effectively be embedding an additional efficiency challenge due to the controls being set on a nominal basis. We have therefore set the retail controls based on companies' non-deflated 2013-14 costs (prior to any subsequent adjustments). For further details, see policy chapter A6.

As set out in policy chapter A6, we have adjusted companies' costs to align to the 2013-14 base year. Historical costs are therefore presented in 2013-14 prices, and all future costs and revenues in nominal prices. As set out in policy chapter A6, we expect our decisions on the total level of non-household retail costs now, will still apply for years 2017-18 to 2019-20 – the 2016 review will focus on the allocations between different non-household customer types.

In IN 13/17: 'Treatment of companies' pension deficit repair costs at the 2014 price review' we explained how we would treat the costs associated with water companies reducing the deficits in their defined benefit pension schemes at the 2014 price review. Where companies' proposals have differed from our calculations, we have over-written their proposals in line with our overall approach. This resulted in the company's proposals being adjusted from £1.000 million over 2015-20, to £1.342 million.

Overall, the company's proposed costs increase by more than our non-household retail materiality threshold of 5.3% between 2015 and 2020. In the draft determination, we did not accepted increases above the materiality threshold as we did not consider the company's supporting information to be sufficient.

In its representations, the company provided further detail of its proposed customer relationship management and billing systems, and a forecast of additional market opening costs.

However, the company's representations did not include the opex and depreciation profile for the proposed customer relationship management and billing systems. We queried the company requesting further details on these costs. The company informed us that the depreciation over 2015-20 was largely offset by opex savings. As the proposed customer relationship management and billing systems appeared to be cost neutral over the period, we queried the company as to what was driving the increase in costs. Our assessment of the new costs the company set out in its query responses is set out in Table A6.3. Overall, we have reduced the company's proposed new costs down to our materiality threshold.

Table A6.3 New costs claimed by Thames Water for the Non-Household Retail control

Cost increases in the company representation	Our assessment
Market preparation £4 million	The company did not undertake any benchmarking for most of the costs proposed. Some of these costs related to developing new tariffs, which is a capability that the company should already have in order to comply with its duties and obligations. Some of the costs related to wholesale retail separation, which is not a mandated requirement on companies (although companies may choose such structures if they so wish). The company-specific costs for market preparation were not supported by any customer acceptability testing. It is also unclear what effect funding these activities would have on ensuring a level playing field with new entrants.
Central market costs £4 million	The company detailed how it calculated the costs using figures included in the 'Consultation on Ofwat's section 13 proposal to modify the licences of all appointees in England and Wales – condition R1'. The company stated that it took the mid-point of the total forecast over 2015-20, weighted by its contribution level (20%), and divided by two to reflect wholesale contributions. However, this calculation is incorrect; it is only the market operator running costs that are split 50:50 between wholesale and non-household retail; the remaining costs are being funded through the wholesale control. Therefore, the total market operator contributions to be recovered from Thames Water's non-household retail function are £2.612 million. On their own, these costs fall below our materiality threshold.
Metering improvements and water efficiency £1 million	The company provided no evidence as to the efficiency, need, or customer support.
Water only commissions £ 3 million	The company provided no evidence as to the efficiency, need, or customer support.

Cost increases in the company representation	Our assessment
Change to cost allocation methodology £4 million	The company provided no evidence as to the efficiency, need, or customer support. It is unclear why this would not be reflected in the base year position.
Service improvements £4 million	The company provided no evidence as to the efficiency, need, or customer support.
Central recharges £2 million	The company provided no evidence as to the efficiency, need, or customer support.
New depreciation £8 million	The company provided further detail of its proposed customer relationship management and billing systems in its representations. The company informed us that the depreciation over 2015-20 was largely netted off by opex savings.

Overall, we have reduced the company's proposed new costs down to our materiality threshold. This effectively gives the company £4.865 million over the period greater than if its base year costs had simply been rolled forward.

In total, this resulted in the company's proposed costs being adjusted from £114.944 million over the control period to £96.659 million.

A6.5 Form of control

In 'Setting price controls for 2015-20, Draft price control determination notice: technical appendix A5 – non-household retail', we recognised that some companies could benefit from having further time to consider and address any issues ahead of the introduction of competition into the non-household retail market in April 2017.

Our final determination on the form of control is set out in policy chapter A6. In that document, we confirm the basic form of control set out in our final methodology statement, but with a two-year initial duration and with a review in 2016.

A6.6 Average revenue controls

The allowed average retail cost component (£) and the allowed net margin (%) for each customer type are shown in the table below for Thames Water.

The average retail revenue per customer – £ (r) – has also been shown. For the avoidance of doubt, it is the average cost component and the allowed net margin that make up the non-household retail control. The average retail revenue per customer is shown only to help comparisons to be drawn.

Table A6.4 Non-household retail average controls per customer

Customer type	Units	2015-16	2016-17	2017-18	2018-19	2019-20
[0 – 500] [0 – 500m3] [water] [metered]	£	23.39	23.64	26.16	26.24	25.94
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	27.78	28.16	30.76	30.95	30.69
[500 – 1,000] [500 – 1,000m3] [water] [metered]	£	44.35	44.01	58.72	60.26	58.53
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	64.64	64.97	80.21	81.68	80.59
[1,000 – 5,000] [1,000 – 5,000m3] [water] [metered]	£	60.34	59.48	55.69	56.83	55.73
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	116.51	117.87	114.55	116.56	116.11
[5,000 – 20,000] [5,000 – 20,000m3] [water] [metered]	£	89.07	88.13	83.81	84.54	84.08
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	311.73	319.65	317.34	321.57	323.77
[20,000 – 50,000] [20,000 – 50,000m3] [water] [metered]	£	130.71	128.52	121.85	122.71	123.72
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	817.30	842.70	843.30	854.07	863.89
[50,000 – 250,000] [50,000 – 250,000m3] [water] [metered]	£	230.24	224.68	215.55	215.33	219.69
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	2,189.30	2,263.72	2,271.34	2,300.84	2,331.14
[250,000 +] [250,000 +m3] [water] [metered]	£	712.93	718.67	659.19	658.52	697.71
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	7,839.30	8,088.34	8,140.03	8,242.20	8,347.45
[0 – 500] [0 – 500m3]	£	31.12	31.35	30.23	29.98	30.28

Customer type	Units	2015-16	2016-17	2017-18	2018-19	2019-20
[sewerage] [metered]	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	35.15	35.70	34.70	34.74	35.34
[500 – 1,000] [500 – 1,000m3] [sewerage] [metered]	£	60.49	60.44	56.99	56.64	56.92
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	78.82	80.11	78.04	78.78	80.32
[1,000 – 5,000] [1,000 – 5,000m3] [sewerage] [metered]	£	84.55	83.96	78.76	78.73	78.58
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	126.39	129.17	126.57	130.61	133.73
[5,000 – 20,000] [5,000 – 20,000m3] [sewerage] [metered]	£	128.99	126.43	119.40	119.02	120.44
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	287.62	298.18	301.75	317.30	331.62
[20,000 – 50,000] [20,000 – 50,000m3] [sewerage] [metered]	£	194.58	187.88	177.35	176.32	181.40
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	703.61	739.54	763.27	814.30	860.50
[50,000 – 250,000] [50,000 – 250,000m3] [sewerage] [metered]	£	348.76	332.03	310.87	310.55	321.67
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	1,696.98	1,794.24	1,867.45	2,002.75	2,126.31
[250,000 +] [250,000 +m3] [sewerage] [metered]	£	1,232.94	1,173.82	1,140.01	1,138.86	1,206.62
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	4,395.21	4,585.11	4,711.00	5,018.01	5,327.65
[0 – 500] [0 – 500m3] [trade effluent] [metered]	£	32.91	32.98	32.03	31.99	32.20
	%	2.6%	2.6%	2.4%	2.4%	2.4%
	£ (r)	40.43	41.31	40.39	40.64	41.29
[500 – 1,000] [500 – 1,000m3] [trade effluent] [metered]	£	63.29	61.98	58.52	58.46	58.40
	%	2.4%	2.6%	2.6%	2.5%	2.5%
	£ (r)	81.69	83.39	81.43	81.76	83.42
[1,000 – 5,000] [1,000 –	£	84.87	84.28	78.48	78.40	78.60

Customer type	Units	2015-16	2016-17	2017-18	2018-19	2019-20
5,000m3] [trade effluent] [metered]	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	127.02	129.83	128.85	131.65	134.67
[5,000 – 20,000] [5,000 – 20,000m3] [trade effluent] [metered]	£	129.57	127.21	119.80	119.68	120.86
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	305.16	317.08	327.76	339.22	355.14
[20,000 – 50,000] [20,000 – 50,000m3] [trade effluent] [metered]	£	193.75	184.46	179.14	178.96	180.99
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	920.32	975.75	1,036.47	1,085.20	1,150.67
[50,000 – 250,000] [50,000 – 250,000m3] [trade effluent] [metered]	£	344.61	328.09	306.84	306.52	324.76
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	3,155.69	3,377.53	3,645.66	3,836.81	4,077.74
[250,000 +] [250,000 +m3] [trade effluent] [metered]	£	1,291.66	1,229.72	1,140.01	1,138.86	1,206.62
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	11,291.96	12,064.10	13,024.45	13,704.97	14,585.71
[0 – 500 Business Assessed] [0 – 500m3] [water] [unmetered]	£	23.18	23.44	25.96	26.03	25.79
	%	2.5%	2.5%	2.8%	2.7%	3.0%
	£ (r)	27.00	27.23	30.09	29.80	29.77
[500 – 1,000 Business Assessed] [500 – 1,000m3] [water] [unmetered]	£	44.82	44.65	59.75	60.65	59.16
	%	2.6%	2.5%	2.4%	2.5%	2.5%
	£ (r)	66.23	65.17	79.10	79.71	76.59
[1,000 – 5,000 Business Assessed] [1,000 – 5,000m3] [water] [unmetered]	£	60.38	59.66	55.83	56.83	55.75
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	108.14	106.83	100.33	98.50	94.51
[5,000 – 20,000 Business Assessed] [5,000 – 20,000m3] [water] [unmetered]	£	95.21	90.64	88.03	87.94	93.18
	%	2.4%	2.5%	2.4%	2.4%	2.3%
	£ (r)	291.09	288.92	272.05	259.85	244.96

Customer type	Units	2015-16	2016-17	2017-18	2018-19	2019-20
[0 – 500 Business Assessed] [0 – 500m3] [sewerage] [unmetered]	£	28.87	29.09	28.19	27.95	28.28
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	31.91	32.21	31.17	30.87	31.03
[500 – 1,000 Business Assessed] [500 – 1,000m3] [sewerage] [unmetered]	£	61.66	61.89	58.25	58.19	58.38
	%	2.6%	2.4%	2.5%	2.4%	2.4%
	£ (r)	74.72	74.35	70.38	69.81	69.39
[1,000 – 5,000 Business Assessed] [1,000 – 5,000m3] [water] [unmetered]	£	84.92	83.64	78.52	78.44	78.81
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	110.09	109.84	103.63	102.85	101.23
[5,000 – 20,000 Business Assessed] [5,000 – 20,000m3] [water] [unmetered]	£	125.81	119.78	116.33	116.21	123.12
	%	2.6%	2.7%	2.6%	2.6%	2.4%
	£ (r)	237.09	236.76	224.71	220.85	214.45
[Unmeasured RV + Fixed] [N/A] [water] [unmetered]	£	23.87	24.01	26.56	26.54	26.60
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	27.48	27.62	30.14	29.87	29.78
[Unmeasured RV + Fixed] [N/A] [sewerage] [unmetered]	£	27.98	27.99	27.22	26.98	27.54
	%	2.5%	2.5%	2.5%	2.5%	2.5%
	£ (r)	30.64	30.68	29.83	29.52	30.00

A7 Appointee financeability and affordability

In this chapter, we discuss at an appointee level:

- bills and K factors;
- RoRE;
- financeability; and
- affordability.

However, we first consider the responses to our draft determination that are specific to Thames Water's treatment in these areas below.

A7.1 Consideration of representations on our draft determinations

In policy chapter A1, we provide a list of the respondents to the draft determinations published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our industry-wide approach or company-specific interventions.

Our general policies relevant at appointee level are set out in the following policy chapters that accompany our final determinations. These include our responses to representations on sector-wide issues.

- Policy chapter A7
- Policy chapter A8

Table A7.1 lists the representations we have received that are specific to Thames Water at an appointee level and sets out where to find more information on our responses in this document.

Table A7.1 Representations specific to issues at an appointee level for Thames Water

Area	Company specific representations	Detailed commentary
Bills and K factors	Thames Water CCG CCWater	Section A7.2

Area	Company specific representations	Detailed commentary
Appointee level uncertainty and gain share mechanisms	None	Section A7.3
RoRE range	Thames Water	Section A7.4
Financeability	Thames Water	Section A7.5
Affordability	Thames Water CCWater	Section A7.6
Financial modelling	None	Section A7.7

A7.2 Bills and K factors

Table A7.2 Ofwat response to representations

Respondent	Summary of comment	Ofwat response
Thames Water	Thames Water proposed that revenue be advanced from 2020-25 to 2015-20 to provide for a smoother increase to average household bills, while ensuring that bills do not increase during 2015-20 in real terms before the inclusion of TTT charges. The impact of this is to add £25 million of allowed revenue to both water and wastewater controls in each year of the 2015-20 period. (Total: £250million over 2015-20.) Thames Water makes it clear that if other changes are made post draft determination then these new rates may need to be adjusted.	We recognise there is some uncertainty for Thames Water's bill profile beyond 2020 that arises both from Thames Water's own regulatory activities and as a result of the bill impact of the Infrastructure Provider. However, robust evidence is required if a company requests that it brings revenue forward into 2015-20 to maintain a target bill profile. We concluded that the evidence provided by Thames Water in the light of the uncertainties with future bill profiles, was not sufficient to justify advancing revenues to smooth bills into 2020-25. However, in recognition of the need for smooth movements in bills once the bill impact of the Infrastructure Provider is taken into account, we have used PAYG rates to profile Thames Water's average bill within 2015-20 without advancing revenues

Respondent	Summary of comment	Ofwat response
		from beyond 2020. We set out the detail of our assessment in table A7.8
CCWater	CCWater noted in its response to Thames Water's representations that the TTT is the main driver of bill increases for Thames Water's customers and that it would support a smooth bill profile, but that any PAYG revenue brought forward to smooth bills for this purpose should be ring-fenced for customers.	We have considered the representations from CCWater and the CCG and the possible impact of the TTT on Thames Water's bill profile. We have not accepted Thames Water's proposals as discussed above.
CCG	The **CCG** also noted that customer research conducted in 2014 has shown that the majority of customers prefer 'flat' or gently increasing aggregate water and sewerage prices over the coming decade	

Table A7.3 Thames Water's final determination – K factors, allowed revenues and customer bills[1] below sets out the allowed revenues we have assumed in our final determination for Thames Water to deliver its:

- statutory duties; and
- associated PCs.

It also sets out the average customer bills on the basis of the final determination. The actual average bill for Thames Water's customers will include the effect of:

- The bill impact of the price controls that are the subject of this price determination. This includes all of Thames Water's regulated activities, including the preparatory works it will undertake in respect of the TTT.
- The bill impact arising from the activities to be undertaken in respect of the financing and construction of the TTT by a separate Infrastructure Provider (IP).

We have not determined the IP's revenues at this price review. Instead, the IP's revenues (particularly during the construction phase) will be calculated by reference to the terms of its licence and by reference to the outcome of a competitive

procurement process that is currently being undertaken by Thames Water. The assumptions made for the bill impact of the IP are those stated by Thames Water in its business plan. We have taken account of the average bill impact, including the effect of the IP, when considering the appropriate bill profile for the final determination.

Table A7.3 Thames Water's final determination – K factors, allowed revenues and customer bills[1]

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Wholesale water – allowed revenues (£m)[2]	790.7	790.1	790.3	792.5	799.4	3,962.9
Wholesale water – K (%)[3]	0.0%	0.5%	0.1%	0.1%	0.7%	-
Wholesale wastewater (excl. TTT Control) – allowed revenues (£m)[2]	898.4	894.4	887.8	880.4	862.5	4,423.6
Wholesale wastewater (excl. TTT Control) – K (%)[3]	0.0%	0.1%	-0.6%	-1.0%	-2.2%	-
TTT Control – allowed revenues (£m)	42.1	46.5	49.0	51.0	52.4	240.9
TTT Control [3,5] – K (%)	0.0%	11.0%	5.4%	4.0%	2.5%	-
Retail household allowed revenue (£m)	165.6	167.9	172.1	174.9	180.2	860.7
Retail non-household expected revenue (£m)	29.3	29.9	30.2	30.7	31.1	151.2
Average household bill – water (£)	198	196	195	194	195	-
Average household bill – wastewater (excl. TTT) (£)	161	159	158	155	152	-
Average household	7	7	7	8	8	-

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
bill – TTT Control (£)[6]						
Average household bill – wastewater incl. TTT Control (£)	167	166	165	163	160	-
Average household bill – combined (incl. TTT Control) (£)[4, 5]	347	345	342	338	336	-
Average household bill – IP (£)[7]	2	6	12	20	26	
Average household bill – combined[4], incl. IP and TTT Control (£)	349	351	354	358	362	-
Average household bill – TTT Control and IP only (£)	9	13	19	28	34	-

Notes:
1. Wholesale figures in 2012-13 prices and retail figures in nominal prices.
2. The allowed revenue for our final determination is based on an implied menu choice. The company will have the opportunity to make its own menu choice, which will impact on its allowed revenues and customers' bills from 2020. Customer bills in the regulatory period from 2020 will also be affected by Thames Water's performance in the forthcoming regulatory period in relation to costs and the regulatory incentives in place for performance delivery and revenue projection performance.
3. As discussed in policy chapter A3, K is set to zero for 2015-16 for wholesale water and wastewater because there are no directly equivalent wholesale revenues for 2014-15 (on account of the new price review structure). As such, there is no reference point against which to express a change in K.
4. The average combined household bill is not equal to the sum of the average household water bill and the average household wastewater bill due to the use of the economies of scope factor in the household retail price control.
5. It should be noted the average household bill illustrated above reflects a notional allocation (by Ofwat but based on the company's split of household and non-household customers) of the overall wholesale revenue requirement across Thames Water's household and non-household customer base. In practice, this will depend upon the structure of wholesale charges implemented by Thames Water.
6. We have not attempted to profile the TTT bill impact.
7. The average household bill that relates to the IP is uncertain at this stage. The IP revenues are not determined by Ofwat in the IP's construction phase. Instead, this will be determined by a competitive procurement exercise and the terms of the IP's licence. The bill profile presented here is the one estimated by Thames Water in its June plan.

As discussed in policy chapter A3, K is set to zero for 2015-16 for wholesale water, wastewater and the TTT Control because there are no directly equivalent wholesale revenues for 2014-15 (on account of the new price review structure). As such, there is no existing reference point against which to express a change in K.

The base (2014-15) revenue allowance we have set is the financial year average revenue for 2015-16 adjusted for inflation. We set this out for Thames Water in the table below.

Table A7.4 Thames Water's allowed wholesale revenue for 2014-15'

Thames Water	Wholesale water	Wholesale wastewater	TTT Control
Allowed wholesale revenue 2014-15 (£ million)	834.2	947.9	44.4

Note: The TTT Control was not place in 2014-15; the calculation presented here is for comparative purposes only.

A7.3 Uncertainty and gain share mechanisms

We outline our approach to uncertainty mechanisms and "pain and gain share" in policy chapter A7. In Table A7.5 below, we set out Thames Water's proposed appointee level uncertainty mechanisms and our assessment of these proposals.

Table A7.5 Thames Water proposals for appointee level uncertainty and gain share mechanisms

Assessment at draft determination	Our assessment
In our draft determination, we did not provide for any appointee level uncertainty mechanism for Thames Water, nor did Thames Water propose any gain share mechanisms. Thames Water has not objected to our approach in the draft determination.	No change to draft determination position on uncertainty mechanisms. We have not provided for any mechanism and the company has not objected.

A7.4 RoRE range

Thames Water has estimated the range of RoRE that it could earn dependent on its performance and external risk factors over the price control period. The RoRE range reflects the company's views and is based on an efficient company with the notional

capital structure[4]. We have identified the RoRE impact separately for ODIs, totex performance, financing and the SIM. We note that Thames Water's actual returns may differ from notional returns due to differences between notional and actual capital structure, notional and actual cost of debt, and the level of cost efficiency compared to allowed totex and household retail ACTS.

Table A7.6 Whole company RoRE range

	Lower bound (%) – appointee	Upper bound (%) – appointee
Overall	-3.9%	+3.2%
ODIs	-1.5%	+0.8%
Totex	-1.4%	+1.6%
Financing	-0.7%	+0.7%
SIM	-0.4%	+0.2%

Commentary:

The whole company RoRE range is from 1.7% to 8.9%, with a base case of 5.6%. This translates to a downside impact of -3.9% and an upside variance of +3.2% as shown in the table. We have modified the draft determination RoRE range to exclude additional returns from non-household retail control to be consistent with approach in our risk and reward guidance. This lowers the base case returns from 5.7% to 5.6%.

Thames Water has not made any substantive changes in its totex submissions. However, it has corrected an error that we had not previously discovered, resulting in a totex risk range of -1.4% to +1.6%, compared to -2.0% to +1.4% at the draft determination. The company has modelled totex performance variance by applying a Monte Carlo methodology to detailed data about its underlying cost drivers and to macro-economic variables. We consider its approach to be robust and the resultant RoRE impacts are broadly in line with other companies. We have not made any adjustments for our interventions on totex or inclusion of a menu for the majority of TTT Control costs.

The ODI risk range included in our draft determination for Thames Water was -1.8% to +0.5%. We have amended this range to -1.5% to +0.8% to account for our interventions. Of this range, -0.3% to +0.0% is associated with delivery incentives for special cost claims, including those in the TTT control.

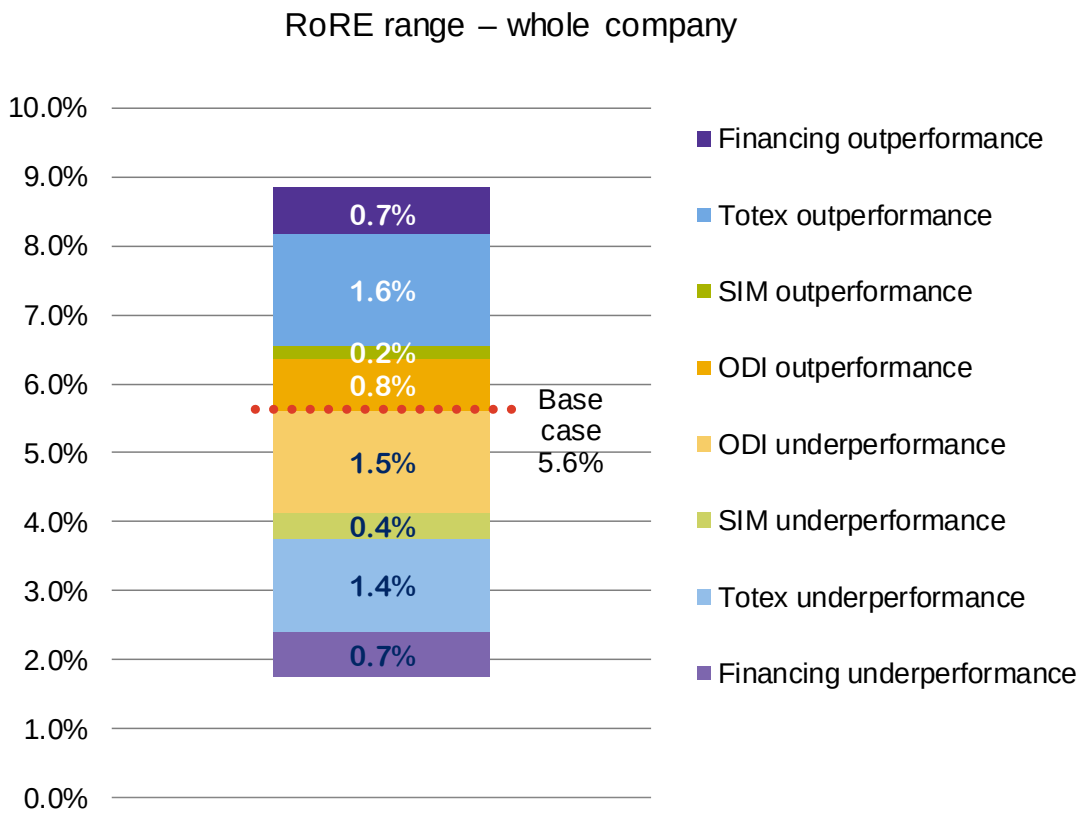
Notwithstanding the concerns we set out in our draft determination, Thames Water's estimate for financing risk is unchanged at ±0.7% of RoRE. We continue to consider that the

[4] The notional capital structure is the capital structure that reflects Ofwat's assumption of an appropriate level of gearing to use in determining the allowed WACC.

	Lower bound (%) – appointee	Upper bound (%) – appointee
company's approach overestimates financing risk in a number of ways. For example, it treats forecast and non-forecast changes in interest rates as the same and it treats UK government rates and corporate interest rate spreads as independent. However, as financing risk is a relatively small component of the RoRE range, we have not intervened to adjust the rate for the purpose of our final determination Thames Water's estimate of its SIM risk is also unchanged at -0.4% to +0.2%. It is based on maximum reward and penalties (+6% to -12% of household revenue) reflecting its view that it would be feasible for it to achieve a SIM outturn at either end of the range.		

The composition of the RoRE range for Thames Water at an appointee level is shown in Figure A7.1 below.

Figure A7.1 Thames Water's RoRE range – appointee



Source: Our calculations based on information from Thames Water
Note: Numbers presented based on calibration of the ODIs against an assumed menu choice of a 50% sharing factor

A7.5 Financeability

Ofwat has a statutory duty to secure that a company is able to finance the proper carrying out of its functions. We interpret this financing duty as requiring that we ensure that an efficient company with a notional capital structure is able to finance its functions. A company's actual capital structure is a choice for the company and it bears the risk associated with its choices. An efficient company is assumed to be able to deliver its plans based on the expenditure allowance in our final determination.

We set out our approach to assessing financeability in policy chapter A8.

Consistent with our PR14 methodology, we have asked companies to provide Board assurance on their financeability and to set out their target credit ratings and financial ratios for the notional company. As part of our assessment, we consider the evidence of financeability provided by companies and model their business plan and our draft and final determination financial ratios.

Table A7.7 Representations specific to financeability for Thames Water

Respondent	Summary of comment	Ofwat response
Thames Water	Ofwat's approach to the calculation of financial ratios does not reflect the approach used by credit rating agencies and FFO/debt is below the 9% threshold used by Standard & Poor's.	Each of the rating agencies has their own approach to calculating financial ratios, which can differ between agencies and change over time. We consider our financial ratio calculations provide an appropriate basis for assessing the financeability of an efficient company for the purpose of setting price controls.

Respondent	Summary of comment	Ofwat response
Thames Water	Ofwat's allowed household revenues from the draft determination would leave the household retail business unfinanceable on a stand-alone basis.	We have a duty to secure that companies can finance their functions. We interpret this financing duty as requiring that we ensure that an efficient company with a notional capital structure is able to finance its functions. While we assess financeability at the appointee level, we have also considered whether the household retail control is self-financing. Our allowed household retail revenues at final determination would place an overall efficiency challenge on Thames Water's household retail operation equivalent to 4.9%, this is substantially less that the challenge at draft determination (11%) and a lower efficiency challenge that is being faced by eight other companies (see section A5.3.4). Consistent with the notional efficient company basis of our assessment, we consider that Thames Water is responsible for making adjustments required to align its retail costs to efficient level.

Table A7.8 shows the financial ratios presented in the company's business plan proposals submitted on 27 June 2014 compared to both our draft and final determination.

Table A7.8 Company and Ofwat financial ratio calculations based on the company business plan and financial ratios based on our final determination

Financial ratios for notional company	Financial ratio calculations based on the company business plan (average 2015-20)		Financial ratio calculations based on Ofwat calculations (average 2015-20)	
	Company calculation	Ofwat calculation	Draft determination	Final determination
Cash interest cover (ICR)	2.59	2.68	2.82	2.84
Adjusted cash interest cover ratio (ACICR)	1.25	1.31	1.40	1.40
Funds from operations(FFO)/debt	7.38%	7.99%	8.64%	8.43%
Retained cash flow/debt	4.99%	5.51%	6.10%	5.92%
Gearing	64.62%	64.80%	64.17%	64.58%
Dividend cover (profit after tax/dividends paid)	0.63	0.74	0.94	0.89
Regulatory equity/regulated earnings for the regulated company	18.12	16.59	16.66	16.56
RCV/EBITDA	12.45	12.02	11.57	11.82

Commentary:

In its December business plan, Thames Water provided Board assurance that it was financeable on an actual and a notional basis. On a notional basis its target credit rating is BBB+. In its June plan, Thames Water elected not to use PAYG rates to manage any financeability issues following adoption of the wholesale cost of capital and retail margins consistent with the risk and reward guidance. To meet its target credit rating of BBB+, Thames Water proposed adjusting notional dividends and increasing the level of index linked debt to improve its financial ratios. Thames Water considered that on the basis of these adjustments, it was financeable on the notional capital structure, but that this would not provide a return which is commensurate with the risk which equity assumes.

For the draft determination, our notional financial ratios were above the company's calculations, taking account of our interventions in its plan and appeared broadly consistent with the company's target financial ratios as set out in its plan. We considered there was sufficient evidence that the company was financeable for the draft determination. The ratios from the final determination are at levels consistent with those at the draft determination. We

Financial ratios for notional company	Financial ratio calculations based on the company business plan (average 2015-20)		Financial ratio calculations based on Ofwat calculations (average 2015-20)	
	Company calculation	Ofwat calculation	Draft determination	Final determination

consider that the final determination is financeable. However, for its representations, we invited the company to consider the implications of our wholesale cost interventions for its choice of PAYG and RCV run-off rates, including appropriate engagement with its CCG. We expect that any engagement with customers on financeability should be undertaken on the basis of the notional financial structure.

In its representation, Thames Water stated that its proposed PAYG changes were primarily intended to smooth bills. It considered that it would not impact Moody's calculation of PMICR (post maintenance interest cover ratio, similar to ACICR), but that it would improve notional financial ratios. It considered that the assessment of notional financeability should be aligned with Moody's approach. It concluded that its proposal to bring forward revenue would not compromise the financeability of the company.

We note the comments made by Thames Water with regard to the Moody's calculation of PMICR, but we do not consider that this implies that PAYG changes have no impact on financeability assessment by rating agencies. Increasing the PAYG rate will increase revenue allowed in period and reduce RCV growth rate. While we note Moody's approach to calculation of PMICR, they have also stated that use of PAYG rate could alleviate some financial pressure, and the additional liquidity can fund investments without raising more debt. Other rating agencies such as Standard & Poor's take account of impact on revenue in period from use of PAYG. We also note a number of companies have proposed to use PAYG and RCV run-off rates to manage financeability.

We remain of the view that appropriate use of PAYG and RCV run-off rates provides companies with additional flexibility to manage financeability and affordability.

As explained in policy chapter A8, companies have been allowed to use new tools in the form of pay as you go (PAYG) rates (the proportion of totex recovered in the period 2015-20) and RCV run-off rates (depreciation of the RCV). Both PAYG and RCV run-off rates can be adjusted to change the proportion of costs recovered within the 2015-20 period and the amount added to the RCV and recovered over a longer period. We discuss Thames Water's proposal to use PAYG to smooth customer bills further in section A7.6.

Table A7.2 sets out the PAYG and RCV run-off rates, which shows whether revenue has been brought forward compared to the December plan and the impact that this has on RCV growth and longer-term affordability and financeability. This also reflects our adjustments to PAYG and RCV run-off rates to ensure that wastewater and TTT

Control revenues are correct, as set out in section A3.3.2. Table A7.8 above notes the comments that we have received on these issues that are specific to Thames Water and outlines how our final position, detailed in table A7.9 has been influenced by our consideration of these responses.

Table A7.9 Impact on the longer term

	PAYG rate	RCV run-off	RCV growth (%) – 1 Apr 2015 to 31 Mar 2020
Company December plan	51.1%	4.0%	10.0%
Company June plan	50.7%	4.0%	12.4%
Draft determination	52.3%	4.1%	9.9%
Final determination	51.9%	4.0%	11.0%

A7.6 Affordability

We set out our approach to assessing affordability in policy chapter A8.

Table A7.10 sets out the change in household bill profile between the company's December and June business plans and the draft and final determinations.

Table A7.10 Household bill profile

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Company December plan including IP	349	355	360	367	374	386
Company June plan including IP	354	350	354	359	369	377
Company assessment of IP	0	2	6	12	20	26
Company December plan excluding IP	349	353	354	355	354	360
Company June plan excluding IP	354	348	348	347	349	351
Ofwat calculation for June plan excluding IP	350	343	343	342	342	342
Ofwat calculations for draft determination excluding IP	350	339	343	338	337	337
Ofwat calculation for final determination excluding IP	350	347	345	342	338	336
Ofwat calculation for final determination including IP	350	349	351	354	358	362

Notes:
1. The company and Ofwat plan figures, pertaining to average household bills, contain the contribution from the wholesale water, wholesale wastewater, TTT and household retail price controls.

Companies have not necessarily used the same method of calculating household bills as Ofwat – for example, we have included economies of scope for household retail when calculating combined water and sewerage bills. So the Ofwat calculations are not directly comparable to the company plans (lines 1 and 2 of table A7.10)

The final determination leads to a reduction in bills in 2015-20 before accounting for the elements of the TTT that will be delivered by the Infrastructure Provider. Taking account of customer preferences for smooth bills and the possible bill impact arising for the IP, we have re-profiled non-IP related bills so that there is a steady decline. Once assumptions are taken into account around the bill impact that arises from IP, bills are expected to rise in nominal terms through 2015-20. We consider this profile

is consistent with evidence that Thames Water has provided on customer preference for bill smoothing, given uncertainty about bills beyond 2020.

A7.6.1 Acceptability

In the RBR assessment of affordability, we required Thames Water to submit further evidence to demonstrate the affordability of its plan.

The company responded to our challenge by conducting further research in June 2014. This 'Final acceptability testing' discarded the econometric modelling approach of the company's December submission. Instead, it was able to test the bill profile consistent with its June submission directly with a representative sample of customers.

Overall, 59% of respondents stated that the company's plan including the full impacts of the TTT was acceptable. \without the TTT, acceptability rose to 85%. The company tested its plan with samples from each of its wastewater only areas (where other water only companies provide the water service). Acceptability in these areas was slightly lower at 55%.

Table A7.11 explains the comments that we received that are specific to affordability and outlines how our interventions have been influenced by our consideration of these responses.

Table A7.11 Ofwat response to representations

Respondent	Summary of comment	Ofwat response
CCWater[1]	CCWater conducted research on the acceptability of the draft determination to customers. CCWater did not seek to produce comparable results to the company. The CCWater research suggests 50% of customers find the draft determination acceptable after they have been provided with information on bills, inflation and what the water company will deliver.	We note that the CCWater research was not intended to be comparable. It has produced a significant difference from the research that the company undertook on its revised business plan, which was that 59% found the plan acceptable (taking the impact of the TTT into account). We acknowledge that Thames Water has undertaken extensive research and that it faces a significant challenge in engaging on the impact of the TTT on customers' bills. The company's plan has been developed with input from its CCG. The CCG's role was to help ensure the

Respondent	Summary of comment	Ofwat response
		business plan reflected the views and priorities of customers. We have reviewed the company's acceptability research, which included reviewing the transparency and accuracy of the bill and inflation information. We consider that the acceptability that the company reported is sufficiently robust. We also consider that the CCWater survey results indicate the importance of continued engagement with customers, particularly around the impacts and benefits of the TTT.
Thames Water	Thames Water stated that the revenue implications of our interventions would lead to a bill profile that was not in line with the preferences of its customers. The company undertook further customer research into bill profile preferences, which found that smooth bill profiles were most favoured among its customer base.	The bill profile Thames Water proposed in its representation to the draft determination is lower than the profile presented with the company's June submission. Since there is no evidence of any reduction in the scope or scale of the service package being offered to customers it is reasonable to conclude that the company's proposals will remain acceptable to the majority of its customers. We have amended the bill profile to make it consistent with customer preferences for smooth bills.

Note:
1. CCWater acceptability results sourced from final version of 'Customers' views on Ofwat's draft determinations for process and service 2015-20' October 2014.

A7.7.2 Identification of affordability issues and appropriate support measures

Thames Water has a comprehensive range of affordability measures in place, and outlines in its business plan how it is proposing to both increase the coverage of these schemes and add new initiatives. The key measures are summarised in table 7.12.

Table 7.12 Key affordability measures

Measure	Current coverage (no of customers)	Forecast 2019-20 coverage
WaterSure	6,610	8,000

Measure	Current coverage (no of customers)	Forecast 2019-20 coverage
Water direct	12,063	12,000
Flexible payment plans	2,000,000	2,100,000
Debt advice – 3rd party	Provided under Customer Assistance Fund	
Trust fund/hardship fund	152	No forecast available
Water efficiency advice/audits	New	3,200
Social Tariff	New	37,000
Customer Assistance Fund	3,578	5,500
Benefit entitlement checks	New	5,000
Affordability campaigns	New	Investment of £1m in AMP6

A7.6.3 Longer-term affordability

We concluded in the RBR that Thames Water had not directly engaged with its customers on future affordability. There appeared to be significant increases in PAYG for water and wastewater between 2015-20 and 2020-25 and the impact of these movements on customers' bills had not been adequately explained.

In the revised business plan, the company included additional research on the acceptability of the likely bill profiles in 2020-25. The company's acceptability testing found that a forecast bill level of £70 to £80 above the current bill level in 2020-25 was found to be acceptable to 42% of respondents and unacceptable to 48%. Although Thames Water identified a lack of customer support for longer-term price increases associated with the TTT, the company set out plans to continually engage with its customers on this issue. This includes communicating across a range of media, an ongoing research programme to monitor changing views, promotion of support measures such as its social tariff and ongoing engagement with hard-to-reach groups. The CCG supported the need for the company to have a dedicated strategy for communicating with all its wastewater customers throughout 2015-20, including the justification for the TTT and its cost. The CCG also expect Thames Water to work in close co-operation with the water only companies that bill on its behalf.

Consistent with these views, at the draft determination we introduced a PC requiring Thames Water to engage with its customers to build understanding of the project. Thames Water accepted this PC in its representations.

In its representation to the draft determination, Thames Water proposed to use PAYG to bring £250 million of revenue forward into 2015-20 to smooth customer bills in 2020-25. Thames Water supported this with customer research into bill profiles which found a clear preference for steadily increasing bill profiles during 2015-25 over profiles that delayed price increases until the later years. In its report on Thames Water's representation, the CCG suggested that we should set a smooth bill profile to give customers some stability.

As set out in Table A7.13 we have not accepted Thames Water's proposals to smooth customer bills over 2015-20 but we have made PAYG adjustments within 2015-20 to profile Thames Water's average bill.

Table A7.13 Assessment of changes to PAYG and RCV run-off rates

Area assessed	Commentary	Our final assessment
Quality of engagement	Thames Water consulted with the CCG and engaged customers through an online survey. It also explained issues associated with inflation.	Partial pass
Basis of engagement	The engagement was carried out on the basis of assumed bill increases in 2020. The engagement assumes the bill excluding TTT costs will increase in 2020 (assuming that customer bills would revert to its business plan levels without taking account of the implications of our draft determination for future periods) and assumes maximum potential bill impacts for the Infrastructure Provider. Thames Water did not consider a range of scenarios in its bill profile assumptions.	Fail
Proportionality	The change to PAYG would bring forward 2.5% of revenue. We consider that this scale of adjustment is disproportionate to the scale of the issue, which can be addressed by profiling in the period.	Fail
Evidence of net benefits	There is little evidence of benefits to customers from the revised profile.	Fail
Overall	While Thames Water engaged with its customers, there is no evidence of customer benefit. Under a range of scenarios, bill smoothing can be managed by smoothing inside the periods 2015-20 and 2020-25. We have not accepted the	Fail

Area assessed	Commentary	Our final assessment
	company's PAYG representation as there is insufficient evidence to suggest that the bill profile proposed beyond 2020 is appropriate.	

A7.6.4 Longer-term affordability – ODIs

In the revised business plan, the company carried out customer research to establish the level of support for different ODI options. The research found that predictability of bills was important to almost all customers to allow them to budget and manage their bills. However, there was also support for bills to be linked to service and performance although having a limit to the scope of possible impact on bills was an important caveat. Most customers were shown to support a bill range linked to performance of +/- 1% to 1.5% which has the potential to add between £8 and £12 to customer bills. The company's CCG supported the Company's approach to its new customer research and thought the company's plan appropriately represented consumers' views.

In the draft determination, we proposed that companies include a subset of cross-industry 'horizontal' ODI's within their overall package. In its representation, Thames Water stated that is did not agree that the interventions we made were consistent with its customers' preferences, and recommended that we withdraw our draft determination interventions on the ODI package. We have considered these representations in coming to our final determination ODI package.

Annex 1 Wholesale costs

Establishing final determination thresholds

Our approach to establishing final determination thresholds is outlined in policy chapter A3.

In the tables below, we provide some information on the company-specific numbers that support these calculations.

We also provide detail on our cost assessment for the TTT Control.

Further information about our assessment of each claim is set out in the populated version of final determination cost threshold models.

Table AA1.1 Movement from basic cost threshold to final determination threshold for wholesale water totex (£ million)

Basic cost threshold	Policy additions[1]	Unmodelled costs adjustment	Deep dives	Final determination threshold	Deep dives fully or partially not added[2]
3,483.4	315.7	-26.1	-361.90 (includes totex cap £342.9m)	3,411.1	-161.9[3]

Notes:
1. See Table AA1.2 below.
2. Deep dives are net of implicit allowances. A value of zero means deep dives are wholly covered by IAs.
3. This amount is lower than Thames Water's representation of 50% of the DD cap because the FD cap has been reduced to take account of the adjustment for FWRMP exogenous variables.

Table AA1.2 Policy additions to the wholesale water basic cost threshold (£ million)

Business rates	Pension deficit payments	Third party costs	Open market costs	Net v gross adjustments	Total
258.0	45.3	9.2	3.2	0.0	315.7

Table AA1.3 Comparison of company wholesale water totex with the final determination threshold and 2010-15 totex (£ million)

Plan[1]	Final determination threshold	Gap[2]	2010-15 v Plan
3,248.7	3,411.1	-162.4	291.7

Note:
1. Where the company's business plan total has been adjusted by the company as part of its representations on its draft determination, this is reflected here.
2. This gap will not equal the deep dives fully or partially not added in Table AA1.1 if the company's claims for special treatment in the costs thresholds are not equal to the gap.

Table AA1.4 Summary of wholesale water deep dive assessments (£ million)

Company proposal		Assessment				Final determination allowance	
Claim	Amount sought	Implicit allowance	Need	Cost-benefit analysis	Robust costs	Assessment	Amount allowed
Deep dives							
Representation: Capping	-181.0	0.0	Fail	N/a	N/a	Fail	-342.9
Ofwat adjustment: Updating exogenous variables for FWRMP	0.0	0.0	N/a	N/a	N/a	N/a	-19.0

Table AA1.5 Movement from basic cost threshold to final determination threshold for wholesale wastewater totex (£ million)

Basic cost threshold	Policy additions[1]	Unmodelled costs adjustment	Private sewage pumping stations	NEP5	Update to private sewer model delta	Deep dive	Final determination threshold	Deep dives fully or partially not added
3,059.1	238.9	-63.3	94.3	130.2	-1.6	366.2	3,823.7	7.9

Notes:
1. See Table AA1.6 below.
2. Deep dives are net of implicit allowances. A value of zero means deep dives are wholly covered by IAs.

Table AA1.6 Policy additions to the wholesale wastewater basic cost threshold (£ million)

Business rates	Pension deficit payments	Third party costs	Open market costs	Net v gross adjustments	Total
174.0	41.7	20.0	3.2	0.0	238.9

Table AA1.7 Comparison of company wholesale wastewater totex with the final determination threshold and 2010-15 totex (£ million)

Plan[1]	Final determination threshold	Gap[2]	2010-15 v Plan
3,756.9	3,823.7	-66.8	789.7

Note:
1. Where the company's business plan total has been adjusted by the company as part of its representations on its draft determination, this is reflected here.
2. This gap will not equal the deep dives fully or partially not added in Table AA1.5 if the company's claims for special treatment in the costs thresholds are not equal to the gap.

Table AA1.8 Summary of wholesale wastewater deep dive assessments (excluding TTT) (£ million)

Company proposal		Assessment				Final determination allowance	
Claim	Amount sought	Implicit allowance	Need	Cost-benefit analysis	Robust costs	Assessment	Amount allowed
Deep dives							
Environmental compliance (NEP5 only)	130.2	0.0	Pass	Pass	Pass	Pass	130.2
Deephams STW	206.6	7.0	Pass	Pass	Partial Pass	Pass	199.6
Representation: Lee	75.1	0.0	Pass	Pass	Pass	Pass	75.1

Company proposal		Assessment				Final determination allowance	
Claim	Amount sought	Implicit allowance	Need	Cost-benefit analysis	Robust costs	Assessment	Amount allowed
Tunnel including Shaft G							
Representation: Counters Creek.	257.4	136.6	Pass	Pass	Partial Pass	Partial Pass	90.6
Representation: Open water competition costs.	7.9	0.0	N/a	N/a	N/a	Fail	0.0

Table AA1.9 below summarises the TTT Control deep dive assessment. In its representation, Thames Water set out totex for the TTT Control on the assumption that there would be a separate price control. Thames Water's representation included totex of £404m for the TTT Control in 2015-20, a significant reduction from the £655 million included in its June plan, but this was accompanied by a broadly defined uncertainty mechanism. Thames Water provided additional evidence in support of its cost estimate in its representation compared with the June business plan, responding to most of the challenges we made at the draft determination. We have not accepted the broadly defined uncertainty mechanism proposed by Thames Water. We have responded to Thames Water's representation by increasing the costs allowed for the TTT Control to take account of a central view of development costs (based on Thames Water's central view of the timing of appointment of the IP) and introducing a tightly defined uncertainty mechanism covering limited circumstances demonstrably outside Thames Water's control or material influence and unique within the sector, as set out in section A4.5.

Table AA1.9 Summary of TTT Control deep dive assessment (£ million)

Company proposal		Assessment				Final determination allowance	
Claim	Amount sought	Need	Cost-benefit analysis	Robust costs	Customer protection	Assessment	Amount allowed
TTT	404.4	Pass	Pass	Partial pass	N/a	Partial Pass	408.4

Notes:

1. We applied challenges to land costs, indirect costs, and risk. We have allocated £5.8 million of non-land costs that Thames Water included in 2014-15 into 2015-16, unwinding accruals into the year they were incurred and re-phasing work likely to be completed in 2015-16. Our net challenge to Thames Water's costs totals £17 million. We have also applied a £20.5 million uplift to Thames Water's development costs to properly reflect P50 development risk because we are rejecting the broadly scoped Notified Item that Thames Water proposed in its representation. The TTT deep dive assessment (DD01) includes detailed commentary of our combined approach to costs and uncertainty.
2. See section A4 for more information on the TTT Control.

Annex 2 Household retail

Details on our assessment of proposed adjustments to the ACTS

Our approach to setting the industry ACTS is outlined in policy chapter A5.

Below we provide information on our assessment of the company-specific adjustments to the ACTS.

Population transience – summary

- Thames Water did not request an adjustment related to the impact of population transience on retail costs in its December or revised business plan.
- The revised business plan did note that 'occupancy turnover' may have an impact on retail costs.
- In its representation, Thames Water proposed a new adjustment for the impact of high occupancy turnover and the higher proportion of rented accommodation in its operating region (population transience) on its retail costs, primarily doubtful debt.
- We have not accepted Thames Water's claim for retail costs driven by population transience for the final determination. We have therefore not included an adjustment in the company's final determination. These costs have been included in the company's base costs.

Population transience – our final assessment

Materiality

The total transience related adjustment of £93.2 million is material at 11.2% of household retail operating expenditure plus depreciation over 2015-20. This is made up of doubtful debt (£84.7 million) and additional customer contacts (£8.5 million). If the latter were considered in isolation it would be immaterial at 1.0% of household retail operating expenditure plus depreciation over 2015-20.

Beyond efficient management control

Thames Water did not provide sufficient and convincing evidence that the higher bad debts faced by the company are beyond efficient management control. In particular, the evidence Thames Water has provided on doubtful debt management practices

suggests that there is significant room for improvement in current management efficiency on debt collection and recovery processes.

In addition, the modelling evidence submitted has limitations relative to other modelling that has been used to support other adjustments. For instance, the modelling uses the share of households in private rental accommodation as a proxy for transience. However, when the transience measure that Thames Water commissioned consultants to develop was tested, there appeared to be no statistical link with doubtful debt. In addition, we consider that the analysis did not adequately account for historical or potential future trends in private rental levels. No corroborating evidence is provided to support the requested adjustment values and these issues mean that we are sufficiently confident in neither the relationship between doubtful debt and transience, nor the estimates produced by the modelling.

Impact company in a materially different way

Thames Water did not provide sufficient and convincing evidence that the higher bad debts costs affect the company in a materially different way to other companies. Thames Water is a clear outlier on several measures of population transience. It has the highest score of any company on its bespoke measure of population turnover (46% above industry average). However, the modelling evidence demonstrating the link between transience and doubtful debt (discussed above) was inconsistent and not sufficiently convincing. Therefore, the company failed to demonstrate that it is affected in a materially different way to other companies.

Thames Tideway Tunnel ACTS adjustment

- Thames Water requested this adjustment to cover the additional retail costs (principally comprising bad debt and commissions) that arise from Thames Water acting as the principal to the billing arrangements with the Infrastructure Provider. The value of the company's proposed adjustment in its December business plan was £24.9 million, but Thames Water reduced this to £13.5 million in its revised business plan.
- We did not accept Thames Water's ACTS adjustment claim for increased retail costs due to the TTT in draft determination. Our assessment at the final determination remains unchanged.

Thames Tideway Tunnel ACTS adjustment – our final assessment

Materiality

Thames Water's revised adjustment value is no longer material, at 1.7% of household retail operating expenditure plus depreciation over 2015-20. In line with our methodology, we have not accepted the adjustment as it is not material when assessed against the materiality threshold.

Regardless of the materiality of the proposed adjustment, Thames Water did not provide sufficiently convincing evidence regarding the scale of the impact of TTT related bill increases on its retail costs when set against other drivers of these retail costs.

Other comments

Thames Water's evidence on its management practices relating to the costs for which an adjustment was sought (bad debt, customer contacts and commissions) was mixed and, in some instances, incomplete.

Thames Water has not challenged our position in its representation. Therefore, these costs have not been allowed as an adjustment and have been included in base costs, as in the draft determination.

New costs — summary

- In its May submission, Thames Water included new costs related to an investment in Customer Relationship Management and Billing (CRMB). System.
- At the draft determination, we allowed these costs because they were not material when taken together with the company's forecast efficiency savings. However, we requested further evidence from the company to support these new costs as the company had previously planned and been funded for, but had not delivered, an investment in a billing system. At the draft determination we concluded that the company had not provided sufficient or convincing evidence on:
    - the need for the investment;
    - options analysis supporting the investment; or
    - the robustness of cost estimates.
- In its representation, the company provided additional evidence to support the investment in a new CRMB system including additional assurance, a cost benefit analysis and the results of a market testing exercise.

- The company provided further evidence, in its representation on its draft determination, to support a £77.7 million investment: although a previous billing system investment of £21.9 million which was remunerated for 2010-15 was not delivered.
- In its revised business plan, Thames Water proposed a PC and an ODI for the delivery of this investment. In addition, in recognition that it did not deliver the billing system in 2010-15 it 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.
- We are allowing the new costs in Thames Water's final determination as they fall below our materiality threshold for new retail cost items at 0.7% of household retail operating expenditure plus depreciation over 2015-20. We accept the voluntary shortfall and have strengthened the associated outcome related to this investment. In line with our approach at draft determination, we have still assessed the investment proposed by Thames Water against the gates for new costs as Thames Water did not deliver the billing system that was funded in 2010-15.

Need

Thames Water has sufficiently demonstrated its need for the new billing system by estimating the impact of non-investment on its ability to improve service levels in line with the industry, and by identifying the services it would otherwise be unable to provide.

Cost benefit analysis

Thames Water has not demonstrated that its preferred option is the most cost beneficial solution. Only the cost savings of the different options have been quantified. As a result, none of the options considered are cost beneficial, and the preferred option has the highest net cost.

Robustness of costs

Thames Water has demonstrated that its cost estimates are robust by benchmarking similar systems across other service sectors. Thames Water also received quotes from two vendors – this is considered sufficient evidence for the stage that it is at in procuring this system.

Customer protection

Customers are protected by a PC and an ODI for delivery of the project, which we have strengthened in the final determination relative to the company's revised business plan and representation position. The SIM also provides customer

protection. Some recompense for non-delivery of the previous investment is provided through the shortfall of £5.4 million. Although this shortfall has been accepted, it has not been included in our modelling. Thames may wish to voluntarily not take up the revenue associated with this during the next AMP, if it does not then, as noted in the wholesale cost chapters, this will be corrected for in the next price review.

Table AA2.1 Household retail adjustments (£ million, nominal prices)

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Adjustments proposed in Thames Water's business plan						
TTT	1.065	1.848	2.883	3.866	4.212	13.874
Pension deficit repair costs	1.600	1.600	1.600	1.600	1.600	8.000
Adjustments included in business plan	**2.665**	**3.448**	**4.483**	**5.466**	**5.812**	**21.874**
Adjustments included in draft determination						
TTT	0.000	0.000	0.000	0.000	0.000	0.000
Pension deficit repair costs	1.674	1.674	1.674	1.674	1.674	8.371
Adjustments included in draft determination	**1.674**	**1.674**	**1.674**	**1.674**	**1.674**	**8.371**
Adjustments proposed in Thames Water's representations						
Population Transience	18.296	19.372	18.695	19.045	17.774	93.180
TTT	1.065	1.848	2.883	3.866	4.212	13.874
Pension deficit repair costs	1.600	1.600	1.600	1.600	1.600	8.000
Adjustments included in business plan	**20.961**	**22.820**	**23.178**	**24.511**	**23.586**	**115.054**
Adjustments included in final determination						
Population Transience	0.000	0.000	0.000	0.000	0.000	0.000

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
TTT	0.000	0.000	0.000	0.000	0.000	0.000
Pension deficit repair costs	1.674	1.674	1.674	1.674	1.674	8.371
Adjustments included in final determination	**1.674**	**1.674**	**1.674**	**1.674**	**1.674**	**8.371**

Note: There will be no automatic indexation for retail price controls to RPI.

Household retail revenue modification

We outline our approach to revenue modification in policy chapter A5.

TableAA2.2 sets out the amount per customer, by customer type, that allowed revenues will be modified by if outturn customer numbers differ from forecast customer numbers and TableAA2.3 sets out the baseline number of customers.

Table AA2.2 Household retail allowed revenue modification factors by class of customer (£/customer)

Revenue modification per:	2015-16	2016-17	2017-18	2018-19	2019-20
Unmetered water only customer	23.00	23.07	23.50	23.77	24.11
Unmetered wastewater only customer	23.00	23.07	23.50	23.77	24.11
Unmetered water and wastewater customer	29.90	29.99	30.56	30.90	31.34
Metered only water customer	31.75	31.06	30.73	30.23	30.57
Metered wastewater only customer	28.44	28.22	28.21	27.82	27.71
Metered water and wastewater customer	40.95	39.73	38.96	37.98	38.42

Note: There will be no automatic indexation for retail price controls to RPI.

Table AA2.3 Assumed number of customers for household retail total revenues (000s)

Number of customers	2015-16	2016-17	2017-18	2018-19	2019-20
Unmetered water only	32.1	32.1	32.1	32.1	32.1
Unmetered wastewater only	1109.3	992.5	872.7	751.5	637.1
Unmetered water and wastewater	2154.7	2070.2	1956.9	1826.8	1693.8
Metered water only	15.5	15.5	15.5	15.5	15.5
Metered wastewater only	805.0	938.4	1074.6	1212.2	1342.7
Metered water and wastewater	1257.9	1377.1	1527.2	1694.2	1863.7

Annex 3 Reconciling 2010-15 performance

When we last set price controls in 2009 (PR09), we included a number of incentive mechanisms designed to encourage companies to improve and deliver services more efficiently, and, to manage uncertainty. Consistent with the approach set out at the time of the final determination in 2009 we have made adjustments at this price review (PR14) to 2015 to 2020 revenues to take account of company performance in the 2010 to 2015 period

We set out our methodology for calculating the adjustments to 2015-20 wholesale price controls resulting from the company's actual performance during the 2010-15 period in policy chapter A4).

In this annex, we set out the final determination adjustments to 2015-20 price controls for Thames Water resulting from the company's actual performance during the 2010-15 period.

As part of the final determination of the 2010-15 adjustments we have undertaken detailed calculations within our models for the RCM, OIA, CIS and serviceability shortfalls. While we provide an explanation of our interventions within this annex, each model contains the detail of the specific calculation.

We make a "midnight adjustment" to the closing RCV from the previous period (ending on 31 March 2015) to obtain the opening RCV for the next period (starting on 1 April 2015). Our detailed calculations are contained within the RCV midnight adjustment model published alongside these final determinations.

In this annex, we provide an overview – comparing the company's view of the required revenue adjustments included in its revised business plan for each of the incentive tools for water and wastewater services, with our own view. We then consider each adjustment mechanism in turn.

However, we first consider the responses to our draft determination that are specific to Thames Water's treatment in these areas below.

Consideration of representations on our draft determinations

In policy chapter A1, we provide a list of the respondents to the draft determination published in April, May and August of this year. We have fully considered all of the

responses received, and where appropriate, we have made either consequential adjustments to our industry-wide approach or company-specific interventions.

Where representations have addressed issues that are common to a number of companies, these comments, and any consequential changes to our approach, are discussed in policy chapter A4. Representations that are specific to reconciling 2010-15 performance for Thames Water, and any consequential impact on our final determination, are summarised in the table below.

Table AA3.1 Representations specific to reconciling 2010-15 performance for Thames Water

Area	Respondent	Summary of comment	Ofwat response
SIM	There were no representations in this area.		
RCM	Thames Water	**Back billing** Thames Water stated in its representation that RAG 4.04, published in February 2013, included a new requirement for companies to claim for back billed amounts where it has received all back-billed amounts due from the customer. It stated that due to the timescales of when this was published, it was impractical for it to comply with the requirement with its existing billing system. For this reason, the company devised an alternative methodology to calculate an amount that it considers best demonstrates that it has taken a reasonable, fair and appropriate approach for the back billed amounts claimed. In its representation, Thames Water stated that it has developed an alternative methodology which refines the approach taken in its June 2014 submission. The revised approach looks at each customer individually, where back-billing has taken place, and only includes those customers in the claimable value where they are fully up to date with their payments. Thames Water states	We have reviewed the company's representation and have accepted the company's updated claim for back-billing except for the amount assumed in the forecast year 2014-15 for the final determination. For a back-billing claim to be accepted a company must demonstrate that the billed amounts have been collected. As 2014-15 is a forecast year, this is a significant hurdle that the company must satisfy. Only one other company made a claim for back-billing in 2014-15, and that amount was not significant. Given the uncertainty inherent with forecasting cash collections in such a forecast year, and that Thames has not demonstrated the supporting evidence from its billing system we have not accepted the claim for 2014-15.

Area	Respondent	Summary of comment	Ofwat response
		that this demonstrates that back-billed amounts have actually been received from the customers in line with the Ofwat requirement. It considers that the updated data provided from this alternative methodology demonstrates robustness.	
Operating expenditure incentive allowance	There were no representations in this area.		
Change protocol	Thames Water (TTT) – Logging up	In its representation, Thames Water revised its logging up claim for the TTT, reducing the overall amount claimed by £20 million to £577.1 million (from £597 million in the June plan) and provided additional evidence to justify logging up these costs.	We have not accepted all of the company's proposed logging up costs. Our total intervention was £22.7 million as set out in sections A4 and A4.4.4 (Tables A4.7 and AA3.10). The total amount logged up in our final determination is £554.5 million.
	Thames Water (Lee Tunnel) – Logging down	In its representation, the company stated that the value of the logging down claim included in its revised business plan 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	We have accepted the updated value for this logging down item provided by the company. Therefore, for the final determination, we have applied a logging down adjustment of £49.1 million.

Area	Respondent	Summary of comment	Ofwat response
Service standard outputs	Thames Water	Thames Water provided evidence in its representations to demonstrate that the FD09 service standards in respect of resilience, odour control and operational expenditure savings from energy recovery had been achieved.	We consider that the company's representations and subsequent responses to queries provided sufficient evidence to confirm achievement of all service standards except for odour nuisance reduction and operational expenditure savings from energy recovery schemes.
		Odour Reduction: Thames Water provided evidence including results from odour control unit emissions tests which showed that four sites passed the tests. Further tests are yet to be undertaken for Farnham STW and Earlswood STW while no tests are required at Guildford STW. Subsequently, in responses to queries (rFBP/TMS/Legacy/179 and179a), the company provided complaints data pre- and post scheme completion for the seven sites with completed odour reduction schemes. For two remaining sites where schemes are yet to be completed, the company provided pre-scheme complaints data. However, Thames Water expressed strong views that complaint numbers were a poor measure of the effectiveness of odour reduction schemes. The company considers dispersion modelling5	**Odour Reduction:** At PR09, we included £72.2 million for schemes at nine sites. Seven of the nine schemes have now been completed. The remaining two, Beckton STW and Long Reach STW, are planned to be completed by March 2015. In its representations, the company provided emissions test results to confirm achievement of the service standards. However, to enable a holistic view of the effectiveness of the schemes, we requested evidence of odour complaints pre- and post scheme completion. Following our assessment of the company's responses, we remain concerned about the performance of the schemes at Farnham, Guildford, Slough and Cranleigh STWs. We have not pursued a shortfall in respect of the odour schemes in this determination due to the relatively modest investment involved and the fact that emissions testing has yet to be completed at some of the sites. We require the company to adequately demonstrate that the benefits from these schemes, together with the schemes at

Area	Respondent	Summary of comment	Ofwat response
		as the best currently available technique to give a reasonable technical framework to assess the benefits of odour reduction measures. The company submitted an assurance report from an external expert (DDSE02, J Hobson, 2014) which supported this view.	Beckton STW and Long Reach STW, have been achieved in 2015. If the evidence is not satisfactory, we will pursue a shortfall at PR19.
		Energy recovery: Thames Water identified and corrected errors in its June 2014 submission that had prompted concern that it was not on track to deliver its AMP5 target opex savings of £3.8 million. The corrected data shows that the company still expects to achieve this target.	**Energy recovery:** While the company has under-delivered forecast opex savings by £31,000 (for both water and sewerage), we have not applied a shortfall as under-delivery of opex savings is reflected in any achieved opex incentive allowances.
Serviceability performance	Thames Water	**Water infrastructure –** The company states that the water infrastructure sub-service should not be assessed as marginal due to the performance of only one indicator. The company also states that the draft determination is inconsistent with the approach taken by Ofwat for other companies, where failure in one year of one indicator has not resulted in a shortfall. The company also provided additional information to confirm 6 months of actual performance (up to September 2014) for the Interruptions indicator. It also provided additional evidence related to possible exclusions from the assessment.	**Water infrastructure –** We have considered the latest data provided by the company which demonstrates that its interruptions performance in 2014-15 is likely to be below the upper control limit. Therefore, we have removed the shortfall applied at the draft determination.

Area	Respondent	Summary of comment	Ofwat response
		Sewerage infrastructure – The company states that the sewerage infrastructure 'marginal' assessment applied for 2011-12 is inconsistent with our view in the IDoK publication and that the 'deteriorating' assessment for 2012-13 does not follow published guidance on serviceability. The company also provides additional evidence related to possible exclusions from the assessment of pollution incidents and flooding other causes. The company has also re-assessed the proposed shortfalls based on the Ofwat methodology published at the draft determination taking into account exclusions.	**Sewerage infrastructure –** We have re-assessed the performance in 2011-12 and agree with the company that the sub-service assessment should be considered stable to be consistent with the IDOK publication. However, this does not impact the application of a shortfall in that year, as shortfalls are applied at indicator level. For the 2012-13 sub-service assessment, we consider that the performance of flooding other causes to be 'deteriorating' and the performance of pollution incidents as 'marginal'. As there are two less than stable indicators and one is deteriorating, we consider that the sub-service should be assessed as 'deteriorating'. Our assessment of the company's specific representations, in relation to exclusions and mitigating circumstances for example, is set out in table AA3.13. In addition, we have conducted a full review of our methodology for calculating serviceability shortfalls in light of companies' representations. Details and the implications of this review can be found in policy chapter A4 – reconciling 2010-15 performance.
2009 agreed overlap programme	There were no representations in this area.		

Area	Respondent	Summary of comment	Ofwat response
2014-15 transition programme	There were no representations in this area.		
CIS	There were no representations in this area.		As explained in policy chapter A4, we have corrected a minor error in the CIS model for all companies with respect to the discount rate used when calculating the future value of the revenue adjustment in the 2010-15 period. This minor change had no material impact on the final revenue adjustments.
Other adjustments	There were no representations in this area.		

Summary of 2010-15 adjustments

All companies were required to consider in their business plans their own adjustments for PR09 reconciliation. Table AA3.2 below sets out for each of the incentive tools for water and wastewater services:

- the company's view of the required revenue adjustments included in its revised business plan and;
- our own view.

Our view reflects our understanding of the company's performance using these incentives, based on information provided in its revised business plan, subsequent query responses and representations on our draft determination. The table also shows other adjustments, such as those relating to tax resulting from the company's actual performance during the 2010-15 period.

Table AA3.1 notes the comments we have received that are specific to this aspect of the wholesale water and wastewater controls of Thames Water and outlines how our interventions have been influenced by our consideration of these responses.

The changes we have made in the final determination compared to our draft determination are due to changes in our serviceability shortfall methodology set out in policy chapter A4 and removing the serviceability shortfall for unplanned interruptions to supply. We have also accepted the company's additional evidence on back-billing and revised our adjustments to the RCV for actual expenditure in 2009-10. For the TTT, we have broadly accepted the company's updated 2014-15 forecasts in our other logging up adjustment to the RCV.

Table AA3.2 Revenue adjustments 2015-20 (£ million)

	Water service		Wastewater service	
	Company view	Ofwat view	Company view	Ofwat view
SIM	-35.757	-40.905	-37.837	-43.285
RCM	50.459	40.768	84.087	73.671
OIA – post-tax (OIA)	0.000	0.000	0.000	0.000
CIS	-15.536	-16.144	-97.454	-77.524
Tax refinancing benefit	0.000	0.000	0.000	0.000

	Water service		Wastewater service	
	Company view	Ofwat view	Company view	Ofwat view
clawback				
Other tax adjustments	0.000	0.000	0.000	0.000
Equity injection clawback	0.000	0.000	0.000	0.000
Other adjustments	0.000	0.000	37.781	33.924
Total wholesale legacy adjustments	-0.833	-16.282	-13.423	-13.214

Notes: For the CIS mechanism, there is a corresponding adjustment to the RCV made at 1 April 2015 (part of the 'midnight' adjustments'). The impact on the RCV for both water and wastewater can be seen in Table AA3.8. This adjustment is net of any logging up, logging down or shortfalls. A full reconciliation showing all of the midnight adjustments to the RCV, including the impact of logging up, logging down and shortfalls, can be seen in Tables A2.7 and A3.7 and Table A4.4.
Totals may not add up due to rounding.

SIM

We provide our view of each company's SIM reward/penalty in policy chapter A4.

Table AA3.3 provides Thames Water's view and our view of the annualised rewards or penalties from the company's SIM performance. These are unchanged from the draft determination.

Table AA3.3 SIM annualised rewards (£ million)

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water	Company view	-7.151	-7.151	-7.151	-7.151	-7.151	-35.757
	Ofwat view	-8.181	-8.181	-8.181	-8.181	-8.181	-40.905
Wastewater	Company view	-7.567	-7.567	-7.567	-7.567	-7.567	-37.837
	Ofwat view	-8.657	-8.657	-8.657	-8.657	-8.657	-43.285

Table AA3.4 Interventions on proposed 2010-15 SIM adjustments

Area of	What we did	Why we did it

intervention		
SIM penalty	This final determination includes our view of the company's SIM penalty, which we have calculated as -0.9%. This is unchanged from draft determination when we intervened on the company's resubmitted plan estimate. This intervention increases the penalty by £10.6 million.	We have arrived at this by applying our final methodology, which compares the company's actual SIM performance in 2011-12, 2012-13 and 2013-14, to the industry three-year average performance during 2011-14. The 2013-14 information was not available at the time companies submitted their business plans.

RCM

This final determination includes our view of the company's RCM annualised adjustment amounts as detailed in table AA3.5. Table AA3.6 summarises our interventions in relation to Thames Water's proposed 210-15 RCM adjustments.

In its representation, Thames Water submitted additional information in relation to the intervention we made in the draft determination concerning back-billing amounts.

For the final determination, we have reviewed the company's representation and have accepted the company's updated claim for back-billing except for the amount assumed in the forecast year 2014-15. We consider that the amounts claimed in the forecast year 2014-15 are too uncertain to be accepted as a valid claim.

For the RCM, we apply the vanilla wholesale allowed return (real; pre-tax cost of debt, post-tax cost of equity) as the PR14 discount rate. For the final determination, the updated PR14 discount rate is 3.6%. This has also contributed to a small movement in the RCM from the draft determination.

Table AA3.5 RCM annualised adjustments for 2015-20 (£ million)

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water	Company view	10.092	10.092	10.092	10.092	10.092	50.459
	Ofwat view	8.154	8.154	8.154	8.154	8.154	40.768
Wastewater	Company view	16.817	16.817	16.817	16.817	16.817	84.087

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
	Ofwat view	14.734	14.734	14.734	14.734	14.734	73.671

Table AA3.6 Interventions on proposed 2010-15 RCM adjustments

Area of intervention	What we did	Why we did it
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 have reviewed the company's representation and have accepted the company's updated claim for back-billing except for the amount assumed in the forecast year 2014-15.	We consider that Thames Water has 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, we consider that the amounts claimed in the forecast year 2014-15 are too uncertain to be accepted as a valid claim.
FD09 assumptions – Tariff basket revenues	Our assumptions include 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 contains 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

Area of intervention	What we did	Why we did it
		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.
FD09 assumptions – Measured Non-household revenue for the Measured Non-household group immediately above and below the 50 megalitre (Ml) threshold	Our assumptions include 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 contains 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 originate from the company's updated FD09 revenue forecasts that come 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-household 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 include 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'.
Number of households billed	Our assumptions for the final determination includes 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 submission. We have

Area of intervention	What we did	Why we did it
	adjustment compared with the values in the company RCM model.	intervened and applied the value as submitted in the June return.
Outturn financial year average RPI	Our assumptions for the outturn financial year average RPI, in the draft determination, use 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 are inconsistencies with the outturn financial year average RPI between table A9 and the company's populated RCM model. Our assumptions for the final determination use the data from table A9.

OIA

Table AA3.7 below summarises the company's view and our view of the incentive allowances for 2015-20. There are no changes from our draft determination and there are no interventions in this area.

Table AA3.7 Operating expenditure incentive allowances for 2015-20 (£ million)

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water service							
Incentive allowance (post-tax)	Company view	0.000	0.000	0.000	0.000	0.000	0.000
	Ofwat view	0.000	0.000	0.000	0.000	0.000	0.000
Wastewater service							
Incentive allowance (post-tax)	Company view	0.000	0.000	0.000	0.000	0.000	0.000
	Ofwat view	0.000	0.000	0.000	0.000	0.000	0.000

Change protocol (logging up, logging down and shortfalls)

Tables AA3.8 and AA3.9 below summarise Thames Water's view and our baseline view of total adjustments to:

- capex included in the CIS reconciliation;
- the TTT; and
- the FD09 opex assumptions used in the calculation of the opex incentive revenue allowances.

Table AA3.10 summarises our interventions in relation to Thames Water's proposed change protocol adjustments.

The changes we have made in the final determination compared to our draft determination are due to accepting the company's latest information in relation to the Lee Tunnel logging down adjustment.

Table AA3.8 Summary of post-efficiency capex for logging up, logging down and shortfalls included in the CIS reconciliation (£ million)

009-10 to 2014-15 – post-efficiency capex	Water service		Wastewater service		Total service	
	Company view	Ofwat view	Company view	Ofwat view	Company view	Ofwat view
Logging up (two-sided)	0.000	0.000	73.806	76.149	73.806	76.149
Logging down (two-sided)	0.000	0.000	-222.165	-243.368	-222.165	-243.368
Shortfalls (one-sided)	0.000	-5.788	0.000	0.000	0.000	-5.788
TTT	0.000	0.000	577.1	554.5	577.1	554.5

Notes:
1. Includes two-sided adjustments from the PR09 agreed overlap programme as set out in Table AA3.14.
2. TTT was not included in CIS at PR09. This logging up forms part of the opening RCV for the TTT Control.

Table AA3.9 Summary of post-efficiency opex for logging up, logging down and shortfalls included in the opex incentive allowance calculation (£ million)

2009-10 to 2014-15 – post-efficiency opex	Water service		Wastewater service		Total service	
	Company view	Ofwat view	Company view	Ofwat view	Company view	Ofwat view

2009-10 to 2014-15 – post-efficiency opex	Water service		Wastewater service		Total service	
	Company view	Ofwat view	Company view	Ofwat view	Company view	Ofwat view
Logging up	0.000	0.000	39.176	27.318	39.176	27.318
Logging down	0.000	0.000	-1.471	-1.462	-1.471	-1.462
Shortfalls	0.000	-0.518	0.000	0.000	0.000	-0.518
Shortfalls for serviceability	0.000	0.000	-3.691	-3.691	-3.691	-3.691

Table AA3.10 Interventions on proposed 2010-15 change protocol adjustments (includes TTT)

Area of intervention	What we did	Why we did it
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 are currently at risk of slippage into the 2015-20 price control period. We have assessed the information provided by the company and determined that a shortfall should be applied to reflect the late delivery. We are shortfalling £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 considers 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 consider it is 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 have used values from FD09. These have been 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 adjustment was “relatively immaterial”.
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 substantiated. As a result, we reduced the pre-efficiency opex from the £39.7 million	Our view of costs is based on our determination of the company’s 2013 IDoK application, revised in the light of new information. Consequently, our assessment has changed due to the extra information provided. In particular, our view has changed in two key areas: i) revised data from all companies has altered the industry average unit costs (capex per collapse and opex per blockage) and consequently the gap between the

Area of intervention	What we did	Why we did it
	proposed by the company to £27.6 million. In post efficiency terms the value of the logging up claim is now £22.5 million (capex) and £27.2 million (opex).	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.
Swindon Network – Logging up (sewerage service)	See commentary in Table AA3.15.	See commentary in Table AA3.15.
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 is £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. Our assessment has been calculated using pre-efficiency values as the reporting requirements specify.
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 is that it should have included a very small element of logging down opex (£0.009 million). In post efficiency terms, the values in the logging down claim are £3.3 million (capex) and £0.009 million (opex).	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 pro-rated changes in operating expenditure by changes in capital expenditure. We reflected this in our evaluation of the logging down claim.
Lee tunnel – Logging down	We accepted the updated value for this logging	In its representation on the draft determination (ref:

Area of intervention	What we did	Why we did it
(sewerage service)	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).	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 are 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 has been made to the value of the 2015-20 special cost factor claim for the Lee tunnel.
TTT – logging up (TTT Control)	Our interventions have totalled -£23.1 million, including £0.45 million upward adjustment for 2009-10 and -£22.7 million for 2010-15. **Land:** There is no intervention on the logging up values between 2010-14 because these have already been agreed with the company (note small difference of £0.1 million in customers' favour due to rounding differences). With regard to 2014-15, in its June business plan Thames Water requested logging up of £178.3 million. At the draft determination, we included £134.5 million based upon the evidence provided.	**Land:** In its representations, Thames Water provided us with further information to support its assumptions in 2010-15. We are satisfied therefore that there is no double counting. In addition, the company has accepted our approach to funding the deferred lease payments on a cash basis. The company has updated its forecast for land acquisition in 2014-15. This has resulted in an increased proposal of £195.2 million. We have reviewed the evidence and consider Thames Water has provided evidence to justify only £182.1 million. We have made interventions in relation to:

Area of intervention	What we did	Why we did it
	We made interventions in relation to revenue, reversal of an accrual in relation to deferred lease payments and potential double counting. In the company's representations, it proposed a logging up value of £195.2 million for land. Following our assessment, we consider that £182.1 million is a more appropriate value.	• revised acquisition costs. Thames Water provided us with updated land acquisition costs after its representation submission which reduced its forecast by £9.6 million. • inflation. As with 'non-land' costs (see below), Thames Water did not follow the business plan guidance for re-pricing outturn costs into 2012-13 prices. This has reduced costs by £3.5 million.
	Non-land: There is no intervention on the logging up values between 2010-14 because these have already been agreed with Thames Water (note small difference of £0.1 million in customers' favour due to rounding differences). With regard to the adjustments applied for 2014-15, in the company representations it proposed a logging up value of £142.3 million. Following our assessment, we consider that £132.3 million is more reflective of the evidence provided by Thames Water.	**Non-land:** With regard to the adjustments applied for 2014-15, in the company's June business plan it requested £173.8 million to be logged up. However, the company did not provide sufficient evidence to justify these costs and, in addition, the information in its June plan contradicted information we had received elsewhere on the project. In its representations, the company revised its request for logging up for 2014-15 to £142.3 million. It also provided information to support its total forecast expenditure for the year. This information justifies a logging up of £132.3 million. We have made interventions relating to: • a reversal of an accrual of £3.8 million. We have funded this on a cash basis in 2015-16 when the expenditure is most likely to be incurred.

Area of intervention	What we did	Why we did it
		• a movement of £2.0 million to 2015-16, in relation to construction works at Beckton sewage treatment works which are now expected to complete in 2015-16. • a reduction in archaeological costs of £1.3 million. Thames Water's requested £2.2million in its representations for archaeological surveys. Based on the information provided we consider these costs are overstated and only £0.9 million is justified. • a reduction of £2.7 million in relation to inflation. Thames Water's submission did not follow our business plan guidance in relation to re-pricing outturn costs to 2012-13 prices.

We have not intervened for the following claims:

- Shaft G (Logging up – sewerage service)
- Counters Creek (Logging up – sewerage service)
- Hendon Way external flooding scheme (Logging down – sewerage service)
- Deephams STW upgrade (Logging down – sewerage service)

Service standard outputs

The final determination supplementary reports in 2009 contained defined project(s) where the primary output was the service standard specified[5]. These outputs were set out to recognise that companies may decide to prioritise investment differently in order to achieve the service output in a more innovative and efficient manner, while still holding the company to account for the benefits to customers and the environment.

Where companies have not reported progress on these service standards, we would have expected them to demonstrate achievement of the service standards to both customers and Ofwat as part of the price review process.

The company's representation and subsequent responses to queries provided satisfactory evidence to confirm achievement of all service standards except for odour nuisance reduction and opex savings from energy recovery schemes.

Odour nuisance reduction: We are concerned about the performance of the schemes at Farnham, Guildford, Slough and Cranleigh STWs. However, for purposes of this final determination, owing to the relatively modest investment involved and that emissions testing has yet to be completed at some of the sites, we are not pursuing a shortfall in respect of these odour schemes. 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 is not satisfactory, we will pursue a shortfall at PR19.

Opex savings: The company underperformed on the opex savings by a variance of £31,000 (for both water and sewerage). However, we have not applied a shortfall for the under-delivery of opex savings as this is reflected in any achieved opex incentive allowances.

[5] In the 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. The service standard output is the primary output. 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.”

Serviceability performance

Table AA3.10 below summarises our serviceability assessments for Thames Water and Table AA3.11 quantifies the value and impact of any serviceability shortfall on the RCV. Table AA3.12 summarises our interventions in relation to Thames Water's proposed adjustments for serviceability.

The changes we have made in the final determination compared to our draft determination, are the removal of the shortfall for unplanned interruptions to supply and due to changes in our shortfall methodology, which are set out in policy chapter A4.

Table AA3.11 Serviceability assessments for 2010-15[1]

		2010-11	2011-12	2012-13	2013-14	2014-15
Water infrastructure	Company view	Stable	Stable	Stable	Stable	Stable
	Ofwat view	Stable	Stable	Stable	Stable	Stable
Water non-infrastructure	Company view	Stable	Stable	Stable	Stable	Stable
	Ofwat view	Stable	Stable	Stable	Stable	Stable
Wastewater infrastructure	Company view	Stable	Stable	Marginal	Marginal	Stable
	Ofwat view[2]	Stable	Stable	Deteriorating	Deteriorating	Deteriorating
Wastewater non-infrastructure	Company view	Stable	Stable	Stable	Stable	Stable
	Ofwat view	Stable	Stable	Stable	Stable	Stable

Notes:
1. Assessments are based on actual and forecast performance submitted in the company's revised business plan. Assessments for 2014-15 are based on forecast data and are subject to review once actual performance data becomes available.
2. Our assessment of deteriorating performance is explained in table AA3.13.

Table AA3.12 Impact of serviceability shortfalls on the RCV (£ million)

2009-10 to 2014-15		Water	Wastewater	Total
Amount subtracted from RCV	Company view	0.0	24.1	24.1
	Ofwat view	0.0	23.5	23.5

Table A3.13 Interventions on proposed 2010-15 serviceability adjustments

Area of intervention	What we did	Why we did it
Interruptions to supply exceeding 12 hours	For the purposes of the final determination we have 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 has 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 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 have not excluded 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 retains a marginal assessment, based on the additional information provided, we have removed the shortfall applied at the draft determination as the failure in 2013-14 is for only a single year and is not persistent. We do,

Area of intervention	What we did	Why we did it
		however, require the company to confirm the projected performance for 2014-15 as part of the 2015 review of serviceability. If this is not achieved, we may consider a shortfall adjustment. Any material adjustments from the 2015 review will be applied at the next price review.
Pollution incidents (category 1, 2 and 3)	As part of its draft determination, Thames Water has 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 have 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 has been applied for the years 2012-13, 2013-14 and 2014-15) has been 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 has been applied. Our final determination shortfall is £10.9 million lower than the shortfall we applied at the draft determination.	The company has had two breaches of the upper control limit, in 2012-13 and 2013-14. It is also predicting to be above the upper control limit in 2014-15. The company considers its performance is marginal and has 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 have not excluded these incidents as part of the assessment. The value of the shortfall applied is £3.3 million less than the revised shortfall offered by the company.

Area of intervention	What we did	Why we did it
Sewer flooding other causes	As part of its draft determination representation Thames Water has 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 have 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 has been applied for 2011-12, 2012-13 and 2013-14) has been 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 has been applied. Our final determination shortfall is £3.0 million lower than the shortfall we applied at the draft determination.	The company has had three breaches of the upper control limit in 2011-12, 2012-13 and 2013-14. The company states that performance is recovering and is forecasting 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 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 states that extreme rainfall increased the number of flooding other causes incidents. An analysis was provided comparing rainfall with the number of properties flooded. We do 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

Area of intervention	What we did	Why we did it
		blockages and, therefore, the number of flooding other causes incidents. Indeed, in 2012-13 Thames Water also saw a slight reduction in blockages coupled with an increase in the number of flooding events. Our position on this indicator and possible exclusions remains unchanged from the letter sent to the company on 4 December 2013. Therefore, we will not be excluding these incidents from our analysis and have applied a shortfall for the final determination.
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 2009 agreed overlap programme

Table AA3.14 below confirms the 2009 agreed overlap programme assumptions included in this final determination. Table AA3.15 summarises our interventions in relation to Thames Water's proposed adjustments for the 2009 agreed overlap programme. There are no changes from our draft determination.

Table AA3.14 PR09 agreed overlap programme adjustments and assumptions (£ million)

		2010-15		2015-20	
		Two-sided adjustments for inclusion in the CIS		Expenditure forecasts to complete the projects	
		Capex	Opex	Capex	Opex
Water service	Company view	0.000	0.000	0.000	0.000
	Ofwat view	0.000	0.000	0.000	0.000
Wastewater service	Company view	0.000	0.000	207.746	1.447
	Ofwat view	3.987	0.000	207.746	1.447

Table AA3.15 Interventions on proposed 2010-15 PR09 agreed overlap programme adjustments

Area of intervention	What we did	Why we did it
Swindon network	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 2015-20 forecast spend has remained the same. The company is forecasting that the overall scheme cost (£21.7 million) will be slightly below that included in the baseline at FD09 less efficiencies (£22.0 million),

Area of intervention	What we did	Why we did it
		but report a significant overspend in 2010-15 compared to original forecasts. To ensure 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 are making a two-sided adjustment in 2010-15 of £4.0 million to reflect the difference between the FD09 baseline less Thames Water's latest 2015-20 forecast and our 2010-15 baseline on a post efficiency basis. We are accepting 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 are retained for this final determination.

The 2014-15 transition programme

Table AA3.16 below confirms Thames Water's proposed transition programme. There are no interventions in this area.

Table AA3.16 Transition programme in 2014-15

Net capital expenditure	2014-15 (£ million)	Proportion of forecast in 2014-15	Proportion of capital programme in 2015-20
Water service	39.1	12.9%	2.2%
Wastewater service	137.2	14.9%	4.9%

CIS

Table AA3.17 provides details of the CIS ratios and performance incentive. It also gives the:

- monetary amounts of the CIS performance reward or penalty;
- true-up adjustment to 2015-20 allowed revenues; and
- adjustment to the opening RCV.

Table AA3.18 then sets out the profiled values of the revenue adjustments in each year 2015-20, table AA3.19 shows the components of the opening RCV which are included in the CIS adjustment, and table AA 3.20 summarises our interventions in relation to Thames Water's proposals.

There are no representations in this area from Thames Water. The only change from our draft determination relates to use of the post-tax cost of capital as the discount rate when calculating the future value of revenue adjustments.

Table AA3.17 CIS true-up adjustments

		Water service	Wastewater service	Total service
Restated FD09 CIS bid ratio[1]	Company view	125.264	108.820	N/a
	Ofwat view	125.700	125.292	N/a
Out-turn CIS ratio	Company view	107.171	99.907	N/a
	Ofwat view	107.545	99.987	N/a
Incentive reward/penalty (%)[2]	Company view	-2.841	-0.089	N/a
	Ofwat view	-2.885	0.422	N/a
Reward/penalty (£m)	Company view	-41.446	-2.699	-44.145
	Ofwat view	-41.934	12.729	-29.205
Adjustments to 2015-20 revenue (£m)[3]	Company view	-14.466	-90.743	-105.209
	Ofwat view	-15.061	-72.320	-87.381
RCV adjustment (£m)[4]	Company view	-75.655	-388.859	-464.514
	Ofwat view	-75.655	-388.859	-464.514

Notes:
1. The restated FD09 CIS bid ratio takes account of the adjustments for the change protocol table AA3.8 and the 2009 agreed overlap programme (Table AA3.14).
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 assume a single year adjustment in the first year, and do not include the NPV profiling used for the final determination.
4. In table AA3.19 we show how the components of this agree to those shown in table A2.7 and Table A3.7.

Table AA3.18 Profiled revenue adjustments from the CIS reconciliation (£ million)

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water	Company view	-3.107	-3.107	-3.107	-3.107	-3.107	-15.536
	Ofwat view	-3.229	-3.229	-3.229	-3.229	-3.229	-16.144
Wastewater	Company view	-19.491	-19.491	-19.491	-19.491	-19.491	-97.454
	Ofwat view	-15.505	-15.505	-15.505	-15.505	-15.505	-77.524

Table AA3.19 CIS components of the opening RCV adjustment (£ million)

	Water service	Wastewater service
Adjustment for actual expenditure 2010-15	-69.867	-221.641
Net adjustment from logging up and logging down	0.000	-167.219
Adjustment for shortfalls	-5.788	0.000
RCV adjustment	-75.655	-388.859

Table AA3.20 Interventions on proposed CIS adjustments

Area of intervention	What we did	Why we did it
Methodology	We have 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, to address these issues we have changed the CIS model.

Area of intervention	What we did	Why we did it
Change protocol adjustments	In carrying out our assessment, we have included our view of the applicable change protocol amounts for water and wastewater.	We have applied Ofwat's published methodology.

Other adjustments

Table AA3.21 below confirm the assumptions included in this final determination with respect to the following revenue adjustments:

- tax refinancing benefit clawback;
- other tax adjustments;
- equity injection clawback; and
- other adjustments.

The only change from our draft determination is in relation to our adjustment for recovery of financing costs on unfunded TTT expenditure in the 2010-15 period.

Table AA3.21 Other revenue adjustments 2015-20 (£ million)

	Water service		Wastewater service		Thames Tideway Tunnel	
	Company view	Ofwat view	Company view	Ofwat view	Company view	Ofwat view
Tax refinancing benefit clawback	0.000	0.000	0.000	0.000	0.000	0.000
Other tax adjustments	0.000	0.000	0.000	0.000	0.000	0.000
Equity injection clawback	0.000	0.000	0.000	0.000	0.000	0.000
Other adjustments	0.000	0.000	0.000	0.000	37.781	33.924

Table AA3.22 Interventions on proposed other revenue adjustments

Area of intervention	What we did	Why we did it
Recovery of financing costs on unfunded TTT expenditure	We have included a revenue adjustment of £33.9 million to allow the company to recover the financing costs incurred on the additional TTT expenditure during 2010-15 (see Table A4.6 for the annual adjustment).	The reasons for our interventions on logging up for 2010-15 are set out in table AA3.10. This adjustment allows the company to recover the additional financing costs incurred on the expenditure logged up.

Tables AA3.23 and AA3.24 below confirm the assumptions included in this final determination with respect to other adjustments to the opening RCV.

The main changes we have made from our draft determination relate to our revised adjustment for the TTT and our revised adjustment to the RCV for actual expenditure in 2009-10.

Table AA3.23 Other adjustments to the opening RCV (£ million)

	Water service		Wastewater service		Thames Tideway Tunnel	
	Company view	Ofwat view	Company view	Ofwat view	Company view	Ofwat view
Land sales	-21.100	-17.039	-27.600	-22.541	0	0
2009-10 adjustment	-3.600	-3.139	-96.800	-96.849	0.5	0.5
Enhanced rewards	0.000	0.000	0.000	0.000	0	0
Other adjustments	0.000	0.000	-101.300	-101.300	577.100	554.480

Table AA3.24 Interventions on proposed adjustments to the opening RCV

Area of intervention	What we did	Why we did it
Land sales	We calculated land sales using our RCV midnight adjustment model. We updated the draft determination calculation by taking into account actual land sales for 2013-14 from the regulatory accounts.	This provided a consistent approach with all companies.

Area of intervention	What we did	Why we did it
2009-10 adjustment	We calculated the 2009-10 adjustment using the capex figures from the June return. For some companies there was an incomplete dataset with regard to historical grants and contributions, we have corrected this for FD.	This provided a consistent approach with all companies.
Other adjustments – s203 expenditure	There are no interventions in this area. We accepted the logging down adjustment of £101.3m in respect of the sewer flooding s203 penalty.	
Other adjustments – TTT (land)	Our interventions are set out in Table AA3.10	
Other adjustments – TTT (non-land)	Our interventions are set out in Table AA3.10	

Annex 4 Outcomes, performance commitments and ODIs

We set out our methodology for PCs and ODIs in policy chapter A2.

In this annex we provide an overview of the PCs and ODIs for Thames Water. We then set out in detail these PCs and ODIs for the company's wholesale water, wholesale wastewater, TTT and household retail outcomes, presented in that order.

The company has used a cost-sharing rate of 50% to calibrate the reward and penalty rates included in this annex. Companies are required to notify us of their menu choices by 16 January 2015. This might result in the company having a cost-sharing rate higher or lower than 50%. Once the company has chosen its position on the menu we are requiring it, in line with the methodology, to recalibrate its ODIs with the cost-sharing rate associated with that position, and provide us with the updated incentive rate calculations. The company must do this alongside their menu choice on 16 January 2015 so that the recalibrated ODIs can be included in the regulatory reporting framework for 2015-16.

However, we first consider the responses to our draft determinations in relation to the PCs and ODIs proposed for Thames Water

Consideration of representations on our draft determinations

In policy chapter A1, we provide a list of the respondents to the draft determinations published in April, May and August of this year. We have fully considered all of the responses received, and where appropriate, we have made either consequential adjustments to our industry-wide approach or company-specific interventions.

Where representations have addressed issues that are common to a number of companies, these comments, and any consequential changes to our approach are discussed in policy chapter A2. In addition, we have summarised representations made by Thames Water in relation to the overall cap and collar on rewards and penalties in table AA4.10 below. Representations that are specific to PCs and ODIs for Thames Water, and any consequential impact on our final determination, are summarised in the tables below as follows.

- Tables AA4.1 and AA4.2 consider representations received on the interventions we proposed in our draft determinations as a result of comparative assessments in six areas for wholesale water and wholesale wastewater respectively.

- Tables AA4.3, AA4.4 and AA4.5 consider representations received on the interventions we proposed in our draft determinations as a result of our company specific assessments for wholesale water, wholesale wastewater and TTT respectively.
- Table AA4.6 considers representations received on the interventions we proposed in our draft determinations as a result of our company specific assessments for household retail.
- Table AA4.7 lists the PCs that were proposed by companies but that have been removed as part of our final determination (including TTT).
- Table AA4.8 lists PCs excluded from the commentary tables above because we received no representations on them and we made no interventions at draft determination or through the comparative assessments.

Table AA4.1 Representations specific to the comparative assessments on wholesale water

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B5: Average hours lost supply per property served, due to interruptions >4hr	Adjusted the PC level and changed the penalty and deadband collar	The company considers its original business plan submission should be reinstated, as the comparative assessment does not take into account the regional specific circumstances: • highest density of properties in the country (therefore the highest risk to interruption) • the slowest moving traffic in the London region (delaying the response time to interruptions) • the oldest asset base, increasing the prevalence of interruptions and bursts. The company estimates that it will cost an additional £71m to achieve the draft determination PC.	Reversed the interventions from draft determination as, in our revised comparative assessment, Thames Water are already performing at upper quartile. The committed performance level for all years is 0.13 hours. The penalty collar is set at 0.15 hours and the reward cap at 0.10 hours. There are no deadbands. This is in line with the company's June 2014 submission.	We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B3: Compliance with Drinking Water quality standards – Ofwat/DWI KPI	Adjusted the PC level, changed penalty deadband and penalty collar	The company considers that reverting to the original deadband in the June business plan is the most appropriate as it is supported by customer research. Thames Water considers that the comparative assessment does not take into account the relative incidence of lead pipework in the network. The company has 62% lead piping, compared to the rest of the industry where levels are as low as 17%. The company has provided evidence to suggest that a further £64 million would be needed to address the lead pipe incidence, which is not cost-beneficial. Thames Water does not consider it appropriate to compare previous year's performance in setting the comparative assessment due to the recent change in lead standard.	Following revisions to the comparative assessment of the company's penalty deadbands and collars have been revised. The committed performance level is set at 100% from 2017-18. An associated penalty deadband set at 99.95% and penalty collar at 99.93% also apply from 2017-18.	We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations. We have not made any company specific adjustments based on the new lead standard (see policy chapter A2).

Table AA4.2 Representations specific to the comparative assessment on wholesale wastewater

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B3: Properties protected from flooding due to rainfall	Introduce an additional penalty specifically related to the late delivery of the Counters Creek scheme. Increase the expected net benefit to be delivered in line with the catch-up identified through the comparative assessment.	Thames Water disagrees with our intervention to increase the value delivered on cost-benefit grounds. Its current assumption is that in order to deliver an additional £10 million benefit it would cost £173 million. Thames Water provided evidence to challenge the use of the comparative assessment for hydraulic flooding and propose it should be focused on sewer flooding other causes only. In addition, the company request the Counters Creek penalty is 'reworded' to reflect the statements in its June submission. **CCWater:** suggest Ofwat reverses decisions where it is shown by the company to have perverse impacts on customer priorities.	We have reversed the intervention to increase the expected net benefit delivered as the comparative assessment now focuses on sewer flooding due to other causes (SB4). The expected benefit is now equal to £20.054m, as proposed by the company in its June 2014 submission. We have retained the Counters Creek specific penalty for delay in combination with the company's proposed penalties if the project is cancelled. We have revised the value of the penalty for delay, in line with approach to major schemes across the industry, to equal 50% of annualised benefits foregone (£6.88m).	Thames Water's proposal for Counters Creek did not offer customers any protection in the event of delay. In line with other major schemes in the industry, we have intervened to ensure customers are fully protected. The comparative assessment has focused on the level of catch-up on the sewer flooding other causes PC, so we have reversed our intervention on internal flooding.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B4: Number of internal flooding incidents, excluding those due to overloaded sewers (SFOC)	Removal of the reward due to lack of convincing evidence that the company was demonstrating stretching performance. Extend the incentive to cover 2019-20 and include assets transferred under s105a of the Water Industry Act. Reduce the committed performance level in line with the comparative assessment.	Thames Water accepted the numbers we used for the inclusion of transferred assets and the extension to include 2019-20 in the incentive. The company argued any catch-up should be on the legacy network only but agreed there should be some degree of continuous improvement. Thames Water considers the new target to be disproportionately expensive and well beyond the enhanced case proposed in its business plan for legacy assets. The company argued there is a London specific factor due to a larger than average density of properties with basements that needs to be taken in to account. Thames Water does not agree with the removal of the reward given our desire to reward stretching performance. It proposes an alternative PC (Annex	Retain the draft determination position on transferred assets and including 2019-20 in the incentive framework. In line with the revised approach to the comparative assessment, reduce the committed performance level to 1085 flooding incidents from 2017-18 with a linear glidepath in preceding years. The penalty collar is set at 1339 incidents in 2015-16 and 2016-17 and reduces to 1215 incidents from 2017-18. A penalty deadband is set at 1209 incidents in 2015-16 and 2016-17; there is no penalty deadband from 2017-18. We have reversed our decision to remove the reward. The reward cap is set at 955 incidents and the reward deadband is set at 1085 incidents in all years in line	Thames Water accepted our intervention to include the s105A transferred network and the inclusion of 2019-20 in the incentive framework. We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations. We have reinstated the reward in line with the comparative assessment approach. Our draft determination justification for removing the reward was based on lack of evidence of stretching performance. However, the comparative assessment ensures

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
		WWS03) and requests that, if we choose to impose its PC arising from the comparative assessment instead, that we allow the additional costs needed to meet the industry standard. **Environment Agency**: supports the aims of our interventions **CCWater:** suggest we reverse our decisions where it is shown by the company to have perverse impacts on customer priorities **CCG:** States that the comparative assessment for sewer flooding works strongly against customers preferences and results in disproportionate penalties for the company and customer (CCG Report, Page 5)	with our comparative assessment approach to reward upper quartile performance. We have not allowed any additional funding as requested by Thames Water.	rewards are only earned for upper quartile performance. Our menu allowance is based on all companies achieving upper quartile cost efficiency by 2015. Our principle is that customers should not have to bear the additional costs to catch up to performance levels already attained by UQ performers.
C2: Total category 1-3 pollution incidents from sewage	The ODI was extended to cover 2019-20 and include assets transferred under s105a of the Water Industry Act 1991. In	Thames Water accepts the extension to cover 2019-20 and inclusion of s105A assets. It states that the gateway clause to exclude rewards for cat 1 and 2 incidents	We have confirmed the inclusion of the s105A transferred network and the extension to include 2019-20. We have removed the split	Thames Water accepted our intervention to include the s105A transferred network and the inclusion of 2019-20

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
	addition, the penalty rate was increased to equal the reward rate proposed by the company. As the company was identified as an upper quartile performer, no interventions were made to the committed performance level, deadbands or caps and collars as a result of the comparative assessment.	seems a sensible example of stretching performance. Thames Water disagrees with the increase in penalty rate citing other environmental, reputational and regulatory incentives. It highlights inconsistencies with how we have treated serious pollution incidents across the industry. The **Environment Agency** states that they do not support the use of a reward to meet its statutory commitments. However, the proposed reduction will meet its expectations.	between category 1/2 incidents and category 3 incidents. We have confirmed the inclusion of the gateway clause and the increase in penalty rate. Thames Water was identified as already performing in line with our upper quartile assessment; therefore no further interventions have been made to the company proposals. In all years the committed performance level is set at 340 incidents, the reward deadband is set at 263 with a cap at 229 incidents. The penalty deadband is set at 400 incidents with a collar at 465 incidents.	in the incentive framework. It also accepted the inclusion of the gateway clause for earning rewards. Thames Water did not provide sufficient evidence that the other incentives provided customers with equivalent financial protection; therefore we retained the draft determination position on the penalty rate. We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations. In line with this, we removed the split between categories 1/2 and category 3

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
				incidents to align Thames Water with the rest of the industry.

Table AA4.3 Representations specific to the company specific assessments on wholesale water

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B1: Asset Health Water Infra-structure	We removed the penalty collar, deadband and adjusted the incentive rate. We also extended the incentive to cover 2019-20.	The company has accepted the removal of the penalty collar and the introduction of the incentive in 2019-20. The company does not consider it appropriate to remove the deadband. The company argues that a two-year deadband, combined with the additional incentives on individual PCs provides better incentive properties. Additionally, the company does not consider it appropriate to penalise poor performance in the year it occurred, as the PC is focused on the long-term performance of the asset base, and customers are protected from poor service performance through the	We have accepted the company's proposal for the incentive rate. We have confirmed the draft determination position in relation to the removal of the two-year deadband, removal of the penalty collar and the inclusion of 2019-20 within the incentive framework.	The company has provided sufficient evidence that the original incentive rate included a premium to ensure customers are protected from poor performance. The requirement for two or more consecutive years of poor performance would effectively dilute penalties for poor performance. Company is subject to more than one legacy PR09 serviceability shortfall, so dilution of incentives could

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
		individual PCs. The company does not consider it appropriate to remove the deadband. The company argues that a two-year deadband, combined with the additional incentives on individual PCs provides better incentive properties. Additionally, the company does not consider it appropriate to penalise poor performance in the year it occurred, as the PC is focused on the long-term performance of the asset base, and customers are protected from poor service performance through the individual PCs. The company considers the increased penalty rate is disproportionate compared to our draft determinations for the rest of the industry, and is not sufficiently justified by reference to the company's poor performance in 2010-15.		undermine protection of customers. In order to prevent this, asset health measures should apply after any single year of poor performance rather than only after two consecutive years of poor performance. This approach has been applied across all companies subject to more than one legacy PR09 serviceability shortfall.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B2: Asset Health Water Non Infra-structure	We removed the penalty collar and deadband. We also extended the incentive to cover 2019-20.	The company has accepted the removal of the penalty collar and the introduction of the incentive in 2019-20.	We have confirmed the draft determination position in relation to the removal of the two-year deadband, removal of the penalty collar and the inclusion of 2019-20 within the incentive framework.	The requirement for two or more consecutive years of poor performance would effectively dilute penalties for poor performance. Company is subject to more than one legacy PR09 serviceability shortfall, so dilution of incentives could undermine protection of customers. In order to prevent this, asset health measures should apply after any single year of poor performance rather than only after two consecutive years of poor performance. This approach has been applied across all companies subject to more than one legacy PR09 serviceability shortfall.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
A4: Reduced water consumption from issuing water efficiency devices to customers	No intervention	The **Environment Agency** commented that the PC would be better based on the actual reduction in performance rather than the number of devices provided	Confirm no intervention	We did not see compelling evidence that changing the structure of the PC would provide customers with better protection

Table AA4.4 Representations specific to the company specific assessments on wholesale wastewater

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B1: Asset Health Wastewater Non Infra-structure	We removed the penalty collar and deadband. We also extended the incentive to cover 2019-20.	Thames Water has accepted widening of the penalty collar and the extension to include 2019-20 in the incentive. It considers that the deadband should be reinstated, suggesting overlaps with PC specific penalties for poor performance in a single year.	We have confirmed the draft determination position in relation to the removal of the two-year deadband, the penalty collar and the inclusion of 2019-20 within the incentive framework.	The requirement for two or more consecutive years of poor performance would effectively dilute penalties for poor performance. Company is subject to more than one legacy PR09 serviceability shortfall, so dilution of incentives could undermine protection of customers. In order to prevent

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
				this, asset health measures should apply after any single year of poor performance rather than only after two consecutive years of poor performance. This approach has been applied across all companies subject to more than one legacy PR09 serviceability shortfall.
B2: Asset Health Wastewater Infra-structure	We removed the penalty collar, deadband and adjusted the incentive rate. We also extended the incentive to cover 2019-20 and included assets transferred under s105a of the Water Industry Act.	Thames Water has accepted widening of the penalty collar, the inclusion of transferred assets and the extension to include 2019-20 in the incentive. It argues that the deadband should be reinstated, suggesting overlaps with PC specific penalties for poor performance in a single year. Thames Water also argue that increasing the penalty rate double counts the AMP5 shortfall and is not necessary as its proposed incentive rate already included a premium.	We have accepted the company's proposal for the incentive rate. We have confirmed the draft determination position in relation to the removal of the two-year deadband, the penalty collar and the inclusion of 2019-20 within the incentive framework.	The company has provided sufficient evidence that the original incentive rate included a premium to ensure customers are protected from poor performance. The requirement for two or more consecutive years of poor performance would effectively dilute penalties for poor performance. Company is subject to more than one legacy PR09 serviceability shortfall, so dilution of incentives could undermine protection of customers. In order to prevent

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
				this, asset health measures should apply after any single year of poor performance rather than only after two consecutive years of poor performance. This approach has been applied across all companies subject to more than one legacy PR09 serviceability shortfall.
B8: Lee Tunnel including Shaft G	No intervention	Not applicable	Introduced the performance committed related to the special cost claim for the Lee Tunnel including Shaft G. This includes a penalty only incentive in the event that the scheme is delayed and not complete in 2015-16. The penalty is equal to £6.6m for each year of delay.	We have undertaken a consistency check between incentives proposed and special factor claims for wholesale costs. Our analysis determined that customers did not have sufficient financial protection in the event of delay to the Lee Tunnel scheme.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
B9: Deephams Wastewater treatment works	No intervention	Not applicable	Introduced the performance committed related to the special cost claim for the Deephams wastewater treatment works. The penalty only incentive will ensure that, through the ODI and cost incentives combined, the full allowed costs are returned to customers in the event that the scheme is not delivered. Given the company will be penalised through a number of other PCs, Thames Water will be able to propose to net off any other penalties directly incurred from the total penalty through the ODI (£193m).	We have undertaken a consistency check between incentives proposed and special factor claims for wholesale costs. Our analysis determined that customers did not have sufficient financial protection in the event of delay to the Deephams wastewater treatment works scheme.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
C3: Sewage treatment works discharge compliance	Include 2019-20 within the penalty structure.	Thames Water accepts our intervention. The Environment Agency has commented that anything below 100% compliance is unacceptable as this relates to statutory obligations.	We have increased the committed performance level to 100% and introduced a penalty deadband at 98.88%.	In line with the representation received from the Environment Agency, we expect all companies to target 100% compliance.
C7: Modelled reduction in properties affected by odour	Reduce the reward cap by 8000 properties as the company had not justified that these properties were likely to be affected by odour issues	Thames Water objects to the reduced reward cap. It considers that modelling is the best approach as the number of households affected may not be directly comparable to the number of complaints received. Thames Water state that early work on odour reduction has greater long-term benefits.	Retain the draft determination position	The company still has significant scope to outperform its committed performance level on properties near assets with known odour issues. It has not justified that odour problems are likely to occur at other sites.
C9: Reduce the amount of phosphorus entering rivers to help improve aquatic plant	Require the company to outline the rewards and penalties in 2016-17, once the River Basin Management Plan (RBMP) has been finalised, rather than ex-	Thames Water states that it disagrees with setting the incentive rates in 2016-17 as it considers the costs of individual schemes will still be too uncertain despite the scope of the programme being known. It requests that the ex-post incentive	In order to ensure the company only earns rewards for outperforming the statutory requirements, it will restate the committed performance level, along with the	Delivery of the Water Framework Directive is a statutory obligation and, as such, Thames Water should not earn a reward for delivering what the Environment Agency requires of it. Therefore, the company will restate the

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
and wildlife	post.	is adopted as proposed in its June plan. Thames Water proposes an alternative approach whereby the expected benefits are confirmed in 2016-17 but the incentive will use actual costs incurred by 2019-20. Environment Agency: This constitutes statutory work, so it is not appropriate for rewards to be allowed.	quantified benefits, in 2016-17 once the RBMP has been finalised. We accept Thames Water's proposal that costs should be confirmed on completion.	committed performance level once the final RBMP has been signed off by the Secretary of State. A reward will only be earned if the company exceeds its statutory obligations.

Table AA4.5 Representations specific to the company on TTT

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
T1: Thames Water will limit the extent of delays on the overall programme timeline	Added the PC to show: A. Successful procurement of the Infrastructure Provider B. Acquisition of land rights for the project C. Completion of category 2 and 3	Thames Water objected to the proposal to introduce a penalty only incentive on category 2 and 3 works as, in its view, this created double-jeopardy with the Alliance Agreement and would distort incentives. CCWater stated that it would	Retained the draft determination position for PCs T1A and T1B. Recalculated the penalty for late delivery based on final determination costs uplifted with an estimate of infraction costs as a proxy for benefits foregone. Further details are	To ensure customers are fully protected we have ensured appropriate penalties are in place in the event that schemes are delayed. We have not accepted Thames Water's proposal that the penalty be linked to the Alliance Agreement

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
	construction works and timely availability of sites to the IP Parts A and B were subject to a reputational incentive, part C was subject to a penalty only incentive.	look to Ofwat to determine the extent to which the Alliance Agreement could operate as an effective alternative to a dedicated PC and associated penalties. The CCG noted that it would not be in customers' interests to pay twice, and that Ofwat needs to satisfy itself that the Alliance Agreement would do what Thames Water has indicated. The CCG also stated that there must be sufficient incentive for the project to be delivered and brought into operation on time.	set out in the detailed definition of the PC. The delay penalty will apply to each site for each year of delay. The annual penalty per site is £3.4 million, with a maximum penalty of £156 million. We have introduced a mechanism to recover costs for customers for non-delivery of category 2 and 3 works in the event that Thames Water does not undertake the project due to circumstances outside its control. The maximum amount recovered will equal the funding for the work (£227 million), and will enable the funding to be passed back to customers in circumstances where the work has been cancelled for reasons outside of the company's control.	because it is not yet finalised, hence we cannot judge whether the final terms will provide sufficient incentive for Thames Water to manage delivery of the activities it is responsible for. Further details of our assessment are included in the detailed definition of the PC. Our risk and reward guidance proposed that rewards could exist where there was evidence that customers valued outperformance. Hence, as we do not have evidence of customer willingness to pay, we cannot recognise any rewards set out in the Alliance Agreement. We address Thames Water's representation that the Alliance Agreement could potentially result in double

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
				jeopardy in the detailed definition of the PC. We have introduced a mechanism so that customers are fully protected if the project is cancelled for reasons beyond Thames Water's control.
T2: Thames Water will engage effectively with the IP, and other stakeholders , both in terms of integration and assurance	We added this PC on a reputational basis to ensure that Thames Water works closely and effectively with the IP and other stakeholders to seek to deliver its activities on a timely and efficient basis.	Thames Water agreed with the introduction of the PC.	Retain the draft determination position.	Thames Water accepted our proposal.
T3: Thames Water will engage with its	We added the PC on a reputational basis to ensure there is an ongoing programme of engagement	Thames Water agreed with the reputational only incentive, but did not think it was appropriate to include	Accept the company's representation.	Local delivery issues, and engagement with customers regarding them, are covered by the responsibilities of the

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
customers to build understanding of the TTT project	with customers and collaboration with water-only companies and their customers.	site surveys, as this would result in a duplication of activities and costs between the IP and contractors. Thames Water proposed to replace the PC with 'We will engage with our customers to build understanding of the TTT project. We will liaise with the IP on its surveys of local communities impacted by construction.' The CCG were pleased to see the proposed PC on engaging with customers to build understanding of the TTT project and, as a result, expect a high level of customer consultation to be undertaken. CCWater also welcomed this PC and stated that it expects to be consulted on the proposed communications strategy and materials for		IP.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
		customers.		

Table AA4.6 Representations specific to the company specific assessments on household retail

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
A6: SIM	Introduced a PC to reinstate the SIM commitments.	Thames Water accepted our intervention but proposed a reduction in the committed performance level for 2017-18 to reflect a potential downturn in performance associated with the implementation of the new CRMB invoicing system. Thames Water accepted our intervention but proposed a reduction in the committed performance level for 2017-18 to reflect a potential downturn in performance associated with the implementation of the new CRMB invoicing system. The **CCG** regards SIM as a key measure to ensure that	Retained the draft determination position	The company has not justified that it should be allowed a softer target due to the implementation of the new billing system. Maintaining a steady performance incentivises the company to get the implementation of its system right.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
		Thames Water's performance does not deteriorate during CRMB implementation.		
B1: Implement new online account manage-ment for customers supported by web-chat	In addition to the mechanism proposed by the company for non-delivery of the scheme, we introduced a penalty, based on the annualised benefits to customers, in the event that the company failed to the delivery the scheme on time.	Thames Water has proposed revisions to the graduated penalty intervention for non-delivery of CRMB to reduce its total exposure. It also rejects our intervention relating to a new penalty for issues that are outside management control. CCWater expressed concerns regarding passing through the costs of the CRMB project to customers given funding provision in 2010-15. It is supportive of the additional protections for customers introduced in the draft determination and suggests Thames Water should be shortfalled for non-AMP5 delivery.	Retained the draft determination	The new online account management system has been justified on the benefits it will bring to customers. In the event that it is not delivered, or it is delivered late, it is appropriate that customers are fully compensated for this. Thames Water's proposal to net the penalty for delay off against the penalty for non-delivery does not fully protect customers.

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
C2: Increase cash collection rates	Intervened to remove reference to the impact of the TTT being excluded from the PC	Thames Water proposed an alteration to the committed performance level due to the inclusion of the TTT.	We have accepted the proposal from Thames Water.	Thames Water provided appropriate evidence to justify the alteration to the committed performance level based on the inclusion of the TTT

Table AA4.7 Performance commitments proposed by the company that we have removed from this final determination

Performance commitment	Reason for its removal
Wholesale water, wholesale wastewater and retail	
N/A	
Thames Tideway Tunnel	
T4 – Thames Water will pass back to customers Section 106 development costs[6] if they are carried out by the IP.	We have not accepted this proposal as our allowed totex and cost-sharing mechanism for the TTT Control will be sufficient to allow the company to deliver its Section 106 obligations. Thames Water has not clearly explained why the IP should undertake any Section 106 activities that are currently the responsibility of Thames Water.

[6] A person with an interest in land may enter into an enforceable obligation under section 106 of the Town and Country Planning Act 1990. These obligations are known as s106 agreements and they are a mechanism for making a development proposal acceptable in planning terms, that may not otherwise be acceptable. They focus on site specific mitigation of the impact of development..

Performance commitment	Reason for its removal
	Reallocating these activities to the IP would increase complexity, and Thames Water has not demonstrated any clear benefits to customers that would arise from such reallocations. We do not consider that this PC offers value for customers due the increased complexity it is likely to create. We have removed it because: • Thames Water states that the PC is 'contingent on the full funding of DCO impacts on Thames Water' in 2015-20. Our assessment is that the costs allowance for Thames Water, combined with the cost-sharing rate in the TTT Control is sufficient in the round to allow it to carry out all the necessary activities on the project in 2015-20. Our long-standing approach is not to make allowance for specific activities within the overall cost allowance. • Our view is that Thames Water is responsible for delivering Section 106 obligations in their entirety. Allocating these activities between Thames Water and the IP is likely to add complexity and potentially increase the cost. • The amount of expenditure involved is likely to be small, which suggests that cost sharing through the menu is likely to be sufficient protection rather than a potentially burdensome additional mechanism and reporting requirement.
T5 – Thames Water will collect revenue in advance of Project Licence Award for the IP to smooth customer bill impacts	Our assessment is that this may only be needed in very limited circumstances. Hence, we consider customers are better protected if this is addressed through Thames Water's licence which may be triggered if needed. Consequently, we have not accepted this proposal but we will address this separately through a consultation on Thames Water's licence, including the introduction of a provision in the licence to ensure any such funds are adequately ring-fenced from the rest of Thames Water's activities.

Table AA4.8 Performance commitments excluded from the commentary tables because we received no representations to our draft determinations on them and we made no interventions at draft determination or through the comparative assessments

Wholesale water	Wholesale wastewater	Household retail
A1: Improve handling of written complaints by increasing 1st time resolution	A1: Improve handling of written complaints by increasing 1st time resolution	A1: Minimise the number of written complaints received from customers
A2: Number of written complaints per 10,000 connected properties	A2: Number of Written complaints per 10,000 connected properties	A2: Number of Written complaints per 10,000 connected properties
A3: Customer satisfaction surveys (Internal CSAT monitor)	A3: Customer satisfaction surveys (Internal CSAT monitor)	A3: Improve customer satisfaction of Retail customers (charging and billing services only).
A5: Provide a free repair service for customers with a customer side leak outside of the property	B5: Contributing area disconnected from combined sewers by retrofitting sustainable drainage	A4: Improve customer satisfaction of Retail customers (operations contact centre)
B4: Properties experiencing chronic low pressure (DG2)	B6: Compliance with SEMD (Security and Emergency Measures Directive) advice notes, with or without derogation	A5: Increase the number of bills based on actual meter reads (in cycle)
B6: Security of Supply Index – Ofwat KPI	B7: Population equivalent of sites made resilient to future extreme rainfall events	C1: Increase the number of customers on a payment plan (excluding TTT)
B7: SEMD Compliance advice notes, with or without derogation	C1: Greenhouse gas emissions from wastewater operations	
B8: Ml/d of sites made resilient to future extreme rainfall events	C4: Water bodies improved or protected from deterioration as a result of TW	

Wholesale water	Wholesale wastewater	Household retail
	activities	
C1: Greenhouse gas emissions from water operations	C5: Satisfactory sludge disposal compliance	
C2: Leakage	C6: We will educate our existing and future customers	
C3: Abstraction Incentive Mechanism (AIM)	C8: Deliver 100% of agreed measures to meet new environmental regulations	
C4: We will educate our existing and future customers	D1: Energy imported – Energy exported	
C5: Deliver 100% of agreed measures to meet new environmental regulations		
D1: Energy imported – Energy exported		

Summary of ODIs

For each outcome proposed, companies were asked to identify one or more measure that would provide evidence that the outcome was being delivered. On each measure, companies had to set out the level of performance that they were committing to deliver. Companies also had to explain why they committed to the performance level chosen and explain why this represented an appropriate level of stretch (as benchmarked against an upper quartile level of performance across the sector).

Companies also had to propose ODIs. Where customers were willing to pay for higher levels of performance and companies could demonstrate that performance was at a high level relative to its peers, then the financial incentives could contain rewards for over delivery as well as penalties for under delivery.

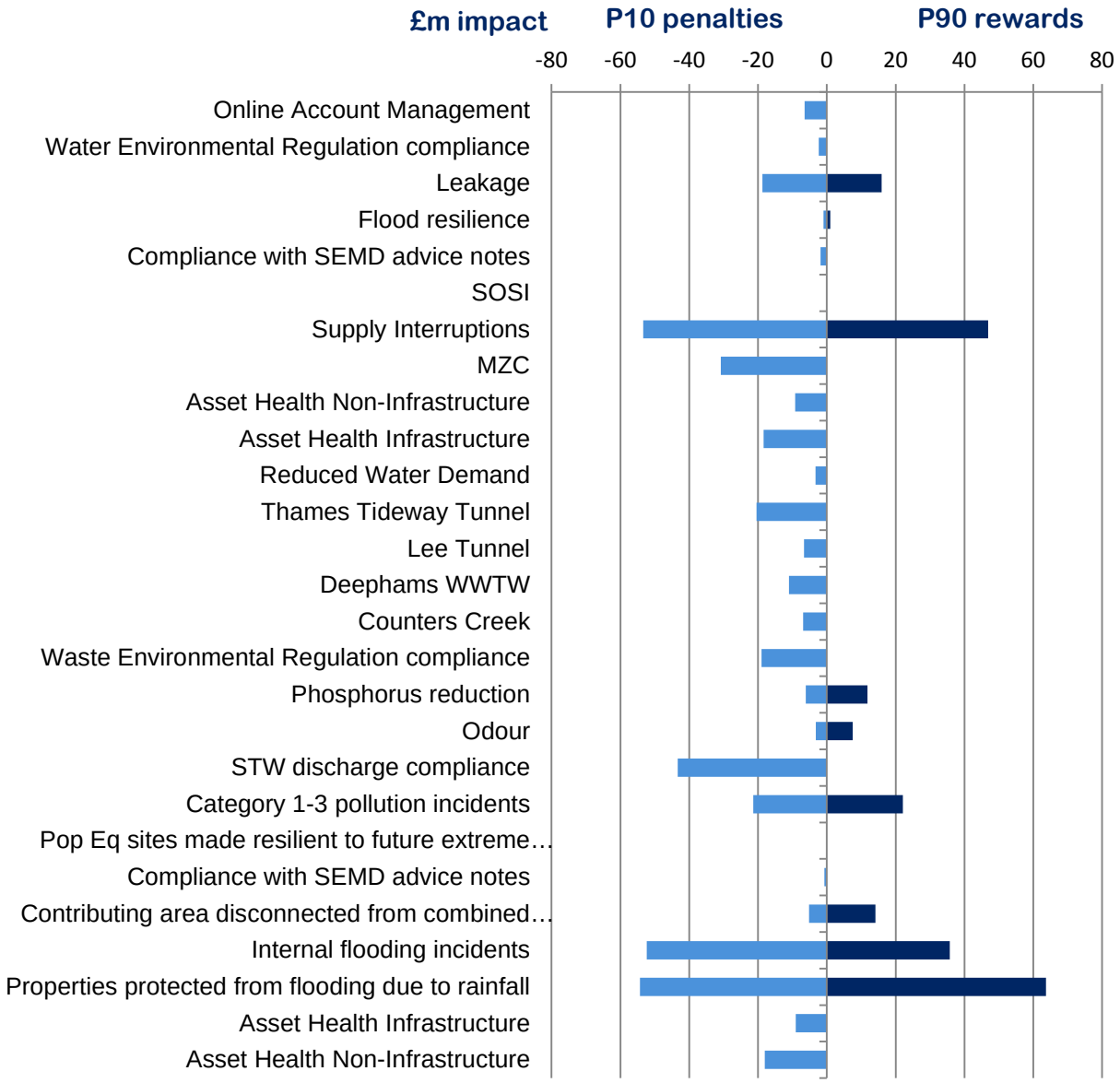
Table AA4.9 shows the balance between reward and penalty, penalty only and reputational incentives in the package of incentives for the company, and Figure AA4.1 shows the potential financial impact of each of the financial incentives proposed.

Table AA4.9 The composition of the package of ODIs

	Reward and penalty	Penalty only	Non-financial incentive
Wholesale water	3	7	9
Wholesale wastewater	6	8	8
TTT	0	1	2
Household retail	1	1	7
Total	10	17	26

The following graph shows the potential financial consequences of the individual financial ODIs. The figures represent the penalties and rewards associated with the p10 and p90 scenarios over the five years (2015-16 to 2019-20). This means there is a 10% chance of performance being higher or lower than these assumed levels. In most cases, the potential maximum will be bigger but is very unlikely to occur. The p10 and p90 therefore represent a more realistic estimate of potential financial consequences.

Figure AA4.1 Overview of financial ODIs



As explained in the policy chapter A2, we are introducing an aggregate cap on rewards and collar on penalties from the ODIs. Details of how the cap/collar will operate are set out in section A2.5 of policy chapter A2 and we summarise below representations made by Thames Water on the overall cap and collar.

Table AA4.10 – Representation on the overall cap and collar on ODIs

Representation	What we have done	Why we did it
The cap should exclude tax otherwise the impact is understated.	No change	Calculating the cap pre-tax would not be consistent with the calibration of the ODI RoRE ranges (which we calculated post tax). We therefore consider that we should continue to assess post tax-based on a notional tax rate of 20% to avoid distortions across companies.
The cap should be 1.5% of RoRE based customer research which they consider showed support for ODI impacts in the range of ±1.0% to 1.5% RoRE, assuming zero tax impacts.	No change	The Thames Water survey is not conclusive, with 27% supporting a 2% and 15% a 3% cap compared to 34% for a 1% cap. The company and/or CCG can reduce the cap where it is in the best long-term interests of customers.
TTT ODI should not be excluded from the cap as performance will be assessed during the 2015-20 period.	No change to exclusion of TTT ODI but remove exclusions of projects not assessed in period	The TTT will in effect be assessed during this period. However, it remains on the list of ODIs related to newly funded enhancements in 2015-20 which we consider should be excluded from the cap.
The RoRE calculation should be based on notional gearing (to avoid movements in actual gearing changing the level of the cap/collar).	No change	The cap was calculated based on notional gearing in the draft determinations. We agree that this appears sensible as actual gearing varies from 56% to 88%, and the level of the cap should not depend on companies' decisions over their own financial structures.
The aggregate cap and collar should be monitored on an annual basis to provide transparency to customers and stakeholders.	Agree included proposals	We agree that the aggregate cap and collar should be monitored on an annual basis and this should be included in companies' regulatory reporting.

Representation	What we have done	Why we did it
Do not understand how the RoRE cap will apply to household without any RCV.	Change approach to remove cap from household and non-household retail	The cap is likely to be non-binding as most companies have only one household retail financial ODI and financial incentives are limited.

The following PCs are excluded from the ODI cap/collar for the relevant control:

- SB3 – Properties protected from flooding due to rainfall, only the Counters Creek specific penalty for non-delivery
- SB8 – Lee Tunnel Shaft G
- SB9 – Deephams penalty
- T1C – Thames Tideway Tunnel construction costs penalty.
- In the remainder of this chapter, we provide the following information on each PC which forms part of this final determination:

In the remainder of this chapter, we provide the following information on each PC which forms part of this final determination:

In the remainder of this chapter, we provide the following information on each PC which forms part of this final determination.

- The name and detailed definition of the PC.
- The
- type of incentive.
- The
- performance commitment level.
- For
- financial incentives:
  - the limits on rewards and penalties (caps and collars) and neutral zones (deadbands) as applicable[7]; and
  - the incentive rates.
- Additional
- details on the measure.
- Where

[7] Unless otherwise stated, a deadband is the level of service against which an incentive is calculated and the cap or collar is the level of service at which the maximum reward or penalty occurs. So for example, if the deadband is 1.29 and the actual performance level is 1.39, the result of the incentive would be a penalty of (1.39-1.29) times the specified penalty rate.”.

- we have not accepted the company's proposals, the nature of the intervention made is also explained.

Appendix 1 of our final methodology statement contains a number of worked examples that illustrate how the different incentive types will operate.

Performance commitments and ODIs in detail

Wholesale water outcome A: Demonstrate to our customers and stakeholders that they can trust us, that we are easy to do business with and that we care

Performance commitment WA1: Improve handling of written complaints by increasing 1st time resolution

Detailed definition of performance measure: The percentage of written complaints relating to the wholesale water business (excluding metering) which are resolved at the first stage, without the need for escalation.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	%	90%	95%	95%	95%	95%	95%

Additional details

Necessary detail on measurement units	The measurement unit is the proportion of written complaints relating to water services (excluding metering) that are resolved first time, without the need for escalation.
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.

Performance commitment WA2: Number of Written complaints per 10,000 connected properties

Detailed definition of performance measure: The number of written complaints about water operational activity per 10,000 connected properties that receive water services from Thames Water.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Number of written complaints per 10,000 connected properties	11.66	10.64	9.61	8.58	7.55	6.53

Additional details

Necessary detail on measurement units	Measurement units are the number of written complaints about water operational activity per 10,000 connected properties that receive water services from Thames Water. The activities carried out between the wholesale water and retail price controls will be managed through a service level agreement (SLA), which will cover, among other things, information integrity and accuracy across the separate business functions. This is rounded to two decimal places
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.

Performance commitment WA3: Customer satisfaction surveys (Internal CSAT monitor)

Detailed definition of performance measure: The average customer satisfaction score for customer contacts relating to the wholesale water operational activity, using Thames Water's internal CSAT monitor.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Score 1:5	4.10	4.35	4.45	4.50	4.55	4.60

Additional details

Necessary detail on measurement units	Measurement unit is the average customer satisfaction score for customer contacts relating to water operational activity
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.

Performance commitment WA4: Reduced water consumption from issuing water efficiency devices to customers

Detailed definition of performance measure: Reduced water consumption (demand) measured in Ml/d, achieved from issuing water efficiency devices to customers. The calculation of the demand reduction from these devices follows Ofwat guidelines (Ofwat – June Return Reporting Requirements, 2011) and is reported as part of the annual return.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Reduced demand Ml/d	4.24					15.45
Penalty collar	Reduced demand Ml/d						11.70
Penalty deadband	Reduced demand Ml/d						15.45

Incentive rates

Incentive type	Incentive rate (£m/ Reduced demand Ml/d)
Penalty	0.870

Additional details

Necessary detail on measurement units	Measurement unit is the cumulative reduction in demand (in Ml/d) by the end of 2015-20 from issuing water efficiency devices to customers. The calculation of the demand reduction from these devices follows Ofwat guidelines (Ofwat – June Return Reporting Requirements, 2011) and is reported as part of the Annual Return.
Frequency of PC measurement and any use of averaging	The penalty applies to performance at the end of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment WA5: Provide a free repair service for customers with a customer side leak outside of the property

Detailed definition of performance measure: The number of properties where Thames Water provides a free repair service to customers with a customer side leak outside their property. These are additional targeted properties, above the company's annual baseline number (10,000), aligned with the roll out of its progressive metering programme.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Number against target above baseline no.	10,000 baseline	1170	1450	1410	900	890

Additional details

Necessary detail on measurement units	Measurement unit is the number of properties where Thames Water provides a free repair service to customers with a customer side leak outside their property
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Wholesale water outcome B: We will provide a safe and reliable Water service that complies with all necessary standards and is available when our customers require it

Performance commitment WB1: Asset Health Water Infrastructure

Detailed definition of performance measure: The Asset Health status in each year of 2015-20, based on independently assessed performance against a basket of key indicators that represent the health of the infrastructure assets.

The Asset Health measure for water infrastructure is made on the basis of indicators of bursts, unplanned interruptions to supply, iron mean zonal non-compliance, inadequate pressure, planned network rehabilitation and customer complaints of discolouration and white water.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Composite index	Stable	Stable	Stable	Stable	Stable	Stable
Penalty deadband	Composite index		Marginal	Marginal	Marginal	Marginal	Marginal
Penalty collar	Composite index		Deteriorating	Deteriorating	Deteriorating	Deteriorating	Deteriorating

Incentive rates

Incentive type	Incentive rate (£m/status decrement/year)
Penalty	4.6

Additional details

Necessary detail on measurement units	Measurement unit is the Asset Health status in each year of 2015-20, based on independently assessed performance against a basket of key indicators that represent the health of the infrastructure or non-infrastructure assets, and therefore the service being provided to current and future customers. The Asset Health measure for water infrastructure is made on the basis of indicators of bursts, unplanned interruptions to supply, iron mean zonal non-compliance, inadequate pressure, planned network rehabilitation and customer complaints of discolouration and white water. The reference levels against which Thames Water will assess its performance are included in the composite table below. The method for calculating the performance of the Asset Health index will be set out in a methodology document, which will be reviewed by a suitably qualified independent expert who will report to Thames Water's Board and customer group on the reasonableness of the methodology. Any sustained challenge to the methodology, or assessment will be reported in the final assessment.
Frequency of PC measurement and any use of averaging	The penalty applies to performance in each of the five years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	The penalty incentive rate applies to a single change in status, where stable to marginal and marginal to deteriorating each represent a single change in status. Marginal status represents the effective penalty deadband, as no penalty is earned until performance is assessed as marginal. Penalties start to occur in the event of a single year of marginal or deteriorating status with penalties applying in each year where the status is below stable.

Composite index table

				Reference levels				
Sub measure	Unit	2014-15	Limits	2015-16	2016-17	2017-18	2018-19	2019-20
Total bursts	Nr	8840	Ref	8840	8840	8840	8840	8840
Unplanned interruptions to customer >12hr (DG3)	Nr	1354	Ref	1354	1354	1354	1354	1354
Iron mean zonal non-compliance	%	0.16	Ref	0.16	0.16	0.16	0.16	0.16
Inadequate pressure (DG2)	Nr	34	Ref	34	34	34	34	34
Planned network rehabilitation	Nr		Ref	650	650	650	650	650
Customer complaints discolouration white water	Nr per 1000 pop	0.13	Ref	0.13	0.13	0.13	0.13	0.13

Source: Thames Water Performance Commitment Response – Water. June 2014

Performance commitment WB2: Asset Health Water Non Infrastructure

Detailed definition of performance measure: The Asset Health status in each year of 2015-20, based on performance against a basket of key indicators that represent the health of the non-infrastructure assets.

The Asset Health measure for water non-infrastructure is made on the basis of indicators of Disinfection Index, Reservoir Integrity Index, Drinking Water Quality Compliance Measures – Turbidity, Drinking Water Quality Compliance Measures –

Enforcement actions, Process Control Index, and Water Quality Customer Complaints for chlorine and hardness.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Composite index	Stable	Stable	Stable	Stable	Stable	Stable
Penalty deadband	Composite index		Marginal	Marginal	Marginal	Marginal	Marginal
Penalty collar	Composite index		Deteriorating	Deteriorating	Deteriorating	Deteriorating	Deteriorating

Incentive rates

Incentive type	Incentive rate (£m/status decrement/year)
Penalty	4.6

Additional details

Necessary detail on measurement units	Measurement unit is the Asset Health status in each year of 2015-20, based on independently assessed performance against a basket of key indicators that represent the health of the infrastructure or non-infrastructure assets, and therefore the service being provided to current and future customers. The Asset Health measure for water non-infrastructure is made on the basis of indicators of disinfection, reservoir integrity, drinking water quality compliance – turbidity and enforcement actions, process control and water quality customer complaints for chlorine, monitored complaints for hardness. The reference levels against which Thames Water will assess its performance are included in the composite table below. The method for calculating the performance of the Asset Health index will be set out in a methodology document, which will be reviewed by a suitably qualified independent expert who will report to Thames

	Water's Board and customer group on the reasonableness of the methodology. Any sustained challenge to the methodology, or assessment will be reported in the final assessment.
Frequency of PC measurement and any use of averaging	The penalty applies to performance in each of the five years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	The penalty incentive rate applies to a single change in status, where stable to marginal and marginal to deteriorating each represent a single change in status. Marginal status represents the effective penalty deadband, as no penalty is earned until performance is assessed as marginal. Penalties start to occur in the event of a single year of marginal or deteriorating status, with penalties applying in each year where the status is below stable.

Composite index table

				Reference levels				
Sub measure	**Unit**	**2014-15**	**Limits**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Disinfection index (DWI)	%		Ref	99.97	99.97	99.97	99.97	99.97
Reservoir Integrity Index	%		Ref	99.97	99.97	99.97	99.97	99.97
DWQ Compliance Measures – turbidity	Nr of Sites	1	Ref	1	1	1	1	1
Process control index	%		Ref	99.99	99.99	99.99	99.99	99.99

				Reference levels				
Sub measure	Unit	2014-15	Limits	2015-16	2016-17	2017-18	2018-19	2019-20
DWQ Compliance measures – Enforcement Actions	Nr	0	Ref	0	0	0	0	0
Water Quality Complaints for: chlorine monitored complaints for hardness	Nr per 1000 pop		Ref	0.7	0.7	0.7	0.7	0.7

Source: Thames Water Performance Commitment Response – Water. June 2014

Performance commitment WB3: Compliance with drinking water quality standards – Ofwat/DWI KPI

Detailed definition of performance measure: Compliance with drinking water quality standards – Ofwat/DWI KPI, is the mean zonal compliance in the year for water quality parameters. It is an existing KPI which is reported annually to Ofwat and the DWI.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% compliance	99.94%	99.94%	99.94%	100%	100%	100%
Penalty collar	% compliance		99.91%	99.91%	99.93%	99.93%	99.93%

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty deadband	% compliance		99.93%	99.93%	99.95%	99.95%	99.95%

Incentive rates

Incentive type	Incentive rate (£m/0.01 pp /year)
Penalty	3.855

Additional details

Necessary detail on measurement units	The measurement unit is the mean zonal compliance in the year, as currently reported to the DWI. Performance is rounded to the nearest two decimal places for the purpose of applying the ODI
Frequency of PC measurement and any use of averaging	The penalty applies to performance in each of the five years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment WB4: Properties experiencing chronic low pressure (DG2)

Detailed definition of performance measure: This measure is the previous Ofwat DG2 measure, which shows the number of properties at the end of the reporting year experiencing chronic low pressure.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	No. of properties	34	34	34	34	34	34

Additional details

Necessary detail on measurement units	Measurement unit is previous DG2 measure showing the number of properties at the end of the reporting year experiencing chronic low pressure
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment WB5: Average hours lost supply per property served, due to interruptions >4hr

Detailed definition of performance measure: This is the annual, average number of hours lost supply per property served, due to interruptions >4hr, from both planned and unplanned events. A cap (20,000) applies to the number of property hours counted for any single incident.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Hours lost supply per property served	0.13	0.13	0.13	0.13	0.13	0.13

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty collar	Hours lost supply per property served		0.15	0.15	0.15	0.15	0.15
Reward cap	Hours lost supply per property served		0.10	0.10	0.10	0.10	0.10

Incentive rates

Incentive type	Incentive rate (£m/0.01 hours lost per property served/year)
Penalty	5.335
Reward	3.125

Additional details

Necessary detail on measurement units	Measurement unit is the average number of hours lost supply per property served, due to interruptions >4hr, from both planned and unplanned events. A cap (20,000) applies to the number of property hours for any single incident. Performance will be rounded to two decimal places
Frequency of PC measurement and any use of averaging	The penalty applies to performance in each of the five years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment WB6: Security of Supply Index – Ofwat KPI

Detailed definition of performance measure: This is the existing annual Security of Supply (SOSI) index. This measure is reported and audited as part of the Annual Return process.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Index	100	100	100	100	100	100
Penalty collar	Index		97	97	97	97	97

Incentive rates

Incentive type	Incentive rate (£m/index point/year)
Penalty	2.230

Additional details

Necessary detail on measurement units	Measurement unit is the existing annual security of supply (SOSI) index. This measure is reported and audited as part of the annual return process. The calculation matches the method for current annual reporting.
Frequency of PC measurement and any use of averaging	The penalty applies to performance in each of the five years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment WB7: Compliance with SEMD advice notes (with or without derogation)

Detailed definition of performance measure: Compliance with SEMD (Security and Emergency Measures Directive) Advice Notes, with or without derogation. These are the advice notes issues by Defra and written by CPNI (the Centre for Protection of National Infrastructure).

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% compliance	100%					100%
Penalty collar	% compliance						0%

Incentive rates

Incentive type	Performance levels (%)		Incentive rate
	Lower	Upper	
Penalty	0%	100%	40% of annualised costs saved through scope reduction

Additional details

Necessary detail on measurement units	This measures compliance with the SEMD Advice Notes to deliver a secure supply of water and resilience in supply.
Frequency of PC measurement and any use of averaging	The penalty applies to performance at the end of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25

Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	This incentive will return 40% of any 2015-20 revenue as a result of reductions in scope used to estimate the SEMD cost for Thames Water's 27 June 2014 submission. This will be in addition to the 50% of costs returned after the totex menu reward. For the avoidance of doubt, this does not apply to cost increases or to cost reductions as a result of efficiencies. Incentives will be applied in 2020-25 on an NPV-neutral basis.

Performance commitment WB8: Ml/d of sites made resilient to future extreme rainfall events

Detailed definition of performance measure: The capacity (in Ml/d) of water treatment works where Thames Water has invested to protect supply from extreme weather events (defined as a 1:100 rainfall event), by the end of 2015-20.

This will be measured by the successful delivery of the solutions to protect supply from the identified sites. Ml/d will be measured from the design capacity of the sites.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Ml/d cumulative	N/a					1015
Penalty collar	Ml/d cumulative						812
Reward cap	Ml/d cumulative						1218

Incentive rates

Incentive type	Incentive rate (£m/Ml/d cumulative)
Penalty	0.005
Reward	0.005

Additional details

Necessary detail on measurement units	Measurement unit is the capacity (in Ml/d) of water treatment works where Thames Water has invested to protect supply from extreme weather events, by the end of 2015-20
Frequency of PC measurement and any use of averaging	The penalty applies to performance at the end of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Wholesale water outcome C: We will limit our impact on the environment and achieve a socially responsible, sustainable business for future generations, including reducing levels of leakage

Performance commitment WC1: Greenhouse gas emissions from water operations

Detailed definition of performance measure: The greenhouse gas emissions (in kilo tonnes of carbon dioxide (CO_2) equivalent) from water operations.

This performance measure takes into account all forecast movements in the use of energy and emissions, including impacts from Thames Water's wider investment programme and efficiency activities. Its specific programme is optimised at a company-wide level and then allocated to water or wastewater service based on each site-specific solution in the preferred programme. This PC is allocated 100% to Wholesale Water, being delivered solely by solutions on water sites.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Kt CO_2e	247.8	227.0	185.0	166.1	146.6	136.2

Additional details

Necessary detail on measurement units	Measurement unit is the greenhouse gas emissions (in kilo tonnes of carbon dioxide (CO_2) equivalent) from water operations
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment WC2: Leakage

Detailed definition of performance measure: The annual average level of leakage, including customer supply pipe leakage, in Ml/d. This is reported on an annual basis in the company's annual returns.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Ml/d	665	649	630	620	612	606
Penalty collar	Ml/d		657	649	649	649	649
Reward deadband	Ml/d		637	619	609	600	594
Reward cap	Ml/d		626	607	596	588	582

Incentive rates

Incentive type	Incentive rate (£m/Ml/d/year)
Penalty	0.445
Reward	0.265

Additional details

Necessary detail on measurement units	Measurement unit is the annual average level of leakage, in Ml/d.
Frequency of PC measurement and any use of averaging	The penalty applies to annual performance in the first four years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment WC3: Abstraction Incentive Mechanism (AIM)

Detailed definition of performance measure: This is a new measure being developed by Ofwat for an industry-wide incentive, to apply during 2015-20. Thames Water will align the measure with the detailed definition to be formed by Ofwat, which the company understands will be score-based using abstracted volume at identified sites.

Incentive type: Reputational

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Score		TBC	TBC	TBC	TBC	TBC

Additional details

Necessary detail on measurement units	N/a – measurement units will be defined as the incentive is developed.
Frequency of PC measurement and any use of averaging	N/a – frequency of measurement will be defined as the incentive is developed.

Performance commitment WC4: We will educate our existing and future customers

Detailed definition of performance measure: This measures the number of children directly engaged each year through Thames Water's education programme on water supply, including working in schools, educational visits and site open days.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	No. of children directly engaged	14,000	15,000	16,000	17,000	18,000	20,000

Additional details

Necessary detail on measurement units	The measurement unit is the number of children Thames Water has directly engaged each year in its water education programme.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment WC5: Deliver 100% of agreed measures to meet new environmental regulations

Detailed definition of performance measure: The proportion of agreed measures completed to meet new environmental regulations. Agreed measures are defined as:

- water schemes listed on NEP4; and
- low flow and drought management plan schemes.

The list of schemes currently agreed is listed in the PC Response WC5 (27 June 2014)

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% agreed schemes completed	N/a					100%
Penalty collar	% agreed schemes completed						0%

Incentive rates

Incentive type	Incentive
Penalty	40% of 2015-20 costs reduced through scope reductions

Additional details

Necessary detail on measurement units	This measures compliance with the Environment Agency agreed schemes for the agreed measures to meet new environmental regulations
Frequency of PC measurement and any use of averaging	The penalty applies to performance at the end of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to RCV
Any other information or clarifications relevant to correct application of incentive	This incentive will return 40% of any 2015-20 cost as a result of reductions in scope used to estimate the 27 June 2014 submission. This will be in addition to the 50% of costs returned after the totex menu reward. For the avoidance of doubt, this does not apply to cost increases or to cost reductions as a result of efficiencies. Incentives will be applied in 2020-25 on an NPV-neutral basis.

Wholesale water outcome D: We will provide the level of customer service our customers require, in the most economic and efficient manner, to ensure that bills are no more than necessary

Performance commitment WD1: Energy imported less energy exported

Detailed definition of performance measure: The net reduction in energy from the grid (energy imported less energy exported) measured in gigawatt hours (GWh), achieved by improving the energy efficiency of assets and increasing self-generation percentage across water operations.

This performance measure takes into account all forecast movements in the use of energy, including impacts from Thames Water's wider investment programme and efficiency activities. The specific programme is optimised at a company-wide level and then allocated to water or wastewater services based on each site-specific solution in the preferred programme. This PC is allocated 100% to wholesale water, being delivered solely by solutions on water sites.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	GWh	505	494	483	472	472	476

Additional details

Necessary detail on measurement units	Measurement unit is the net energy imported by wholesale water operations in GWh.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Wholesale wastewater outcome A: Demonstrate to our customers and stakeholders that they can trust us, that we are easy to do business with and that we care

Performance commitment SA1: Improve handling of written complaints by increasing first time resolution

Detailed definition of performance measure: The percentage of written complaints relating to the wholesale wastewater business which are resolved at the first stage, without the need for escalation.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	%	90%	95%	95%	95%	95%	95%

Additional details

Necessary detail on measurement units	Measurement units are the percentage of wastewater operational written complaints resolved first time.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment SA2: Number of Written complaints per 10,000 connected properties

Detailed definition of performance measure: The number of written complaints about wastewater operational activity per 10,000 connected properties that receive wastewater services from Thames Water.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Number of written complaints per 10,000 connected properties	8.05	7.60	7.15	6.70	6.25	5.80

Additional details

Necessary detail on measurement units	Measurement unit is the number of written complaints about wastewater operational activity per 10,000 connected properties that receive wastewater services from Thames Water. This is rounded to two decimal places.
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.

Performance commitment SA3: Customer satisfaction surveys (Internal CSAT monitor)

Detailed definition of performance measure: The average customer satisfaction score for customer contacts relating to wastewater operational activity, using Thames Water's internal CSAT Monitor.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Score 1:5	4.30	4.55	4.60	4.65	4.65	4.70

Additional details

Necessary detail on measurement units	Measurement unit is the average customer satisfaction score for customer contacts relating to wastewater operational activity
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.

Wholesale wastewater outcome B: We will provide a safe and reliable wastewater service that complies with all necessary standards and is available when our customers require it

Performance commitment SB1: Asset Health Wastewater Non Infrastructure

Detailed definition of performance measure: The Asset Health status in each year of 2015-20 based on independently assessed performance against a basket of key indicators that represent the health of the non-infrastructure assets.

The Asset Health measure for wastewater non-infrastructure is made on the basis of indicators of unconsented pollution incidents, the percentage of sewage treatment works discharges failing numeric consents, and the total population equivalent served by sewage treatment works failing look-up table consents.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Composite index	Stable	Stable	Stable	Stable	Stable	Stable
Penalty deadband	Composite index		Marginal	Marginal	Marginal	Marginal	Marginal
Penalty collar	Composite index		Deteriorating	Deteriorating	Deteriorating	Deteriorating	Deteriorating

Incentive rates

Incentive type	Incentive rate (£m/status decrement /year)
Penalty 1	4.505

Additional details

Necessary detail on measurement units	The measurement unit is the Asset Health status in each year of 2015-20, based on independently assessed performance against a basket of key indicators that represent the health of the infrastructure or non-infrastructure assets, and therefore the service being provided to current and future customers. The Asset Health measure for wastewater non-infrastructure is made on the basis of indicators of unconsented pollution incidents, the percentage of sewage treatment works discharges failing numeric consents, and the total population equivalent served by sewage treatment works failing look-up table consents. The reference levels against which Thames Water will assess its performance are included in the composite table below. In line with the Environment Agency's expectations, Thames Water must target 100% compliance with permits to discharge treated wastewater.
Frequency of PC measurement and any use of averaging	The penalty applies to performance in each year from 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast performance for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	The penalty incentive rate applies to a single change in status, where stable to marginal and marginal to deteriorating each represent a single change in status. Marginal status represents the effective penalty deadband, as no penalty is earned until performance is assessed as marginal. Penalties start to occur in the event of a single year of marginal or deteriorating status with penalties applying in each year where the status is below stable.

Composite index table

				Reference levels				
Sub measure	Unit	2014-15	Limits	2015-16	2016-17	2017-18	2018-19	2019-20
Unconsented pollution incidents (cat 1, 2 and 3) STWs, storm tanks, pumping stations and other	Nr		Ref	27	27	27	27	27
Sewage treatment works discharges failing numeric consents %	%	1.12	Ref	0	0	0	0	0
Total population equivalent served by sewage treatment works failing look-up table consents	Population equivalent		Ref	0	0	0	0	0

Source: Thames Water Performance Commitment Response – Wastewater of June 2014 updated to reflect the Environment Agency's expectation that the company will target 100% compliance with all permits to discharge wastewater.

Performance commitment SB2: Asset Health Wastewater Infrastructure

Detailed definition of performance measure: The Asset Health status in each year of 2015-20, based on independently assessed performance against a basket of key indicators that represent the health of the infrastructure assets. The Asset Health measure for wastewater infrastructure is made on the basis of indicators of number of sewer collapses, number of blockages, unconsented category 1 to 3 pollution incidents and properties internally flooded due to other causes. This includes assets transferred under section 105A of the Water Industry Act.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Composite index	Stable	Stable	Stable	Stable	Stable	Stable
Penalty deadband	Composite index		Marginal	Marginal	Marginal	Marginal	Marginal
Penalty collar	Composite index		Deteriorating	Deteriorating	Deteriorating	Deteriorating	Deteriorating

Incentive rates

Incentive type	Incentive rate (£m/status decrement/year)
Penalty 1	5.6

Additional details

Necessary detail on measurement units	The measurement unit is the Asset Health status in each year of 2015-20, based on performance against a basket of key indicators that represent the health of the infrastructure or non-infrastructure assets, and therefore the service being provided to current and future customers. The reference levels against which Thames Water will assess its performance are included in the composite table below.

Frequency of PC measurement and any use of averaging	The penalty applies to performance in each year of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast performance for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/ penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	The penalty incentive rate applies to a single change in status, where stable to marginal and marginal to deteriorating each represent a single change in status. Marginal status represents the effective penalty deadband, as no penalty is earned until performance is assessed as marginal. Penalties start to occur in the event of a single year of marginal or deteriorating status with penalties applying in each year where the status is below stable.

Source: Thames Water Performance Commitment Response – Wastewater of June 2014

Composite index table

				Reference levels				
Sub measure	**Unit**	**2014-15**	**Limits**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Number of sewer collapses	Nr	338	Ref	498	498	498	498	498
Number of sewer blockages	Nr	57,632	Ref	57,362	57,362	57,362	57,362	57,362
Pollution incidents (cat 1-3)	Nr of incidents	182	Ref	203	203	203	203	203
Properties internally flooded	Nr	848	Ref	848	848	848	848	848

Performance commitment SB3: Properties protected from flooding due to rainfall

Detailed definition of performance measure: The number of properties which receive further protection from flooding due to rainfall by the end of 2015-20, at the estimated frequency and severity of flooding as detailed in Thames Water's business plan.

The ODI is set based on annualised benefits which are determined using a matrix (Table 5 in PCR SB3, 27 June 2014) which sets out different values depending on the change in probability and severity of flooding for a particular property. The annual benefit is £20.054m; rewards are earned for delivering greater annual benefit and penalties for lesser annual benefit.

Further details on the operation of the PC and ODI (including worked examples) are provided in PCR SB3 (27 June 2014).

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Properties protected	N/a					2127
Penalty collar	Equivalent property numbers						1459
Reward cap	Equivalent property numbers						2753

Incentive rates

Incentive type	Performance levels (equivalent properties protected)		Incentive rate
	Lower	Upper	
Penalty	1459	2127	Determined by reference to actual costs and benefits matrix
Reward	2127	2753	Determined by reference to actual costs and benefits matrix

Additional details

Necessary detail on measurement units	The measurement unit for the PC is the number of properties further protected from flooding due to rainfall by the end of 2015-20. The ODI is based on the actual benefits delivered, which are presented for illustration as equivalent property numbers (further details provided below).
Frequency of PC measurement and any use of averaging	The penalty and reward apply to performance at the end of 2015-20. This will be calculated as the cumulative number of properties protected based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured at the end of the AMP period.
Timing and frequency of rewards/penalties	Rewards and penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to RCV
Any other information or clarifications relevant to correct application of incentive	The ODI calculation will be based on the actual costs and benefits associated with the specific solutions delivered (for rewards) or not delivered (for penalties) against the commitment, which will depend on the type of solution, the severity of the flooding and the probability of flooding occurring. The process for determining incentive rates per property is defined up front, using the formula: Penalty or Reward incentive rate = (annualised incremental WTP – annualised incremental cost) + (company's totex incentive rate * incremental cost) The exact incentive rate and size of the ODI true-up will be determined by Thames Water, ex post at PR19, with necessary independent assurance provided by the Independent Experts

Group. The annual willingness to pay for the ODI calculation will be determined by the annualised benefits matrix in table 5 in PCR SB3 (27 June 2014), which sets out the different values depending on the change in probability and severity of flooding for a particular property. These values are applied to both outperformance and underperformance.

The incremental costs for the ODI calculation will be based on the difference between allowed and actual costs as a result of changes in scope (for the avoidance of doubt, cost changes as a result of other factors, for example, inflation risk, would be treated outside the ODI in the totex menu).

The penalty collar is financial (set at £54m), calculated as the penalty that would be incurred at the p10 estimate of performance (1,459 equivalent properties). This corresponds to a performance scenario in which Thames Water only delivers the Counters Creek solution in its 2015-20 business plan. The reward cap is financial (set at £64m), calculated as the reward that would be earned at the P90 estimate of performance (2,753 equivalent properties). This is evaluated by applying the ex-ante penalty formula to the additional benefits and costs of P90 outputs compared to those in Thames Water's 2015-20 business plan. For the purposes of setting the penalty collar and reward cap, it is assumed that the incremental benefits and costs are equal to those of the solutions in Thames Water's 2015-20 business plan. A separate penalty for the Counters Creek scheme is discussed below.

As the reward cap and penalty collar are set in financial terms (not based directly on the number of properties), and the ODIs are based on the incremental benefits and costs of the specific outputs actually delivered, the equivalent number of properties for the penalty collar and reward cap, as shown in the PC tables above, are indicative only.

Further detail on the method for determining the rewards and penalties linked with outperformance and underperformance is set out in the table below.

Within the framework, there will be a different treatment of outputs related to the Counters Creek solution, as a result of the risks to the delivery of these outputs that are outside of Thames Water's control.

- If the Counters Creek project is cancelled and will not be delivered in AMP6 or future AMPs for reasons inside company control the ODI penalty will follow the same method as for non-delivery of the other sewer flooding outputs. This leads to a maximum penalty of £162m.
- If the Counters Creek project is cancelled and will not be

	delivered in AMP6 or future AMPs for reasons outside company control the ODI penalty will be limited to the allowed costs that have been avoided through non-delivery of the scheme that have not otherwise been returned to customers through the totex menu. This leads to a maximum penalty of £129m (equal to 50% of the totex underspend). • An additional penalty has been included relating to delays to the Counters Creek scheme. In the event that the entire scheme is not delivered by 2019-20, but will be delivered in a future AMP, then a penalty equivalent to half the annualised benefit of the scheme (£6.878m) will be applied in 2019-20, and each subsequent year that the scheme is not delivered. This penalty is outside of the overall cap on rewards and penalties. This will be subject to specific, risk-based independent assurance, as set out in Thames Water's business plan.

Sewer flooding risk matrix (annualised benefits)

	Severity									
	Return period	Frequency last 20 yrs	Probability	Highway flooding	External property flooding	Converted basement flooding	Restricted toilet use (up to a day)	Restricted toilet use (up to a week)	Restricted toilet use (up to a month)	Internal property flooding
Probability	1:30	0	0.00	£91	£296	£417	£1,611	£1,705	£2,024	£2,023
	1:20	1	0.05	£183	£600	£840	£3,222	£3,409	£4,048	£4,080
	1:10	2	0.10	£620	£2,000	£2,800	£4,833	£5,114	£6,072	£13,600
	1:5	4	0.20	£2,166	£4,432	£6,228	£11,212	£11,864	£14,088	£30,250
	1:1	20	1.00	£31,454	£26,165	£36,713	£104,386	£110,454	£131,164	£178,321

Source: Thames Water Performance Commitment Response – Wastewater, table 5 page 157 – June 2014.

Performance commitment SB4: Number of internal flooding incidents, excluding those due to overloaded sewers (SFOC)

Detailed definition of performance measure: The number of incidents of internal other causes flooding per year on Thames Water's sewerage network including those from sewers that transferred to the company in October 2011 and pumping stations that will transfer in 2016. Other causes flooding can be caused by blockages, collapses and equipment failures (which also include 'blowbacks' during jetting).

Incentive type: Financial – reward and penalty only

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Incidents	1209	1168	1126	1085	1085	1085
Penalty collar	Incidents		1339	1339	1215	1215	1215
Penalty deadband	Incidents		1209	1209	1085	1085	1085
Reward deadband	Incidents		1085	1085	1085	1085	1085
Reward cap	Incidents		955	955	955	955	955

Incentive rates

Incentive type	Incentive rate (£m/ incidents/year)
Penalty	0.090
Reward	0.055

Additional details

Necessary detail on measurement units	The measurement unit is the number of incidents of internal other causes flooding per year on Thames Water's sewerage network including those from sewers that transferred to the company in October 2011 and pumping stations that will transfer in 2016. Other causes flooding can be caused by blockages, collapses and equipment failures (which also include 'blowbacks' during jetting). Certain mitigation events are defined under the company's assurance procedures.
Frequency of PC measurement and any use of averaging	The penalty applies to annual performance in all years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment SB5: Contributing area disconnected from combined sewers by retrofitting sustainable drainage

Detailed definition of performance measure: The number of hectares of contributing area (that is, local impermeable area that would normally contribute to surface water run-off into a combined sewer) disconnected from the combined sewers by fitting sustainable drainage measures.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Hectares cumulative	N/a					20

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty collar	Hectares cumulative						10
Reward cap	Hectares cumulative						50

Incentive rates

Incentive type	Incentive rate (£m/hectares cumulative)
Penalty	0.515
Reward	0.470

Additional details

Necessary detail on measurement units	The measurement unit is the number of hectares of contributing area (that is, local impermeable area that would normally allow surface water to run-off into a combined sewer) disconnected from the combined sewers by fitting sustainable drainage measures such as water butts, permeable paving, rain gardens and green roofs
Frequency of PC measurement and any use of averaging	This will be calculated as the cumulative hectares delivered based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured at the end of the AMP period.
Timing and frequency of rewards/penalties	Rewards and penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	This commitment is not applicable for separate surface/foul sewer networks and while surface water may still ultimately drain to the combined sewer, the peak flow must be substantially reduced to green field run-off rates

Performance commitment SB6: Compliance with SEMD (Security and Emergency Measures Directive) advice notes, with or without derogation

Detailed definition of performance measure: Compliance with SEMD (Security and Emergency Measures Directive) Advice Notes, with or without derogation. These are the advice notes issues by Defra and written by CPNI (the Centre for Protection of National Infrastructure).

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% compliance	100%					100%
Penalty collar	% compliance						0%

Incentive rates

Incentive type	Incentive rate
Penalty	40% of annualised costs saved through scope reduction

Additional details

Necessary detail on measurement units	This measures compliance with the SEMD Advice Notes to deliver a secure and resilient wastewater service.
Frequency of PC measurement and any use of averaging	This will be calculated as the cumulative percentage compliance based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured at the end of the AMP period.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Any other information or clarifications relevant to correct application of incentive	This incentive will return 40% of any 2015-20 revenue as a result of reductions in scope used to estimate the SEMD cost for Thames Water's 27 June 2014 submission. This will be in addition to the 50% of costs returned after the totex menu reward. For the avoidance of doubt, this does not apply to cost increases or to cost reductions as a result of efficiencies. Incentives will be applied in 2020-25 on an NPV-neutral basis.

Performance commitment SB7: Population equivalent of sites made resilient to future extreme rainfall events

Detailed definition of performance measure: The capacity (in population equivalent, PE) of wastewater treatment works where Thames Water has invested to protect supply from extreme weather events (defined as a 1:100 rainfall event), by the end of 2015-20.

This will be measured by the successful delivery of the solutions to protect supply from the identified sites. PE will be measured from the design capacity of the sites.

Incentive type: Financial – penalty only

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	PE cumulative						1,700,000
Penalty collar	PE cumulative						1,360,000

Incentive rates

Incentive type	Incentive rate (£/PE cumulative)
Penalty	0.71

Additional details

Necessary detail on measurement units	The measurement unit is the cumulative capacity (in population equivalent) of wastewater treatment works made resilient to flooding by the end of 2015-20.
Frequency of PC measurement and any use of averaging	This will be calculated as the cumulative population equivalent made resilient based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured at the end of the AMP period.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment SB8: Lee Tunnel including Shaft G

Detailed definition of performance measure: The Lee Tunnel, including Shaft G, is an AMP5 overlap scheme due for completion on 31 December 2015.

Incentive type: Financial – penalty only

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC			Deliver the scheme				
Penalty deadband			Scheme not delivered	Scheme not delivered	Scheme not delivered	Scheme not delivered	Scheme not delivered

Incentive rates

Incentive type	Incentive rate (£m/year)
Penalty – delay	£6.6m/year

Additional details

Necessary detail on measurement units	In line with the special cost claim, the Lee Tunnel is due for delivery on 31 December 2015. In the event that the scheme is not completed within the 2015-16 financial year a penalty will apply in that year, and in each subsequent year, that the scheme is not delivered.
Frequency of PC measurement and any use of averaging	The PC will be assessed annually.
Timing and frequency of rewards/penalties	Penalties will be calculated annually and applied as part of the price review in 2019.
Form of reward/penalty	Adjustment to revenue

Performance commitment SB9: Deephams Wastewater Treatment Works

Detailed definition of performance measure: The Deephams wastewater treatment works is subject to a significant special cost claim.

Incentive type: Financial – penalty only

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC				Deliver the scheme			
Penalty deadband				Scheme not delivered	Scheme not delivered	Scheme not delivered	Scheme not delivered

Incentive rates

Incentive type	Incentive rate (£m)
Penalty – non-delivery	£193m

Additional details

Necessary detail on measurement units	In line with the special cost claim, the investment at Deephams wastewater treatment works is due for delivery during 2016-17. In the event that the scheme does not proceed, Thames Water will return, through the ODI, half of the allowed costs plus the benefits foregone. The remaining costs will be recovered through the cost incentive mechanism.
Frequency of PC measurement and any use of averaging	The PC will be assessed at the end of the AMP period.
Timing and frequency of rewards/penalties	Penalties will be applied as part of the price review in 2019.
Form of reward/penalty	Adjustment to revenue

Any other information or clarifications relevant to correct application of incentive	Customers are compensated for under-performance through a number of the other performance commitments and ODIs. In the event that the Deephams scheme does not proceed, the full penalty will apply minus any penalties already incurred directly as a result of underperformance related to the non-delivery of the Deephams scheme. It is for Thames Water to demonstrate these overlaps, and any double-counting, in the event that the penalty is incurred.

Wholesale wastewater outcome C: We will limit our impact on the environment and achieve a socially responsible, sustainable business for future generations, including reducing levels of leakage

Performance commitment SC1: Greenhouse gas emissions from wastewater operations

Detailed definition of performance measure: This is the greenhouse gas emissions (in kilo tonnes of carbon dioxide (CO_2) equivalent) from wastewater operations. This performance measure takes into account all forecast movements in the use of energy and emissions, including impacts from Thames Water's wider investment programme and efficiency activities. The company's specific programme is optimised at a company-wide level and then allocated to water or wastewater service based on each site-specific solution in the preferred programme. This PC is allocated 100% to wholesale wastewater, being delivered solely by solutions on wastewater sites.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Kt CO_2e	394.6	368.1	322.5	290.5	269.6	260.6

Additional details

Necessary detail on measurement units	The measurement unit is the greenhouse gas emissions (in kilo tonnes of carbon dioxide (CO_2) equivalent) from wastewater operations
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.

Performance commitment SC2: Total category 1-3 pollution incidents from sewage related premises

Detailed definition of performance measure: The total annual number of pollution incidents (category 1, 2 and 3) from sewage related premises, including both consented and unconsented incidents, and those from sewers that transferred to the company in October 2011 and pumping stations that will transfer in 2016. The source of information for this PC is the Environment Agency's National Incident Recording System (NIRS) database. The pollution sources for this commitment include sewage treatment works, storm tanks, combined sewer overflows, foul sewers, pumping stations, rising mains and other.

This measure does not include category 4 incidents, consistent with historical regulatory reporting to Ofwat.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Category 1, 2 and 3 incidents	340	340	340	340	340	340
Penalty collar	Category 1, 2 and 3 incidents		465	465	465	465	465
Penalty deadband	Category 1, 2 and 3 incidents		400	400	400	400	400
Reward deadband	Category 1, 2 and 3 incidents		263	263	263	263	263
Reward cap	Category 1, 2 and 3 incidents		229	229	229	229	229

Incentive rates

Incentive type	Incentive rate (£m/incident/year)
Penalty	0.130
Reward	0.130

Additional details

Necessary detail on measurement units	The measurement unit is the total number of pollution incidents (category 1, 2 and 3) from sewage related premises, including both consented and unconsented incidents and those from sewers that transferred to the company in October 2011 and pumping stations that will transfer in 2016. The source of information for this PC is the Environment Agency's National Incident Recording System (NIRS) database. The pollution sources for this commitment include sewage treatment works, storm tanks, combined sewer overflows, foul sewers, pumping stations, rising mains and other. Certain mitigation events are defined under the company's assurance procedures.
Frequency of PC measurement and any use of averaging	The penalty applies to annual performance in all years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	Rewards in each year over which the ODI applies will be subject to the attainment of zero serious pollution incidents that year. If a category 1 or 2 pollution incident occurs in a given year of 2015-20, a reward may not be earned for performance in the same year. This 'gateway' to rewards is applicable on a year-by-year basis and the occurrence of a category 1 or 2 pollution incident in a given year of 2015-20 will not limit the ability to earn rewards in future years.

Performance commitment SC3: Sewage treatment works discharge compliance

Detailed definition of performance measure: The percentage of sewage treatment works with discharges compliant with numeric environmental permits in each year. This is an existing measure which is assessed annually by the EA through MD109 reporting.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% compliance	98.88%	100%	100%	100%	100%	100%
Penalty deadband	% compliance		98.88%	98.88%	98.88%	98.88%	98.88%
Penalty collar	% compliance		96.61%	96.61%	96.61%	96.61%	96.61%

Incentive rates

Incentive type	Incentive rate (£m/pp. compliance/year)
Penalty	3.820

Additional details

Necessary detail on measurement units	This is the continuance of an existing measure showing the percentage of sewage treatment works with discharges compliant with numeric environmental permits in each year and is assessed annually by the EA through MD109 reporting. The measurement units are rounded to the nearest two decimal places and the incentive rate should be applied in proportion. In line with the Environment Agency's expectations, the company should meet 100% compliance with numeric permits to discharge.

Frequency of PC measurement and any use of averaging	The penalty applies to annual performance in all years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast for year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue

Performance commitment SC4: Water bodies improved or protected from deterioration as a result of TW activities

Detailed definition of performance measure: The number of water bodies improved or protected by catchment management solutions, to control phosphorus and other pollutants, as part of an innovative pilot programme. This measure does not directly relate to a statutory requirement and is not a formal requirement of Defra, Natural England, the DWI or the Environment Agency.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	No. of water bodies improved	N/a					13

Additional details

Necessary detail on measurement units	This PC is for the number of water bodies improved by catchment management solutions to control phosphorus. This measure does not directly have a statutory requirement and is not a formal requirement of Defra, Natural England, the DWI or the Environment Agency.

Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment SC5: Satisfactory sludge disposal compliance

Detailed definition of performance measure: The percentage compliance of the company's wastewater sludge with all relevant legislation and best practice guidance, such as The Sludge (Use in Agriculture) Regulations 1989; The ADAS Safe Sludge Matrix (2001); The Nitrates Regulations (2008; 2013); Waste Management Licensing (amendment and related provisions) Regulations 2005.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% compliance	100%	100%	100%	100%	100%	100%

Additional details

Necessary detail on measurement units	This is an existing measure showing the proportion of the company's sludge disposal to agricultural land (in tonnes of dry solids) that is compliant with all relevant legislation and best practice guidance, such as The Sludge (Use in Agriculture) Regulations 1989; The ADAS Safe Sludge Matrix (2001); The Nitrates Regulations (2008; 2013); Waste Management Licensing (amendment and related provisions) Regulations 2005.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment SC6: We will educate our existing and future customers

Detailed definition of performance measure: This measures the number of children directly engaged each year through Thames Water's education programme for wastewater, including working in schools, educational visits and site open days.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	No. children directly engaged	14,000	15,000	16,000	17,000	18,000	20,000

Additional details

Necessary detail on measurement units	The measurement unit is the number of children Thames Water has directly engaged each year in its wastewater education programme.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment SC7: Modelled reduction in properties affected by odour

Detailed definition of performance measure: This is a new measure showing the reduction in the number of properties affected by odour on a cumulative basis, assessed through odour monitoring.

Odour modelling is carried out as part of the detailed design phase of a scheme which confirms the point sources of odour and the reduction in emission rate

expected. The properties impacted are assessed by pre- and post-project odour dispersion modelling.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Modelled reduction in properties (cumulative)	14,311	0	793	1,771	6,593	6,593
Penalty collar	Modelled reduction in properties (cumulative)		0	0	0	0	3,874
Reward cap	Modelled reduction in properties (cumulative)		0	5,807	11,800	13,636	18,650

Incentive rates

Incentive type	Incentive rate (£/modelled reduction in properties/year)
Penalty	270
Reward	220

Additional details

Necessary detail on measurement units	This is a new measure showing the reduction in the number of properties affected by odour. This is measured using a confirmation of point and area sources via odour dispersion modelling. The ODI is applied annually to the cumulative performance in each year. So, for example, a one year delay in reducing the incidence of odour by one modelled property would incur the annual penalty rate.

Frequency of PC measurement and any use of averaging	The penalty applies in each year to annual performance in all five years of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecast performance in year 5. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	The penalty collar and reward caps represent an indicative level of performance associated with the total financial value of the penalty and reward over 2015-20. The penalty collar and reward cap are binding as a total financial magnitude of £3m and £6.66m respectively, over 2015-20 rather than as annual levels of performance. In practice, the collar and cap may be reached through a number of profiles of performance over the AMP.

Performance commitment SC8: Deliver 100% of agreed measures to meet new environmental regulations

Detailed definition of performance measure: Proportion of agreed measures completed to meet new environmental regulations. Agreed measures are defined as:

- wastewater schemes listed on NEP4, except the TTT;
- one successful application for first time sewerage;
- 11 specified WFD schemes to improve either biological oxygen demand (BOD) or ammonia discharges;
- 13 specified WFD schemes to prevent water bodies deteriorating;
- 11 specified actions to enable Artificial and Heavily Modified Water bodies under Thames Water ownership to achieve Good Ecological Potential; and
- investigations into 192 intermittent discharges suspected of contributing to WFD failures.

The TTT is not included in this measure.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	% agreed schemes completed	N/a					100%
Penalty collar	% agreed schemes completed						Do not deliver NEP5

Incentive rates

Incentive type	Incentive rate
Penalty	40% of cost saved through scope reduction

Additional details

Necessary detail on measurement units	This measures compliance with the Environment Agency agreed schemes for the agreed measures to meet new environmental regulations
Frequency of PC measurement and any use of averaging	The penalty applies to performance at the end of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured annually.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to RCV
Any other information or clarifications relevant to correct application of incentive	This incentive will return 40% of the NEP5 2015-20 cost as a result of reductions in scope used to estimate the 27 June 2014 submission. This will be in addition to the 50% of costs returned after the totex menu reward. For the avoidance of doubt, this does not apply to cost increases or to cost reductions as a result of efficiencies. If the final requirements are lower than Thames Water has anticipated, the company will return 90% of the allowed costs

	back to customers. If the final requirements are higher, the company will seek to first reprioritise the schemes it will deliver in 2015-20 and seek to complete the programme in the early part of 2020-25, in advance of the regulatory deadline of December 2021. If the overall level of investment is broadly equivalent but slightly different from the specific schemes Thames Water has identified, the company proposes that schemes could be swapped, as long as certain criteria are met: • Investment has a regulatory requirement. • The Environment Agency agrees to the change. • The forecast cost to deliver the measure is broadly equivalent. • Where benefits are applicable, the new scheme offers greater or equivalent benefits. Any residual regulatory requirements can be delivered in 2020-25 or a transition period at the end of 2015-20. Incentives will be applied in 2020-25 on an NPV-neutral basis.

Performance commitment SC9: Reduce the amount of phosphorus entering rivers to help improve aquatic plant and wildlife

Detailed definition of performance measure: The amount of phosphorus removed from rivers through the final NEP5 schemes by the end of 2015-20, measured as kilograms per day. The delivery of NEP5 schemes will be reported and signed-off independently by the Environment Agency through its annual MD109 report.

Load reductions are to be set on a theoretical basis using permitting data to overcome seasonal, weather and measurement impacts and thereby keeping it transparent and simple to regulate. Where no permitted phosphorus limit exists, the assumed final effluent concentration will be considered to be 6 mg/l. This is the average final effluent discharge concentration of phosphorus across all measured sites where no phosphorus limit currently exists in the permit. Thames Water proposes that the Environment Agency verifies the assumed load reductions.

Incentive type: Financial – reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Kg removed/ day	N/a					151.8
Penalty collar	Kg removed/ day						0
Reward cap	Kg removed/ day						199

Incentive rates

Incentive type	Incentive rate
Penalty	Determined by reference to actual costs and benefits using reliable projections as soon as available (and to be included in annual report on outcomes performance no later than 2016-17)
Reward	Determined by reference to actual costs and benefits using reliable projections as soon as available (and to be included in annual report on outcomes performance no later than 2016-17)

Additional details

Necessary detail on measurement units	The measurement unit is kg/day of phosphorus removed from rivers through the final NEP5 schemes, when confirmed, by the end of 2015-20. Delivery of NEP5 schemes will continue to be reported and signed-off independently by the Environment Agency through its annual MD109 report. Thames Water proposes that the Environment Agency would also verify the assumed load reductions.
Frequency of PC measurement and any use of averaging	The penalty and reward apply to performance at the end of 2015-20. This will be calculated at PR19 based on actuals for years 1-4 and forecasts for year 5 of 2015-20. Performance against the commitment will be measured annually after the final requirements are confirmed in January 2016.

Timing and frequency of rewards/penalties	Rewards and penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to RCV
Any other information or clarifications relevant to correct application of incentive	The ODIs are based on the actual costs and benefits associated with the specific solutions delivered against the commitment, which will depend on the type of solution and the benefits delivered through P reduction. During the 2016-17 financial year, the company will restate the committed performance level in line with the expectations of the final NEP5 as confirmed by the Environment Agency; reward caps and penalty collars will remain unchanged. The company will also state the expected benefits of the final NEP5 programme. The annual benefits delivered will be determined by the same method for calculating the benefits of the 2015-20 programme.

Wholesale wastewater outcome D: We will provide the level of customer service our customers require, in the most economic and efficient manner, to ensure that bills are no more than necessary

Performance commitment SD1: Energy imported less energy exported

Detailed definition of performance measure: This is the net reduction in energy from the grid (energy imported less energy exported) measured in gigawatt hours (GWh), achieved by improving the energy efficiency of assets and increasing the self-generation percentage across wastewater operations.

This performance measure takes into account all forecast movements in the use of energy, including impacts from Thames Water's wider investment programme and efficiency activities. The specific programme is optimised at a company-wide level and then allocated to water or wastewater service based on each site-specific solution in the preferred programme. This PC is allocated 100% to wholesale wastewater, being delivered solely by solutions on wastewater sites.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	GWh	457	428	392	329	303	295

Additional details

Necessary detail on measurement units	The measurement unit is the net energy imported by wholesale wastewater operations in gigawatt hours (GWh).
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Thames Tideway Tunnel price control outcome: Thames Water is committed to improving outcomes for customers and for the environment, notably by intercepting significant sewage discharges into the tidal River Thames, working together with the IP to ensure the timely and cost-efficient delivery of the TTT project

Performance commitment T1: Thames Water will limit the extent of delays on the overall programme timeline

Detailed definition of performance measure: Thames Water will work positively to limit the extent of delays on the project. This PC has three strands:

A. Successful procurement of the Infrastructure Provider.
B. Acquisition of land rights for the project (subject to planning permission).
C. Completion of construction activities and timely availability of sites to the IP.

For the avoidance of doubt, we do not expect customers to pay twice if the IP undertakes work that falls within Thames Water's scope of activities for the TTT. We expect that if the IP undertakes any work within Thames Water's scope, this would be arranged either contractually between the IP and Thames Water as a private commercial arrangement; or will involve a variation of the Preparatory Works Notice or Project Specification Notice.

If it is dealt with contractually, the IP would undertake the work on Thames Water's behalf as part of its non-regulated activities, and we will expect Thames Water to remunerate the IP for any such work from its allowed revenue under the TTT Control, in the same way as it would remunerate any other contractor undertaking work on its behalf. If it is dealt with through a change to the Preparatory Works Notice or Project Specification Notice, this would be a Relevant Change of Circumstance, and we will ensure that customers do not pay twice.

Performance commitments: T1A – Successful procurement of the Infrastructure Provider

Incentive type: Reputational

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Status		IP award (according to the project timetable)				

Thames Water has stated in its representation that its view is that the IP's licence award would be by 1 July 2015.

Performance commitments: T1B – Thames Water will fulfil its land related commitments in line with the TTT programme requirements.

Incentive type: Reputational

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC			Acquire land access rights in line with programme in the development consent order (DCO) and programme timetable to be agreed with Ofwat.				

Additional details

Necessary detail on measurement units	Thames Water will monitor and report against the extent of delays to acquisition of land rights. Thames Water will publish information from its planning permission and/or its programme timetable setting out by when rights must be acquired. We understand that this timetable may be impacted by the outcome of the DCO (which Thames Water received in September 2014). Thames Water will need to update this now that it has received the DCO.

Performance commitments: T1C – Completion of category 2 and 3 construction works and timely availability of sites to the IP.

Incentive type: Financial – penalty only

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Cumulative number of sites	0	0	0	5	17	24
Penalty deadband	Cumulative number of sites		0	0	5	17	24
Penalty collar	Cumulative number of sites		0	0	0	0	0

The final delivery profile will be agreed after the award of the Main Works contracts, once Thames Water has completed the process to optimise the programme.

Incentive rates

Incentive type	Incentive rate (status)
Penalty	£3.4 million per site, a year

Additional details

Necessary detail on measurement units	Thames Water will monitor the extent of programme delays. To monitor the delivery of T1C, Thames Water will publish details from Appendix 5 annex 4 – Detailed information on construction activities (submitted on 27 June 2014), setting out the category 2 and 3 activities by year and providing further site-specific details for example, when the site needs to be vacated for the IP to begin work. Costs and details of category 1 works have been redacted from the published document for reasons of commercial confidentiality. This delivery profile is currently subject to change as it undergoes a process of optimisation. The final delivery profile will be confirmed no later than the award of the IP contract. Following an assessment of special cost claims across all companies and having applied a consistent

approach for incentives relating to special cost claims across all companies that recognises the benefits foregone if companies do not deliver, we have increased the value of the penalty from the draft determination and penalties will be incurred at each site for each year of delay.

The proposed ODI is the primary regulatory mechanism for incentivising Thames Water to undertake its construction activities on the TTT in a manner that meets the expected timetable for the project. Thames Water is currently in discussions with stakeholders about the development of an Alliance Agreement for the TTT project, and the company expressed concerns in its representation that the agreement could result in double jeopardy and distort incentives.

To the extent that Thames Water is able to demonstrate that double jeopardy has occurred for the element of the Alliance Agreement that is specific to the delay of the construction sites to which this ODI relates, Thames Water may request that we net off the penalty incurred through the Alliance agreement from this PC.

Ofwat will receive regular reporting on the Alliance Agreement via the Liaison Committee, and therefore expects to have some degree of oversight of penalties under this agreement. These reports will be assessed by the independent technical assessor; and the Alliance Agreement. Alliance objectives and alliance commitments may not be changed without Ofwat's consent. We will make an assessment at PR19 of any information put forward by Thames Water.

We have intervened to introduce a mechanism to recover costs for customers in the event of non-delivery of category 2 and 3 works if Thames Water does not undertake the project. The maximum amount recovered will equal the agreed expenditure for the work (£227 million), and will enable the costs to be passed back to customers in circumstances where the work has been cancelled for reasons outside of the company's control.

Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year and reviewed through independent assurance process.
Timing and frequency of rewards/penalties	Penalties will be calculated annually and applied to the total five-year position in 2015-20 as part of PR19.
Form of reward/penalty	RCV adjustment
Any other information or clarifications relevant to correct application of incentive	The penalty rate is based on our view of the annualised average incremental cost per site of the category 2 and 3 works uplifted with estimate of infraction fines (in respect of financial sanctions that the European Court of Justice could apply in the context of infringement proceedings against the UK) as proxy for benefits foregone. The delay penalty will apply to each site for each year of delay. This results in an incentive penalty per site of £3.4 million a year. In the event that all sites were delayed until 2020-21, the maximum incentive penalty would be £156 million. As set out above, any site-specific penalties for delays incurred in 2015-20 by Thames Water, specifically relating to its activities, through the Alliance Agreement may be netted off against the penalty incurred through the ODI, subject to sufficient regulatory oversight.

Performance commitment T2: Thames Water will engage effectively with the IP, and other stakeholders, both in terms of integration and assurance

Detailed definition of performance measure: Thames Water and the IP will need to work effectively together to achieve a successful outcome for the project. Thames Water will need to work closely with the IP, and other stakeholders, including through reporting to the liaison committee, to seek to deliver its activities on a timely and efficient basis.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Status	N/a	Engage effectively with IP and other stakeholders	Engage effectively with IP and other stakeholders	Engage effectively with IP and other stakeholders	Engage effectively with IP and other stakeholders	Engage effectively with IP and other stakeholders

Additional details

Necessary detail on measurement units	Thames Water will monitor delivery of this commitment using the following measures: • In assessing and reporting performance against this commitment, Thames Water will seek views from the IP and other relevant parties including any Independent Expert appointed by the IP, Ofwat and Defra. • Thames Water will develop a standard approach to obtain this information, and commence monitoring from the date of the IP award.
Frequency of PC measurement and any use of averaging	PC reported at the end of each financial year.
Any other information or clarifications relevant to correct application of incentive	A summary of the results will be published annually.

Performance commitment T3: Thames Water will engage with its customers to build understanding of the Thames Tideway Tunnel project. Thames Water will liaise with the IP on its surveys of local communities impacted by construction.

Detailed definition of performance measure: Thames Water will undertake a programme of ongoing engagement with our customers and collaborate with water-only companies to understand and measure customers' views. The company will also liaise with the IP in relation to its surveys of communities impacted by its (the IP's) construction sites.

Incentive type: Reputational

Performance commitments – To be determined

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC			Improving trend	Improving trend	Improving trend	Improving trend	Improving trend

Additional details

Necessary detail on measurement units	Thames Water will design and commission suitable customer research to understand and measure customer views, including on key indicators such as awareness of the TTT, understanding of why it is needed, support for the project, acceptability of bill impacts and their perceived affordability. Thames Water will collaborate with the water-only companies and licensed retail suppliers operating in its region to develop a joined up communications strategy. Thames Water will consider the overall customer base as well as more local issues. The PC should be determined during 2015-20 based on the outcomes of this work on the ongoing research and communications strategy.
Frequency of PC measurement and any use of averaging	A summary of the results will be published at least annually.

Household retail outcome A: Improving customer service by doing the basics excellently and by getting things 'right first time'

Performance commitment RA1: Minimise the number of written complaints received from customers

Detailed definition of performance measure:

The number of written complaints relating to charging and billing, per 10,000 connected properties.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Number of written complaints per 10,000 connected properties	16	16	17	18	17	15

Additional details

Necessary detail on measurement units	The measurement unit is the number of written complaints relating to charging and billing, per 10,000 connected properties. Thames Water has allocated written complaints based on the CCWater allocations in its 2012-13 complaints report. The allocation between household and non-household is based on Thames Water's finance cost allocation (94% household and 6% non-household). This is rounded to the nearest integer.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment RA2: Improve handling of written complaints by increasing first time resolution

Detailed definition of performance measure:

The proportion of written complaints relating to charging and billing that are resolved at the first stage, without the need for escalation

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	%	90%	95%	95%	95%	95%	95%

Additional details

Necessary detail on measurement units	This measures the proportion of written complaints relating to charging and billing that are resolved at the first stage, without the need for escalation. Thames Water has allocated written complaints based on the CCWater allocations in its 2012-13 complaints report. The allocation between household and non-household is based on Thames Water's finance cost allocation (94% household and 6% non-household). This is rounded to the nearest percentage.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment RA3: Improve customer satisfaction of retail customers – charging and billing service

Detailed definition of performance measure:

The average customer satisfaction score (from a scale of 1 to 5) for the charging and billing services by the household retail business, using Thames Water's internal CSAT monitor.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Mean score out of 5	4.40	4.45	4.55	4.45	4.60	4.65

Additional details

Necessary detail on measurement units	The measurement unit is the customer satisfaction score (out of 1 to 5) for the charging and billing services. This is based on the average customer score from Thames Water's internal CSAT monitor, which is based on 'resolved contacts' aligned with SIM in 2010-15. The coding of customer feedback to charging and billing services is done in the internal CSAT tool and is quality checked each month. This is rounded to two decimal places.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment RA4: Improve customer satisfaction for retail customers – operations contact centre

Detailed definition of performance measure:

The average customer satisfaction score (from a scale of 1 to 5) for the operational contact services by the household retail business, using Thames Water's internal CSAT monitor.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Mean score out of 5	4.40	4.45	4.52	4.57	4.60	4.65

Additional details

Necessary detail on measurement units	The measurement unit is the customer satisfaction score (out of 1 to 5) for the operational contact centre. This is based on the average customer score from Thames Water's internal CSAT monitor, which is based on 'resolved contacts' aligned with SIM in 2010-15. The coding of customer feedback to operational contact centre is done in the internal CSAT tool and is quality checked each month. This is rounded to two decimal places.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment RA5: Increase the number of bills based on actual meter reads (in cycle)

Detailed definition of performance measure:

The proportion of household customers' bills (for water only, wastewater only, and water and wastewater customers) that are based on actual meter reads in cycle (that is, meter read is conducted in the same financial year as the bill is issued).

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	%	85%	96%	96%	96%	96%	96%

Additional details

Necessary detail on measurement units	This measurement unit is the proportion of household customers' bills (for water only, wastewater only, and water and wastewater customers) that are based on actual meter reads in cycle (that is, meter read is conducted in the same financial year as the bill is issued).
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment RA6: Service incentive mechanism (SIM)

Detailed definition of performance measure: SIM score as defined in Ofwat's SIM guidance and updated in IN13/03.

Incentive type: Reward and penalty

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Score		tbc	tbc	tbc	tbc	tbc

Additional details

Necessary detail on measurement units	Ofwat determined reward and penalty incentive
Frequency of PC measurement and any use of averaging	Annual
Timing and frequency of rewards/penalties	Penalties and rewards will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to Revenue
Any other information or clarifications relevant to correct application of incentive	Ofwat determined reward and penalty incentive

Household retail outcome B: Offer a choice of easy to use contact options

Performance commitment RB1: Implement new online account management for customers supported by web-chat

Detailed definition of performance measure:

The delivery of the new online self-serve channel. Delivery is measured by the 'go live' date being achieved by the end of the relevant financial year (that is, 31 March). 'Go Live' is defined as it being used to bill customers, update accounts, capture contacts, record payments, and for online account management that Thames Water's customers can sign up for to use the new service. It will also provide the functionality to deliver alternative tariffs.

Incentive type: Financial – penalty only

Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	Status	Limited online	Limited online	Limited online	New online self-serve channel	Online self-serve channel	Online self-serve channel
Penalty collar	Status						CRMB billing system not commissioned nor on track for 2020-25 delivery
Penalty deadband	Status					CRMB billing system does not 'go live'	CRMB billing system does not 'go live'

Incentive rates

Incentive type	Incentive rate (£/status)
Penalty	£6.5m in each of years 4 and 5
Penalty	Additional £20.5m applicable in year 5 (total 2015-20 allowed cost in ACTS adjustment plus premium)

Additional details

Necessary detail on measurement units	The measurement unit is the delivery of the new online self-serve channel. Delivery is measured by the 'go live' date being achieved by the end of the relevant financial year (that is, 31 March).
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.
Timing and frequency of rewards/penalties	Penalties will be calculated at PR19, to be applied in 2020-25
Form of reward/penalty	Adjustment to revenue
Any other information or clarifications relevant to correct application of incentive	This commitment is fully enabled by the system and has a commitment to 'Go Live' as being by the end of 2017-18. 'Go Live' would be defined as it being used to bill customers, update accounts, capture contacts, record payments, and for online account management that Thames Water's customers can sign up for to use the new service. It will also provide the functionality to deliver alternative tariffs. Failure of the system to 'go live' will incur a penalty of £6.5m in each of years 4 and 5, based on the annualised benefit value to customers. In addition, an ODI penalty of up to a maximum of the allowed 2015-20 cost (depreciation charge net of opex savings, which is equal to £18.6m) plus a 10% premium to ensure that Thames Water has an incentive to deliver the system, resulting in a maximum penalty of £20.5m. The plan will be to roll-out the system to all customers, with 'go live' being the start of this roll-out to customers. The ODI therefore works as follows under four possible outcomes:

	1. The system 'goes live' in 2015-20 (that is, by 31 March 2020), roll out to all customers has started in 2015-20, and a plan is available to complete the roll out in 2020-25 **No ODI penalty for year 5. £6.5m penalty applies in year 4 if 'go live' date is after 31st March 2019.** 2. The system 'goes live' in 2015-20 but to a lower specification than planned (for example, limited functionality, or the plan is to roll out the system to only a subset of customers) **ODI penalty to return appropriate portion of allowed 2015-20 cost (plus 10% premium). Penalty is calculated by Thames Water and verified by an independent third party, in line with approach to independent assurance for all ODIs. In addition, £6.5m penalty in year 4 if 'go live' date is after 31 March 2019.** 3. The system does not 'go live' in 2015-20, due to unforeseen reasons outside reasonable management control (for example, legislative or market changes, significant contractual dispute), but Thames Water can demonstrate mitigating actions and is on track for full system roll out in 2020-25 **£6.5m penalty to compensate customers for lost benefit for both years 4 and year 5. Need to ensure 2020-25 funding to deliver the system does not double-count 2015-20 funding. This is subject to third party verifications and assurance, in line with approach to independent assurance for all ODIs** 4. The system does not 'go live' in 2015-20, where: (i) this is due to reasons within reasonable management control; or (ii) Thames Water is not on track for full system roll out in 2020-25 **ODI penalty of £20.5m (that is, equal to allowed 2015-20 depreciation net of opex savings plus 10% premium). This is subject to third party verifications and assurance, in line with approach to independent assurance for all ODIs. In addition, £6.5m penalty for both years 4 and year 5 to compensate customers for the lost benefit of the system.** Performance and the financial ODI will be assured independently; Thames Water will report performance in a transparent manner to its customers, stakeholders and

	Customer Group. Thames Water will publish progress against this PC on an annual basis, providing transparency to customers and ensuring incentives for the company remain current.

Household retail outcome C: Improving cash collection from those that can pay and helping those that are struggling to pay

Performance commitment RC1: Increase the number of customers on payment plans

Detailed definition of performance measure:

The percentage of customers (water only, wastewater only, and water and wastewater) paying their bill using a direct debit payment plan.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	%	52%	53%	54%	54%	57%	60%

Additional details

Necessary detail on measurement units	This measures the percentage of customers (water only, wastewater only, and water and wastewater) paying their bill using a direct debit payment plan.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Performance commitment RC2: Increase cash collection rates

Detailed definition of performance measure: The percentage of cash collected from the billing in that year. This includes all household customers.

Incentive type: Reputational

Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	%	88.6%	89.0%	89.4%	89.7%	89.6%	90.4%

Additional details

Necessary detail on measurement units	The measurement unit is the percentage of cash collected from the billing in that year. This includes all household customers.
Frequency of PC measurement and any use of averaging	PC reported at end of each financial year and reviewed through independent assurance process.

Outcome delivery and reporting

In policy chapter A2, we outline a framework against which we have assessed Thames Water's proposals in relation to outcome delivery and reporting.

The table below summarises Thames Water's approach to the measurement, reporting and governance of outcomes and our assessment of this approach.

Table AA4.11 Thames Water's outcome delivery and reporting

Thames Water's proposals	Our assessment
In the June Submission, Thames Water provided information on the processes for Governance and Accountability, Audit and Assurance, and Transparency and Publication for reporting	In our methodology statement, we set out our expectation that companies should demonstrate that their PCs can be measured and recorded

Thames Water's proposals	Our assessment
performance over the 2015-20 period. For the PCs, the company will set out methodology statements which outline the processes and procedures for collecting data and calculating the metrics to ensure consistency in the approach to reporting performance. The data is reviewed monthly, quarterly and annually by the Board and Executive team. For 2015-20, the company will build on the existing audit and assurance process in place for the 2015-20 period. In addition to the use of internal and external audit teams to assure the systems and processes from which performance data is collected and reported, the company will: • Appoint an independent assessor for the full price control period • Set-up a customer group (following on from the CCG) to review and challenge the performance reporting and assurance process. • Obtain independent third party assurance on the methodology and technical issues, for PCs where a degree of judgement and discretion is involved in the calculation – for example through a peer review with relevant experts. The company will report performance through the existing regulatory publication process, comprising: • Annual Performance Report (incorporating the KPI dashboard) • Annual Report and Financial Statements (which also includes the risk and compliance statement) • Regulatory accounts The company proposes to commit to undertaking further customer engagement and research to understand the level of detail and frequency that customers would prefer to receive of the performance against outcomes.	consistently and that they will have the appropriate governance and quality assurance processes in place to achieve this. We also expect companies to be transparent with customers about their performance against their outcomes and commitments. Thames Water has provided sufficient evidence demonstrating the approach it will undertake to ensure the PCs will be measured and reported consistently, and the scope of the governance and assurance processes it will apply. Therefore, we have accepted the company's proposal. In time, we may develop further information requirements with regard to outcomes, as we review and change current requirements relating to performance indicators and each company's annual risk and compliance statement.

Annex 5 Thames Tideway Tunnel Control – uncertainty

We have applied our methodology for the wholesale price controls in reaching our final determination for the Thames Tideway Tunnel Control ('TTT Control'). We have considered risk and uncertainty consistent with the framework for PR14 overall. We have applied the wholesale cost of capital to the TTT Control, and in doing so we have taken into account our view that Thames Water retains appropriate ownership of the design (and associated liability) of the works it has carried out and will carry out for the overall TTT project. We have also taken account of the fact that there are areas of the TTT Control which face lower risk than the "business as usual" wholesale wastewater control (such as the treatment of land costs); and the available mechanisms to mitigate unique material risks where they are largely out of Thames Water's control.

We set out in our risk and reward guidance that there are a range of standard industry uncertainty mechanisms that apply to the wholesale controls. As stated in our draft determination, we consider that mechanisms relating to RPI indexation, five-yearly price reviews, totex sharing rates, the flexibility provided by ODIs and the interim determination of K (IDoK) and substantial effects provisions should apply in respect of the TTT Control.

The modifications we made to Thames Water's licence which enable a separate TTT Control incorporate a bespoke materiality threshold for the IDoK mechanism. This would allow Thames Water to request the price limit for the TTT Control to be reopened in circumstances that relate to specified Notified Items and Relevant Changes of Circumstance (RCC) that exceed 10% of the RCV for the TTT Control in the prior year. We set the materiality threshold at 10% of TTT Control RCV as we consider this would provide a meaningful threshold for both 2015-20 and future control periods, should the TTT Control be extended beyond 2020.

We summarised our proposals for uncertainty mechanisms for the TTT Control in section A4.4. We set out further detail on Thames Water's proposals and our assessment of the uncertainty mechanism in table AA5.1 below.

Table AA5.1 Thames Water's proposals for TTT Control uncertainty mechanisms

Assessment at draft determination	Our assessment
In its representation, Thames Water proposed: • to retain 100:0 cost sharing for land costs as proposed in its June business plan; • non-land costs subject to cost sharing under the menu.	The 100:0 sharing mechanism for land has applied in 2010-15 as this enables customers to benefit from the full disposal value for land and so we accepted Thames Water's proposal at the draft determination. We propose to maintain the 100:0 sharing rate for certain categories of land costs for final determination, and therefore exclude these costs from the cost-sharing menu. As set out in Thames Water's June business plan (Appendix 5 p52), the categories of land costs eligible for 100:0 sharing include: • land acquisition; • other property costs; • land and sales rental income; • compensation (statutory and non-statutory); • exceptional hardship programme; and • houseboat relocation. We expect Thames Water to report costs eligible for the 100:0 cost-sharing rate separately to enable true-ups to be made at future price reviews. Thames Water defined some land-related costs as eligible for cost sharing in its June business plan. These are: • land management; and • mitigation of construction. We have included these costs (along with all non-land costs) in the TTT costs eligible for the menu and expect these to be accounted for with the other costs included in the menu. The wholesale cost menu will apply for non-land costs, consistent with the approach adopted for the wholesale wastewater control.

Assessment at draft determination	Our assessment
Thames Water has accepted the materiality and triviality thresholds proposed in our draft determination for uncertainty mechanisms. It accepted the proposal that eligible costs exceeding the triviality threshold may be logged up at PR19.	We have introduced the licence modifications necessary to enable the TTT Control, which included a bespoke materiality threshold for an interim determination of 10% of the RCV in the TTT Control. In our draft determinations, we also proposed a triviality threshold of 2% of 2015-20 totex (after taking account of the impact of the menu cost sharing mechanism) that would apply to the 2015-20 baseline for Thames Water's activities on the TTT. Thames Water accepted the triviality threshold in its representations, and we propose to maintain this triviality threshold for the final determination.
Thames Water accepted the Notified Item for scope swaps between the Infrastructure Provider (IP) and Thames Water that we proposed in our draft determination. This is a one-way Notified Item.	We have retained the Notified Item for the final determination. As set out in our draft determination, it addresses only the efficient, net change in costs to Thames Water that arise from the reallocation of scope from the IP to Thames Water to secure efficient project delivery in the light of any delay to the appointment of the IP. We would expect Thames Water to demonstrate how such 'scope swaps' are in customers' interests. We will retain the arrangements for logging up under this Notified Item at a 100:0 sharing rate. Any eligible costs under this Notified Item may be logged up at PR19 (subject to passing the triviality threshold).
Thames Water accepted our proposal that Relevant Changes of Circumstance (RCCs) would apply to the TTT Control.	Our licence modification consultation to enable the TTT Control enables the application of RCCs, applying for material increases in costs relating to legally binding scope changes to the TTT project. In the consultation, we confirmed that we would expect that a change to the Preparatory Work Notice, or to the Project Specification Notice, including withdrawal of these documents, could comprise a RCC in relation to the TTT Control. Costs falling under a relevant change of

Assessment at draft determination	Our assessment
	circumstances would be eligible for an IDoK application.
In its representation, Thames Water made a significant reduction to its June business plan costs estimate. However, it stated that this assumed a Notified Item to cover costs 'relating to but not limited to' the following: • Resilience; • Continued development costs if there is a delay; • Mark ups to contracts by bidders; • Cost of refunding IP bid costs; and • the impact of the Development Consent Order (DCO) on Thames Water Thames Water also set out its view that if we were to adopt the Notified Item defined in the draft determination, we would need to include an additional £48.6 million of development risk costs to ensure an appropriate balance between risk and uncertainty mechanisms. We consider Thames Water's proposal against the gates we have applied for uncertainty mechanisms in our deep dive assessment for the Thames Water TTT project costs and uncertainty.	Our view is that the proposed Notified Item is too broadly defined to adequately protect customers. Thames Water's proposition leaves no risk with the company, and pushes all delivery risk (even the elements that are within Thames Water's control) onto customers. We provide further detail of our assessment of Thames Water's proposed approach to costs and uncertainty in our deep dive assessment for the TTT project which is available on our website. However, we accept that there are circumstances within the activities Thames Water has set out where the company faces risks that are unique in the sector, with potentially material cost consequences. We have addressed this in two ways: • To ensure that Thames Water is incentivised to minimise costs that are within its control we have taken a central view of costs, including of development risks associated with the appointment of the IP in our totex baseline. Our assessment of development costs is based on Thames Water's central view of the timing of appointment of the IP (as set out in section A4.4.1). • We have introduced a Notified Item to cover specific, efficient, additional costs arising as a consequence of specific high impact, low probability events that are beyond the company's control and which lead to an unsuccessful IP procurement process (as set out in section A4.5 and in further detail below). We consider that, overall, our approach provides improved benefits for customers as it will strongly incentivise Thames Water to deliver its obligations at efficient cost, while providing

Assessment at draft determination	Our assessment
	protection in the event that certain circumstances arise that are demonstrably outside its control.
	Notified Item in the event that the IP Procurement process is unsuccessful for a reason outside Thames Water's control: Our assessment is that certain events in the TTT project that have a low probability of occurrence, but a high impact if they did occur, warrant specific uncertainty mechanisms. However, these circumstances must be tightly defined because customers must be protected from costs that are within Thames Water's control. We have limited the scope of the uncertainty mechanism to development risks in circumstances that are demonstrably beyond the control or material influence of Thames Water and unique within the sector. The uncertainty mechanism would be triggered only in circumstances where the current IP procurement process is unsuccessful, and that arise from specified circumstances beyond Thames Water's material influence or control. The events where we assess Thames Water would have little or limited ability to control or influence relate to the following: • Regulatory Decisions[8] that result in either the Government Support Package no longer being offered or being offered on significantly reduced terms from the package presented to bidders from the Thames Water Invitation to Negotiate, or a project licence not being granted; • a judicial review of the Development Consent Order process; • a judicial review of a decision made under the Specified Infrastructure

[8] A Regulatory Decision as defined in the Notified Item means a decision by a public body, including Government; the European Commission; or Ofwat.

Assessment at draft determination	Our assessment
	Projects Regulations; • at any stage in the procurement process prior to announcement of preferred bidder by Thames Water, there are no compliant bids for reasons that are demonstrably beyond Thames Water's prudent management control. In bringing any claim under this Notified Item Thames Water would need to demonstrate that: • the level of costs and the activities undertaken are in customers' interests (for example, when deciding between maintaining a fully resourced team and demobilisation); • it has applied whatever influence it has, and has engaged appropriately in any investigation, appeal or judicial review; • costs are beyond prudent management control; • the additional costs are economic and efficient; and • net additional costs cannot be recovered elsewhere (for example, through insurance). The detailed wording of the Notified Item is included Thames Water's final determination letter. **Form of the uncertainty mechanism:** If the Notified Item is triggered, Thames Water may apply for an interim determination, subject to passing the triviality and materiality thresholds. If Thames Water has not applied for an IDoK during the 2015-20 period, Thames Water may request any costs that qualify under this Notified Item to be logged up at the next price review at a 75:25 sharing rate (customers: company), subject to those costs passing the triviality threshold. This mechanism reflects our expectation that Thames Water should have appropriate incentives to manage its ongoing costs up to the materiality threshold. The sharing

Assessment at draft determination	Our assessment
	rate provides an incentive on Thames Water to manage its costs efficiently in the event that the costs are not sufficient to pass the materiality threshold to trigger an interim determination. **Assessment of the Notified Item against the criteria set out in the methodology** In specifying the criteria for this Notified Item, we have applied the criteria for assessing uncertainty mechanisms. That is, that the risks identified are specific to the company, are outside Thames Water's control, material and in customers' interests. Our assessment of the uncertainty mechanism against these gates is set out below. **Comparability** – The procurement process for the IP is unique in the sector, as it is the first project to be procured under mechanisms not previously used in the water and sewerage sector. It is the first specified scheme under the Specified Infrastructure Projects Regulations 2014 (SIPR), which means the framework is being tested. It is also the first project that is being procured by a company we regulate that will benefit from a Government Support Package (for which State Aid clearance is required), again meaning that the framework is being tested in relation to the sector. The TTT is the first water and sewerage project that has followed a new planning process designed for 'Nationally Significant Infrastructure Projects'. This means that this process is also being tested for the sector. The outcome is a Development Consent Order (DCO) made by two Secretaries of State. Several applications for judicial review of the DCO process are currently being assessed and may be taken forward. **Assessment: Pass** **Controllability** – Under certain, limited scenarios the IP procurement could be

Assessment at draft determination	Our assessment
	unsuccessful, and in extremis alternative delivery models may need to be considered. In defining the uncertainty mechanism, we have focused on the events where our assessment is that Thames Water would have little or limited influence or control. The Notified Item relates only to these circumstances. **Assessment: Pass** **Customers' interests** – Customers have limited ability to influence the process or the delivery model. However, the impact of EU infraction could result in significant costs that would pass to the UK Government in the form of fines. This risk will increase substantially if there is a significant delay to the IP procurement process. There will therefore be an imperative on Thames Water to remedy any procurement problems as soon as possible. **Assessment: Pass** **Overall materiality** – Thames Water would have to re-work some of the activities undertaken in 2010-15 if it had to re-procure the IP and potentially also re-design the solution through circumstances beyond its control. Thames Water has incurred material costs associated with the development of the delivery model, procurement and planning applications in 2010-15. However, we would expect that to the extent Thames Water is required to undertake any of these activities again, these could be achieved at lower cost. **Assessment: Pass**

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

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