

**Setting price controls for 2015-20**  
**Final price control determination notice:**  
**company-specific appendix – Northumbrian Water**



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A minor correction to this company specific appendix was issued on 13 February 2015.
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## Overview

This appendix sets out the details of the final determination of price controls that are specific to Northumbrian 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 – Northumbrian Water’](#) (the ‘draft determination’ for Northumbrian Water) on 30 May 2014, one of two ‘early determinations’ ahead of the August deadline. This meant that, compared to the other non-enhanced companies, the company benefited because it has had greater certainty and has been able to focus on delivering its plan.

Northumbrian Water is not an enhanced company. This means its final determination is subject to ‘equivalence of treatment’ between companies that are not given ‘enhanced’ status.

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, Northumbrian Water’s proposals have evolved to take into account the outcome of our risk-based review (RBR), [‘Setting price controls for 2015-20 – risk and reward guidance’](#) (our ‘risk and reward guidance’), our draft determination and other relevant policy consultations. Its revised business plan, which sought to close the gaps with identified during the RBR, included high quality evidence to support its view of costs, with wholesale costs for water and wastewater being very close to our view of efficient costs. There were, however, a limited number of areas where we considered it necessary to intervene to protect the interests of customers in the draft determination.

In August, we signalled that we would update Northumbrian Water’s draft determination to include amended performance commitments (PCs). This reflected the findings of our comparative assessments of outcome PCs and delivery incentives common to companies across the sector.

The company’s representations on the draft determination focused on providing further evidence and new claims, including:

- a new adjustment to the household retail average cost to serve (ACTS) for bad debt driven by deprivation;
- a new special cost factor claim to address a new statutory obligation in the wholesale wastewater control;
- additional details and evidence to support the inclusion of rewards for exceeding PC targets based on customer willingness to pay; and
- updating its PCs and associated delivery incentives for the comparative assessments on outcomes that were applied across the industry in the August draft determinations, and the cap on the return on regulatory equity (RoRE).

We also received representations from Northumbrian Water's CCG and the Consumer Council for Water (CCWater). Both were broadly supportive of our draft determination, with the CCG supporting the company's proposals for an adjustment to retail costs for bad debt. There were a small number of issues raised by the Environment Agency in relation to some of Northumbrian Water's PCs, and CCWater had some concerns on the rewards associated with outcome delivery incentives (ODIs).

In reaching the final determination, we have carefully considered all 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 changes include:

- in line with all non-enhanced companies, reducing the weighted average cost of capital 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;
- making substantial changes to the outcomes package, and associated RoRE range, as we have corrected for an error in the company's calculations, which resulted in the incentives at draft determination being significantly overstated.
- including costs associated with the new statutory obligation at Whitburn treatment works within our assessment of wholesale wastewater total expenditure (totex).
- including an adjustment to retail costs for bad debt driven by deprivation, though for a lower amount than the company proposal.
- amending some of our adjustments based on reconciling performance in the 2010-15 period.

We summarise our final determination for Northumbrian Water 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)<sup>1</sup>:

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

As we explained in our final methodology statement, these separate controls are binding, confirmed through the modifications already made to the price setting elements of companies' licence conditions. This means that the companies cannot recover more revenue than allowed under each specific price control and cannot transfer costs between the 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 ODIs;
- the efficient costs that we consider the company can achieve;
- the adjustments we are making to the wholesale water and wastewater price controls to reflect the company's performance in 2010-15;
- the allowed return for the wholesale water and wastewater controls, and the retail household and non-household net margins;
- the 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**

Northumbrian 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

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<sup>1</sup> Figures stated in this document (including wholesale costs and bill information) are in 2012-13 prices; retail data is stated in nominal prices. This is consistent throughout this final determination unless otherwise stated.

determination has been made under the terms of Northumbrian Water's licence and the Water Industry Act 1991. We consider that Northumbrian Water must act in an economic and efficient manner in delivering all of its obligations.

Policy chapter A1 sets out the overall 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 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 its menu choice. Any modifications should be confined to correctly adjusting the incentive rates for the difference between the final determination assumption on the cost-sharing rate and the rate associated with their final menu choice.

This price determination sets out the allowed revenues that Northumbrian Water can recover from its customers in the period 2015-20. Northumbrian 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

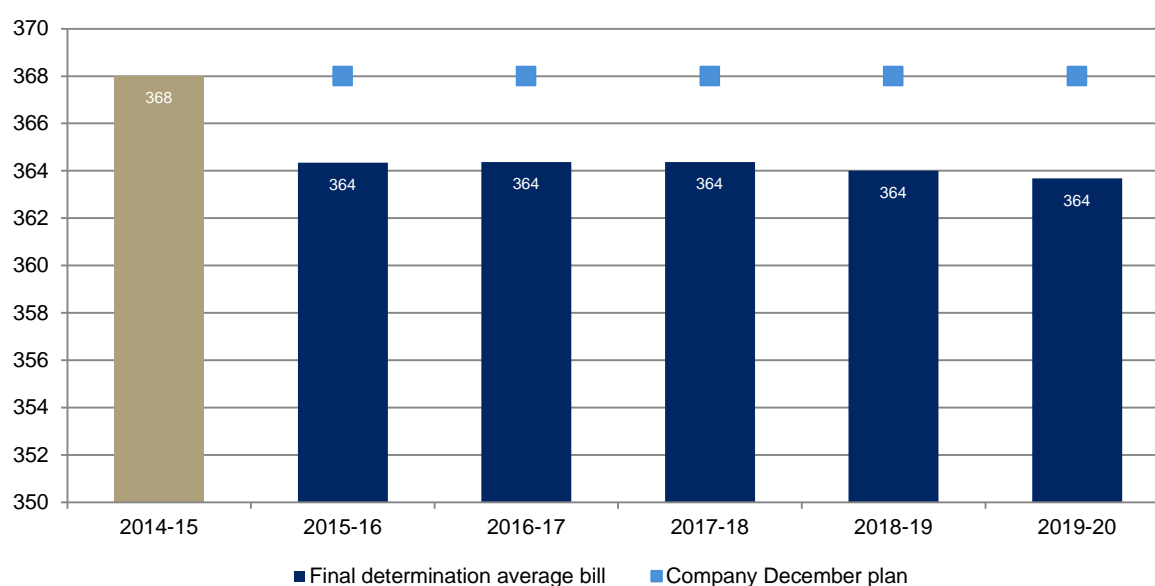
This chapter provides a summary of the final determination for Northumbrian Water. It summarises what the final determination will mean for customers, with respect to the average bills they will pay and the outcomes that the company will deliver in return, and for the company in terms of its allowed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

### Combined average household bill (£)

The chart below 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). 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.

Our final determination means that average bills in 2019-20 will be £364, which is 1% lower than current average bill levels (of £368).

The difference between the company's December plan and our final determination 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 to protect the interests of customers. This represents a cumulative saving of £19 for the average customer over the 2015-20 period.



**Note:** The comparative 'bills from company's December plan is based on the data submitted in the 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 outcomes committed to by Northumbrian Water

Northumbrian Water has committed to delivering outcomes that reflect its customers' views. The outcomes are supported by 44 associated PCs that identify the company's committed level of performance under each outcome. For 24 of these PCs the company is subject to associated financial ODIs whereby it will incur a penalty for performance worse than its commitments, but for some can earn a reward for performance better than its commitments during the period from 2015 to 2020.

Northumbrian Water's outcomes reflect the priorities of customers set out in research and engagement with the CCG. We have undertaken 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.

The table below sets out Northumbrian Water's outcomes. Details of the types of incentives and level of PCs associated with these outcomes are set out in annex 4.

Wholesale water	Wholesale wastewater
<p>We deliver water and sewerage services that meet the needs of current and future generations in a changing world</p> <p>We supply clean, clear drinking water that tastes good</p> <p>We provide a reliable and sufficient supply of water</p> <p>We provide excellent service and impress our customers</p> <p>Our customers are well informed about the services they receive and the value of water</p> <p>We protect and enhance the environment in delivering services, leading by example</p>	<p>We deliver water and sewerage services that meet the needs of current and future generations in a changing world</p> <p>We provide a sewerage service that deals effectively with sewage and heavy rainfall</p> <p>We help to improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife</p> <p>We provide excellent service and impress our customers</p> <p>Our customers are well informed about the services they receive and the value of water</p> <p>We protect and enhance the environment in delivering our services, leading by example</p>
Retail	
<p>We provide excellent service and impress our customers</p> <p>Our customers consider the services they receive to be value for money</p> <p>Our customers are well informed about the services they receive and the value of water</p> <p>We protect and enhance the environment in delivering our services, leading by example</p>	

## Allowed costs and revenue for Northumbrian Water

The table below shows the wholesale totex we have allowed over the period from 2015 to 2020. The final determination allows Northumbrian Water to receive revenues of £3,601 million. This combines allowed revenues for the wholesale 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 total for non-household revenue provided 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.

Under our ‘equivalence of treatment’ principle, the company is subject to our reduction in the allowed return to reflect the reduction in the cost of new debt since January. The company is also subject to changes in our cost allowances for wholesale and retail. Changes in these areas are reflected in the table below.

Wholesale	Water	Wastewater
Totex 2015-20 total (£m)	1,329.9	1,010.9
Allowed return (%)	3.60%	3.60%
Allowed wholesale revenue 2015-20 (£m)	1,931.4	1,378.0
Retail	Household	Non-household
Cost allowance – 2015-20 total (£m)	263.4	
Margin (%)	1.00%	2.50%
Retail allowed revenue (£m)	294.5	50.2

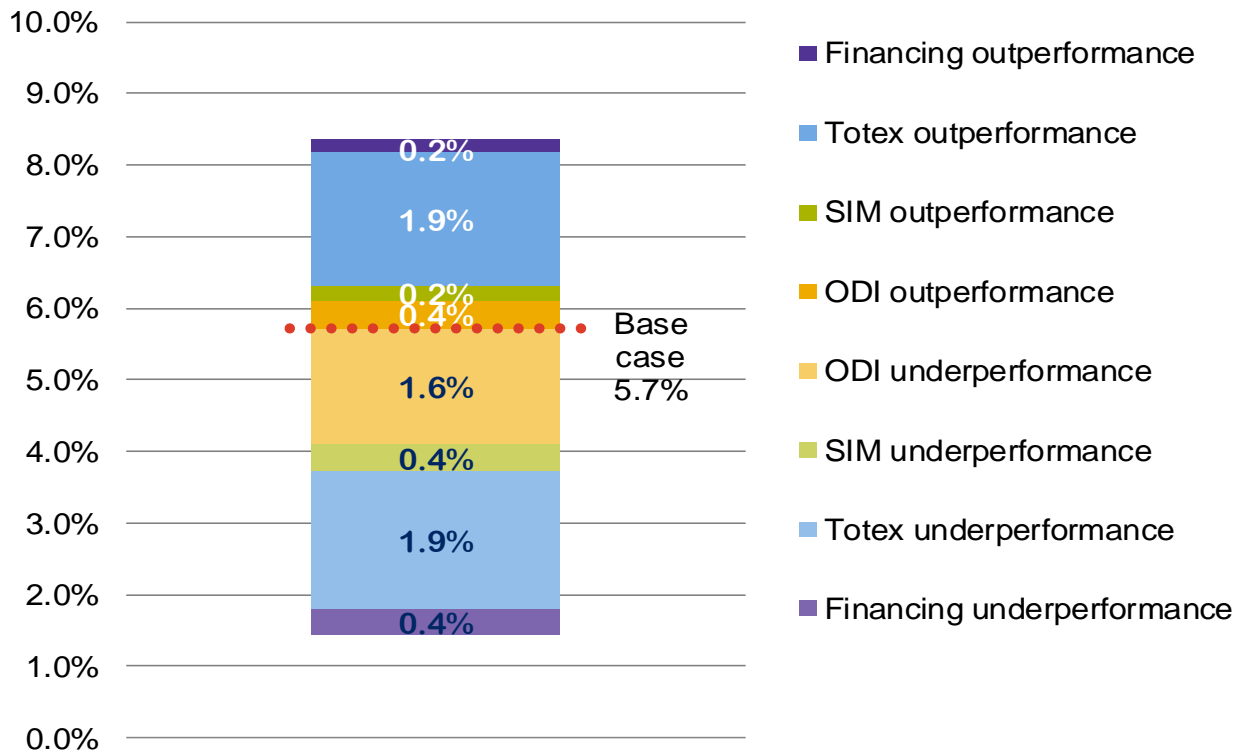
**Note:** Wholesale figures are in 2012-13 prices, as wholesale revenue will be affected by inflation. Retail figures are in nominal prices as retail revenue will not be affected by inflation. This is consistent throughout this final determination unless otherwise stated.

## RoRE ranges – appointee

Northumbrian 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<sup>2</sup>. We have identified the RoRE impact separately for ODIs, totex performance, financing and the service incentive mechanism (SIM). We note that Northumbrian Water’s actual returns may differ from notional returns due to differences between notional and actual capital structure and notional and actual cost of debt and level of cost efficiency compared to allowed totex and household retail ACTS.

<sup>2</sup> 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 weighted average cost of capital (WACC).

## RoRE range – whole company



**Source:** Our calculations based on information from Northumbrian Water.

**Note:** The RoRE for ODI performance has changed significantly from draft determination as a result of our interventions to correct the incentive rates, the application of the comparative assessments, and 2% cap. The numbers presented are based on an assumed sharing factor of 50%.

### Ofwat's 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.

Northumbrian 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 Northumbrian Water to be financeable on a notional basis.

Financial ratios for notional company	Ofwat calculation (average 2015-20)
Cash interest cover (ICR)	3.54
Adjusted cash interest cover ratio (ACICR)	1.84
Funds from operations(FFO)/debt	11.48%
Retained cash flow/debt	8.84%
Gearing	62.01%
Dividend cover (profit after tax/dividends paid)	2.04
Regulatory equity/regulated earnings for the regulated company	17.34
Regulatory capital value (RCV)/EBITDA	9.07

## 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
<ul style="list-style-type: none"> <li>• <b>Cap:</b> We have imposed an overall cap and collar on ODIs of +/- 2% of RoRE.</li> <li>• <b>Company-specific assessments:</b> We have intervened to bring the calculation of Northumbrian Water's incentive rates (based on willingness to pay) in line with the methodology. We have also made other interventions to ensure that Northumbrian Water is subject to effective incentives that protect customers in areas that are not comparable across companies. As part of this, we have introduced additional PCs to protect customers in the event that the company does not deliver (or is late in delivering) the Whitburn wastewater treatment works scheme and the consolidated (retail) Customer Information and Billing (CIB) system.</li> <li>• <b>Comparative assessments:</b> We have updated our comparative assessment and interventions on PCs, deadbands, collars and caps that are applied consistently for all non-enhanced companies.</li> </ul>	<ul style="list-style-type: none"> <li>• The company's final proposed <b>wholesale water totex</b> is £1,329.9 million, which is £9 million above our final determination cost threshold of £1,320 million.</li> <li>• The company's final proposed <b>wholesale wastewater totex</b> is £1,011m, which is £15m below our final determination cost threshold of £1,026m.</li> </ul>

Retail	Reconciling 2010-15 performance
<ul style="list-style-type: none"> <li>• We have adjusted for the company's proposed new costs (in full) for a new customer information and billing system.</li> <li>• We have also partially accepted the company's representation for an adjustment to the ACTS for bad debt driven by deprivation of £15.5 million</li> </ul>	<ul style="list-style-type: none"> <li>• We have intervened to provide a more accurate reconciliation of Northumbrian Water's performance against 2010-15 price controls, and we have included an adjustment for Dagenham supply pipes, which was omitted in error at PR09 final determination and the PR14 draft determination.</li> <li>• We have reduced the scale of interventions applied at draft determination to the RCV by removing the serviceability shortfall for flooding other causes and reducing the value of the shortfall applied for sewer flooding.</li> <li>• Overall, we have intervened to increase the revenue adjustments to the water control to £69m, and the wastewater control to £18m.</li> </ul>
Risk and reward	Financeability and affordability
<ul style="list-style-type: none"> <li>• 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%.</li> </ul>	<ul style="list-style-type: none"> <li>• We have not intervened in the company's final proposals in this area.</li> </ul>

## A2 Wholesale water

### A2.1 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 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 Northumbrian 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 Northumbrian Water**

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

Area	Company-specific representations	Detailed commentary in this company-specific appendix
Calculation of revenues: pay as you go (PAYG) and RCV run-off	Northumbrian Water	Section A2.3.2 and A6.5
Return on the RCV	Northumbrian Water Northumbrian Water CCG CCWater	Section A2.3.3
Reconciling 2010-15 performance	Northumbrian Water	Annex 3
Uncertainty mechanisms	Northumbrian Water Northumbrian Water CCG	Section A2.4

## A2.2 Company outcomes, performance commitments and delivery incentives

### A2.2.1 Outcomes, performance commitments and incentives

In [policy chapter A2](#), we discuss our approach to outcomes for the wholesale and retail controls. Northumbrian 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

Our assessment of the specific PCs proposed by each non-enhanced company (including Northumbrian Water under our 'equivalence of treatment' principle) for the wholesale water control has focused on the following:

- 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;

- company-specific assessments to ensure that the PCs proposed by each company are challenging, appropriately incentivised and supported by customer engagement; and
- the overall cap and collar we are applying on ODIs for 2015-20 that limits total rewards and penalties

We summarise the outcomes, PCs and ODIs for the wholesale water control for Northumbrian Water in table A2.2 below. For some PCs and incentives 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.

Full detail of the wholesale water outcomes, PCs and incentives, and our consideration of relevant responses, is provided in annex 4.

Consistent with 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 apply in line with the approach set out in policy chapter A2.



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

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
We deliver water and sewerage services that meet the needs of current and future generations in a changing world	Asset health measures – water	Financial – reward and penalty	At draft determination, we removed the rewards associated with asset health measures, as the company had not provided sufficient evidence to support the incentive. In the representations, the company provided evidence that rewards were supported by customer willingness to pay information, and we have accepted the proposals. However, we have intervened to apply the correct calculation of reward incentives as the company had not interpreted the methodology correctly and were proposing to recover more than a single year's willingness to pay within a year. This correction has reduced the reward rates for the underlying PCs by 80%.
We supply clean, clear drinking water that tastes good	Satisfaction with taste and odour of tap water	Financial – reward and penalty	We have adopted a more demanding PC level as a result of revisions to the comparative assessments. We have accepted the company's proposal to reinstate rewards based on willingness to pay. As above, we have intervened to apply the correct calculation of incentives. This reduces the penalty and reward rates by 80%, with a partially offsetting increase due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	Overall drinking water quality compliance	Financial – penalty only	We have reduced the penalty deadband and penalty collar as a result of revisions to the comparative assessments.
	Discoloured water complaints	Financial – reward and penalty	We have adopted a more demanding PC level and cap and collar as a result of revisions to the comparative assessments. We have adopted the company's proposals to reinstate rewards based on willingness to pay. We have intervened to apply the correct calculation of incentives, reducing the reward rate by 80%.
We provide a reliable and sufficient supply of water	Interruptions to water supply for more than three hours (average time per property)	Financial – reward and penalty	We have adopted a less demanding penalty deadband as a result of revisions to the comparative assessments. We have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%, although we applied a partially offsetting increase to the penalty rate due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.
	Properties experiencing poor water pressure	Financial – reward and penalty only	We have intervened to apply the correct calculation of incentives, reducing the reward rate by 80%.
	Water mains bursts	Financial – penalty only	No intervention

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	Leakage (ML/d) NW	Financial – reward and penalty	We have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%.
	Leakage (ML/d) ESW	Financial – reward and penalty	We have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%.
We provide excellent service and impress our customers	NWL independent overall customer satisfaction score	Reputational	No intervention
	SIM	Financial – reward and penalty	No intervention
	Domestic customer satisfaction, net promoter score	Reputational	No intervention
Our customers are well informed about the services they receive and the value of water	NWL independent survey on keeping customers informed	Reputational	No intervention
We protect and enhance the environment in delivering services, leading by example	Greenhouse gas emissions	Reputational	No intervention
	Annual environmental performance report	Reputational	No intervention

## A2.2.2 Outcome delivery and reporting

Northumbrian 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.

Following representations, the company's proposed wholesale water totex is £1,362 million over 2015-20 (versus £1,363 million in its December plan). This is 1% above the final determination threshold (post additions) of £1,353 million.

The wholesale water allowed expenditure for Northumbrian Water is detailed in Table A2.3 below. We provide a further breakdown of some of the calculations in annex 1. Further information about our assessment of Northumbrian Water's wholesale water claims is set out in the [populated version of the final determination cost threshold models](#).

**Table A2.3 Wholesale water allowed expenditure (£ million)**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total 2015-20
Final determination cost threshold						1,353.3
Costs excluded from menu	9.2	9.1	9.1	9.1	9.1	45.6
Menu cost baseline <sup>1</sup>	258.8	273.3	282.6	253.8	239.3	1,307.7

	2015-16	2016-17	2017-18	2018-19	2019-20	Total 2015-20
Company's view of menu costs <sup>2</sup>						1,285.5
Implied menu choice						98.3
Allowed expenditure from menu	257.7	272.1	281.4	252.7	238.3	1,302.2
Costs excluded from menu	9.2	9.1	9.1	9.1	9.1	45.6
Total allowed expenditure <sup>3</sup>	267.0	281.2	290.5	261.8	247.4	1,347.8
Less pension deficit repair allowance	3.6	3.6	3.6	3.6	3.6	17.8
Totex for input to PAYG	263.4	277.6	286.9	258.2	243.8	1,329.9

**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 A6.5, we discuss financeability at an appointee (whole regulated company) level. In this section, we discuss any representations that we have received that are specific to Northumbrian Water's PAYG, RCV run-off and financeability and our response to those representations.

Table A2.4 shows the PAYG rates and the amount of totex recovery for wholesale water, which we have used as the basis for this final determination, as proposed by the company. The 'Resulting PAYG (£m)' is the amount of money recovered from customers in the short term.

**Table A2.4 Northumbrian Water's wholesale water PAYG rates**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex (£m)	263.4	277.6	286.9	258.2	243.8	1,329.9

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
PAYG (%)	61.5%	67.6%	66.8%	74.1%	78.7%	69.8%
Resulting PAYG (£m)	162.1	187.7	191.5	191.4	192.0	924.8

Table A2.5 shows the RCV run-off amounts included within the wholesale water charge proposed by the company.

**Table A2.5 Northumbrian Water's wholesale water RCV run-off (£ million)**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Run-off of 2015 RCV	87.3	87.3	87.3	87.3	87.3	436.6
RCV run-off of totex additions	0.7	2.1	3.5	4.7	5.6	16.7
Total RCV run-off	88.1	89.5	90.8	92.0	92.9	453.3

**Note:** The figures in this table reflect a run-off rate of 4.8% for the RCV as at 31 March 2015 and 68 years for the totex additions to the RCV over 2015-20

### 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 cost of capital for both wholesale water and wastewater services of 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%.

Under our 'equivalence of treatment' principle, the company is subject to this reduction in the wholesale cost of capital (as for all non-enhanced companies). We note that this is consistent with a representation we received from CCWater, which suggested that we should apply any reduction in the allowed return to companies that received their draft determinations in May.

A wholesale cost of capital of 3.6% results in a return on capital of £328 million over 2015-20.

Table A2.6 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 A2.6 Northumbrian Water's wholesale water opening RCV (£ million)**

	2015-16
Closing RCV 31 March 2015	1,962.6
Land sales <sup>1</sup>	-2.8
Adjustment for actual expenditure 2009-10 <sup>2</sup>	8.4
Adjustment for actual expenditure 2010-15 <sup>3</sup>	-149.0
Net adjustment from logging up and logging down <sup>3,4</sup>	0.0
Adjustment for shortfalls <sup>3,4</sup>	0.0
Adjustment for serviceability shortfalls <sup>5</sup>	0.0
Other adjustments <sup>6</sup>	0.0
Opening RCV 1 April 2015	1,819.2

**Notes:**

1. Land sales adjustment is set out in table AA3.21.
2. 2009-10 actual expenditure adjustment is set out in table AA3.21.
3. A component of the capital expenditure (capex) incentive scheme (CIS) adjustment as set out in table AA3.17.
4. The net adjustment from the change protocol is set out in table AA3.10.
5. The serviceability shortfall adjustment is set out in table AA3.12.
6. Other RCV adjustments are set out in table AA3.19.

**Table A2.7 Northumbrian Water's wholesale water return on RCV (£ million)**

	2015-16	2016-17	2017-18	2018-19	2019-20
Opening RCV	1,819.2	1,832.5	1,832.9	1,837.4	1,812.2
RCV additions (from totex)	101.3	89.9	95.4	66.8	51.8
Less RCV run-off	88.1	89.5	90.8	92.0	92.9
Closing RCV	1,832.5	1,832.9	1,837.4	1,812.2	1,771.1



	2015-16	2016-17	2017-18	2018-19	2019-20
Average RCV (year average)	1,825.8	1,832.7	1,835.1	1,824.8	1,791.6
Return on capital	65.7	66.0	66.1	65.7	64.5

#### 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 at the time of final determinations in 2009, we have made adjustments at this price review (PR14) to 2015 to 2020 revenues and the RCV 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.

In its revised plan, 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 in some of these proposals and, as a result, the revenue adjustments for wholesale water have changed from £58.3 million to £68.5 million. We summarise these interventions in Table A2.8 below. The impact on the opening RCV of 2010-15 adjustments is shown in Table A2.6 and we discuss our interventions in this area further in annex 3.

The main changes we have made in the final determination compared to our draft determination are as a result of accepting the company's representations on legacy adjustments (which in some cases included substantial changes from the adjustments in the revised business plan). This reflects updated actuals for 2013-14 and forecasts for 2014-15 and other amendments in response to feedback provided in the draft determination.

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. In carrying out this reconciliation, we will take a proportionate approach (for example, applying materiality thresholds where appropriate) to making adjustments for company's actual performance and implement these changes at the next wholesale price control review in 2019.

**Table A2.8 Northumbrian Water's wholesale water revenue adjustments to reflect 2010-15 performance (£ million)**

Area of intervention	Intervention	Total revenue adjustment 2010-15 (post adjustments)		
		Company view	Draft determination	Final determination
SIM	There are no interventions in this area.	4.3	4.3	4.3
RCM	<p>The company has provided sufficient evidence to allow us to remove the interventions we made in the draft determination except that relating to the 2009 final determination (FD09) assumptions. There remain differences between the company's view and that set out in our FD09 determinations within the RCM model.</p> <p>For the final determination, we have therefore retained this intervention and included Ofwat's view of the FD09 determinations in the RCM adjustments, which reduced revenue by £0.3 million compared to the company's representation view of £35.2 million.</p>	25.5	25.7	34.9
Opex incentive allowance (OIA)	We have accepted the company's representation view of its OIA of £9.4 million, which excludes the actual costs associated with the PR09 Dagenham Common Supplies programme from the overall actual total opex used in the calculation of the OIA.	8.3	7.9	9.4

Area of intervention	Intervention	Total revenue adjustment 2010-15 (post adjustments)		
		Company view	Draft determination	Final determination
CIS	<p>The company's representation view of £6.1 million reflected a counter to the change protocol adjustment we applied in the draft determination. We agree with the company and have removed the adjustment.</p> <p>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 in the final determination.</p> <p>Combined these interventions increased revenue by £0.5 million compared with the draft determination.</p>	5.9	5.1	5.6
Other adjustments	<p>There are no interventions in this area. We accept the company's proposed adjustments to correct an error Ofwat made at FD09, whereby the costs of the Dagenham Common Supplies programme were excluded from the FD09 determination. We omitted to correct for this in the PR14 draft determination.</p>	14.3	14.3	14.3

### A2.3.5 Calculation of allowed revenue

We set out the calculation of the allowed revenue for Northumbrian Water's wholesale water control in Table A2.9.

Overall, the company's wholesale water revenue allowance is £384.4 million in 2015-16, increasing by 1% to £388.2 million in 2019-20.

**Table A2.9 Northumbrian Water's wholesale water allowed revenue (£ million)**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex	263.4	277.6	286.9	258.2	243.8	1,329.9
PAYG rate (%)	61.5%	67.6%	66.8%	74.1%	78.7%	
Totex additions to the RCV	101.3	89.9	95.4	66.8	51.8	405.2
RCV (year average)	1,825.8	1,832.7	1,835.1	1,824.8	1,791.6	
<b>Wholesale allowed revenue build up:</b>						
PAYG <sup>1</sup>	165.6	191.3	195.1	195.0	195.6	942.6
Return on capital	65.7	66.0	66.1	65.7	64.5	328.0
RCV run-off	88.1	89.5	90.8	92.0	92.9	453.3
Tax <sup>2</sup>	41.9	22.7	22.4	22.8	23.6	133.4
Income from other sources <sup>3,4</sup>	-7.5	-7.5	-7.5	-7.5	-7.5	-37.3
Reconciling 2010-15 performance	21.8	14.7	10.7	10.6	10.6	68.5
Ex ante additional menu income	0.5	0.6	0.6	0.5	0.5	2.8

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
<b>Wholesale allowed revenue adjustments:</b>						
Profiling adjustments <sup>5</sup>	0.0	0.0	0.0	0.0	0.0	0.0
Capital contributions from connection charges and revenue from infrastructure charges	8.1	8.1	8.1	8.1	8.1	40.3
<b>Final allowed revenues</b>	<b>384.4</b>	<b>385.3</b>	<b>386.3</b>	<b>387.2</b>	<b>388.2</b>	<b>1,931.4</b>

**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 section A3.3 in policy chapter A3.
5. Our bill profiling adjustments are discussed in section A6.6.

## 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.

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 A2.10 below, we set out Northumbrian Water's proposed wholesale water uncertainty mechanisms and our final assessment of these proposals.

**Table A2.10 Northumbrian Water’s proposals for wholesale water uncertainty mechanisms**

Assessment at draft determination	Our final assessment
In the draft determination we accepted Northumbrian Water’s proposed uncertainty mechanism for water business rates but adjusted the proposed sharing rate from 100:0 to 75:25 (customer:company). Northumbrian Water made no representations about our revised sharing rate.	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. The rationale for its inclusion in the final determination is set out in policy chapter A7.
We have not accepted Northumbrian Water’s proposed uncertainty mechanism on logging up for new statutory obligations in our draft determination. Northumbrian Water has not objected to our removal of the mechanism although the Environment Agency expressed concern and requested that we respond positively to companies’ proposals in this area.	<p>No change to draft determination position on uncertainty mechanisms given that we had already not accepted the mechanism and the company has not objected. 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, and it is the company’s responsibility to manage any uncertainty. We note that there are a range of existing mechanisms available to companies to manage uncertainty, including:</p> <ul style="list-style-type: none"> <li>• totex sharing menu</li> <li>• interim determination of K (IDOK’s)</li> <li>• substantial favourable effects and substantial adverse effects clauses in Condition B of the licence.</li> </ul>

## A3 Wholesale wastewater

### A3.1 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 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 Northumbrian Water's wholesale wastewater control and sets out where to find more information on our responses in this document.

**Table A3.1 Representations received specific to the wholesale wastewater control of Northumbrian Water**

Area	Company-specific representations	Detailed commentary in this company-specific appendix
Outcomes, performance commitments and incentives	Northumbrian Water Northumbrian Water's CCG Environment Agency CC Water	Annex 4
Outcome delivery and reporting	Northumbrian Water	Annex 4
Calculating allowed wholesale wastewater expenditure	Northumbrian Water	Section 3.3.1 and Annex 1



Area	Company-specific representations	Detailed commentary in this company-specific appendix
Calculation of revenues: PAYG and RCV run-off	Northumbrian Water	Section A3.3.2 and A6.5
Cost of capital	Northumbrian Water Northumbrian Water's CCG CC Water	Section A3.3.3
Reconciling 2010-15 performance	Northumbrian Water Northumbrian Water's CCG	Annex 3
Uncertainty mechanisms	Northumbrian Water Environment Agency Northumbrian Water's CCG	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 non-enhanced company for wholesale wastewater has focused on a comparative assessment of outcomes and a company-specific assessment. Under our 'equivalence of treatment' principle, the company is subject to:

- the overall cap and collar we are applying on ODIs for 2015-20 that limits total rewards and penalties; and
- changes we have made to outcomes following detailed comparisons of similar outcome proposals put forward by companies (that is, our comparative assessments).

We summarise the outcomes, PCs and ODIs for the wholesale wastewater control for Northumbrian Water in table A3.2 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 A3.2 and set out whether they are the result of our comparative assessment or company-specific assessment.

Full detail of the wholesale wastewater outcomes, PCs and incentives, and our consideration of relevant representations, is provided in annex 4.

Similar to the wholesale water control, 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 the policy chapter A2. For Northumbrian Water, the only PC that is excluded from the cap and collar is related to the Whitburn combined sewer outflow (CSO) scheme, as noted in the table below.

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

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
We deliver water and sewerage services that meet the needs of current and future generations in a changing world	Asset health measures – wastewater	Financial – penalty and reward	We have adopted the company's proposals to reinstate rewards based on willingness to pay. We have intervened to apply the correct calculation of incentives. This correction and a partially offsetting change to the measure of willingness to pay used have reduced the reward rates for the underlying PCs by up to 80%.
We provide a sewerage service that deals effectively with sewage and heavy rainfall	Properties flooded externally	Financial – reward and penalty	As above, we have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%, although we applied a partially offsetting increase to the reward rate due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	Properties flooded internally	Financial – reward and penalty	We have adopted a less demanding PC level as a result of revisions to the comparative assessments. We have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%, although we applied a partially offsetting increase to the penalty and reward rates due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.
	Repeat sewer flooding	Financial – penalty only	We have accepted the company's proposals for the PC level, collar and deadband. We have intervened to apply the correct calculation of incentives, reducing the reward rate by 80%, although we applied a partially offsetting increase to the reward rate due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.
	Sewer collapses	Financial – penalty only	No intervention

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	Transferred Drains and Sewers (TDS) internal sewer flooding	Financial – penalty only	We have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%, although we applied a partially offsetting increase to the penalty and reward rates due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.
	TDS external sewer flooding	Financial – penalty only	We have intervened to apply the correct calculation of incentives, reducing the penalty and reward rates by 80%, although we applied a partially offsetting increase to the reward rate due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.
	TDS sewer collapses	Reputational	No intervention
We help to improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife	Sewage treatment works discharge compliance	Financial – penalty only	We have adopted a more demanding penalty deadband and collar.

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	Pollution incidents (category 3)	Financial – penalty only	<p>We have adopted a less demanding penalty deadband as a result of revisions to the comparative assessments.</p> <p>We have intervened to apply the correct calculation of incentives, reducing the reward rate by 80%, although we applied a partially offsetting increase to the reward rate due to accepting the company's use of a central willingness to pay estimate in place of a lower bound estimate.</p>
	Bathing water compliance	Financial – penalty only	We have intervened to apply the correct calculation of incentives, reducing the penalty rate by 80%
	Whitburn combined sewer overflow (CSO) scheme	Financial – penalty only	We have added a new PC and penalty-only ODI on the Whitburn wastewater treatment works scheme. This commitment is not subject to the overall ODI cap and collar.
We provide excellent service and impress our customers	NWL independent overall customer satisfaction score	Reputational	No intervention

Company proposal			Intervention
Outcome	Performance commitment	Incentive type	
	SIM	Financial – reward and penalty	No intervention
	Domestic customer satisfaction, net promoter score	Reputational	No intervention
Our customers are well informed about the services they receive and the value of water	NWL independent survey on keeping our customers informed	Reputational	No intervention
We protect and enhance the environment in delivering our services, leading by example	Greenhouse gas emissions	Reputational	No intervention
	Annual environmental performance and activity	Reputational	No intervention



## A3.3 Calculating the wholesale wastewater price control

### A3.3.1 Calculating allowed wholesale wastewater expenditure

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

In its revised business plan the company's proposed wholesale wastewater totex was £1,011 million over 2015-20 (versus £988 million in its December plan). This is £15 million (1.5%) below the final determination threshold (post additions) of £1,026 million. Table A3.3 below notes the comments that we have received that are specific to this aspect of the wholesale wastewater control of Northumbrian Water and outlines how our interventions have been influenced by our consideration of these responses. We have made a new allowance to meet the requirements of the Urban Waste Water Treatment Directive at Whitburn of £3.14 million.

**Table A3.3 Representations specific to the wholesale wastewater totex for Northumbrian Water**

Respondent	Summary of comment	Ofwat response
Northumbrian Water	The Urban Waste Water Treatment Directive judgement requires Northumbrian Water to include a scheme to reduce the Combined Sewer Outfalls (CSO) outfalls in Whitburn treatment works as part of the National Environment Programme (NEP).	We have partially accepted the claim and have made a modelled allowance of £6.3 million. Our assessment of the gates is: <b>Need:</b> Pass <b>Cost benefit analysis:</b> n/a <b>Robust costs:</b> n/a

The wholesale wastewater allowed expenditure for Northumbrian Water is detailed in Table 3.4 below. 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						1,026.4

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Costs excluded from menu	5.5	5.3	5.3	5.3	5.2	26.5
Menu cost baseline <sup>1</sup>	205.3	207.3	213.1	201.8	172.4	999.9
Company's view of menu costs <sup>2</sup>						983.5
Implied menu choice						98.4
Allowed expenditure from menu	204.5	206.4	212.2	200.9	171.7	995.8
Costs excluded from menu	5.5	5.3	5.3	5.3	5.2	26.5
Total allowed expenditure <sup>3</sup>	209.9	211.7	217.5	206.2	176.9	1,022.3
Less pension deficit repair allowance	2.3	2.3	2.3	2.3	2.3	11.4
Totex for input to PAYG	207.7	209.5	215.2	203.9	174.6	1,010.9

**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 A6.5, we discuss financeability at an appointee (whole regulated company) level.

Table A3.5 shows the PAYG rates and the amount of totex recovery for wholesale water, which we have used as the basis for this final determination. The 'Resulting PAYG (£m)' is the amount of money recovered from customers in the short term.

Table A3.6 shows the RCV run-off amounts included within the wholesale wastewater charge. This is the amount of money recovered in the long term through the company's RCV.

**Table A3.5 Northumbrian Water's wholesale wastewater PAYG rates**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex (£m)	207.7	209.5	215.2	203.9	174.6	1,010.9
PAYG (%)	48.6%	52.3%	50.5%	52.5%	60.9%	53.0%
Resulting PAYG (£m)	101.0	109.5	108.7	107.0	106.4	532.6

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

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Run-off of 2015 RCV	77.3	77.3	77.3	77.3	77.3	386.6
RCV run-off of totex additions	0.8	2.3	3.8	5.4	6.6	18.9
Total RCV run-off	78.1	79.6	81.2	82.7	83.9	405.5

**Note:** The figures in this table reflect a run-off rate of 4.38% for the RCV as at 31 March 2015 and 68 years for the totex additions to the RCV over 2015-20

### A3.3.3 Return on the RCV

As discussed in section A2.3.3, we have used a cost of capital of 3.6% in this final determination. This is a reduction from the draft determination.

Under our 'equivalence of treatment' principle, Northumbrian Water is subject to this reduction. We note that this is consistent with a representation we received from CCWater, which suggested that we should apply any reduction in the allowed return to companies that received their draft determinations in May.

A wholesale cost of capital of 3.6% results in a return on capital of £327.7 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 A3.8 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 Northumbrian Water's wholesale wastewater opening RCV (£ million)**

	2015-16
Closing RCV 31 March 2015	1,763.6
Land sales <sup>1</sup>	-2.5
Adjustment for actual expenditure 2009-10 <sup>2</sup>	9.0
Adjustment for actual expenditure 2010-15 <sup>3</sup>	10.9
Net adjustment from logging up and logging down <sup>3,4</sup>	-7.4
Adjustment for shortfalls <sup>3,4</sup>	-8.4
Adjustment for serviceability shortfalls <sup>5</sup>	0.0
Other adjustments <sup>6</sup>	0.0
Opening RCV 1 April 2015	1,765.2

**Notes:**

1. Land sales adjustment is set out in table AA3.21.
2. 2009-10 actual expenditure adjustment is set out in table AA3.21.
3. A component of the CIS adjustment as set out in table AA3.17.
4. The net adjustment from the change protocol is set out in table AA3.10.
5. The serviceability shortfall adjustment is set out in table AA3.12.
6. Other RCV adjustments are set out in table AA3.19.

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

	2015-16	2016-17	2017-18	2018-19	2019-20
Opening RCV	1,765.2	1,793.8	1,814.2	1,839.5	1,853.8
RCV additions (from totex)	106.7	100.0	106.5	96.9	68.2
Less RCV run-off	78.1	79.6	81.2	82.7	83.9
Closing RCV	1,793.8	1,814.2	1,839.5	1,853.8	1,838.1
Average RCV (year average)	1,779.5	1,804.0	1,826.9	1,846.7	1,846.0
Return on capital	64.1	64.9	65.8	66.5	66.5

#### **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 broad approach set out at the time of the final determinations in 2009 we have made adjustments at this price review (PR14) to 2015 to 2020 revenues and the RCV to take account of company performance in the 2010 to 2015 period.

Our approach to reconciling 2010-15 performance is set out in the 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 £24.9 million to £18.4 million. We summarise these interventions in Table A3.8 below, and quantify the resulting adjustments within this final determination. The impact on the opening RCV of 2010-15 adjustments is shown in Table A3.4 above and we discuss our interventions in this area further in annex 3.

The main changes we have made in the final determination compared to our draft determination are as a result of accepting the company's representation view of legacy adjustments. This reflects updated actuals for 2013-14 and forecasts for 2014-15 and amendments in response to feedback provided in the draft determination. We have also removed the serviceability shortfall for flooding other causes and reduced the shortfall for non-delivery of sewer flooding outputs based on the company's updated information.

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.

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

Area of intervention	Interventions	Total revenue adjustment 2010-15 (post intervention)		
		Company view	Draft determination	Final determination
SIM	There are no interventions in this area.	2.9	2.9	2.9
RCM	<p>The company has provided sufficient evidence to allow us to remove the interventions we made in the draft determination except one relating to FD09 assumptions. This is because there remain differences between the company's view and that set out in our FD09 determinations within the RCM model.</p> <p>As a result, for the final determination, we have retained this intervention and included Ofwat's view of the FD09 determinations in the RCM adjustments, which has reduced revenue by less than £0.1 million compared to the company's representation view of £28.9 million.</p>	29.6	29.7	28.8
OIA	There are no interventions in this area.	3.1	4.1	3.1
CIS	The company's representation view of - £16.7 million reflected a counter to change	-10.7	-18.8	-16.3

Area of intervention	Interventions		Total revenue adjustment 2010-15 (post intervention)	
			Draft determination	Final determination
	<p>protocol adjustments we applied in the draft determination. We agree with the company and amended the adjustment.</p> <p>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.</p> <p>Combined these interventions reduce revenue by £5.6 million compared with the draft determination</p>			
Other adjustments	There are no interventions in this area.	0.0	0.0	0.0

### A3.3.5 Calculation of allowed revenue

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

Overall, Northumbrian Water's wholesale wastewater revenue allowance is £274.0 million in 2015-16, increasing by 1.2% to £277.2 million in 2019-20.

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

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Totex	207.7	209.5	215.2	203.9	174.6	1,010.9
PAYG rate	48.6%	52.3%	50.5%	52.5%	60.9%	
Totex additions to the RCV	106.7	100.0	106.5	96.9	68.2	478.4
RCV (year average)	1,779.5	1,804.0	1,826.9	1,846.7	1,846.0	
<b>Wholesale allowed revenue build up:</b>						
PAYG <sup>1</sup>	103.2	111.7	111.0	109.3	108.7	543.9
Return on capital	64.1	64.9	65.8	66.5	66.5	327.7
RCV run-off	78.1	79.6	81.2	82.7	83.9	405.5
Tax <sup>2</sup>	33.4	10.0	9.2	9.5	9.8	71.9
Income from other sources <sup>3,4</sup>	-1.2	-1.2	-1.2	-1.2	-1.2	-5.9
Reconciling 2010-15 performance	-6.9	6.3	6.3	6.3	6.3	18.4
Ex ante additional menu income	0.4	0.4	0.4	0.4	0.4	2.0
<b>Wholesale allowed revenue adjustments:</b>						
Profiling adjustments <sup>5</sup>	0.0	0.0	0.0	0.0	0.0	0.0
Capital	2.9	2.9	2.9	2.9	2.9	14.4



	2015-16	2016-17	2017-18	2018-19	2019-20	Total
contributions from connection charges and revenue from infrastructure charges						
Final allowed revenues	274.0	274.8	275.6	276.4	277.2	1,378.0

**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 section A3.3 in policy chapter A3.
5. Our bill profiling adjustments are discussed in section A6.6.

## 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 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.

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

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

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

Assessment at draft determination	Our assessment
We have not accepted Northumbrian Water's proposed uncertainty mechanism on logging up for new statutory obligations in our draft determination. Northumbrian Water has not objected to our removal of the mechanism although the Environment Agency expressed concern and requested that we respond positively to companies' proposals in this	No change to draft determination position on uncertainty mechanisms given that we had already not accepted the mechanism and the company has not objected. 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, and it is the

Assessment at draft determination	Our assessment
area.	<p>company's responsibility to manage any uncertainty. We note that there are a range of existing mechanisms available to companies to manage uncertainty, including:</p> <ul style="list-style-type: none"> <li>• totex sharing menu</li> <li>• interim determination of K (IDOK's)</li> <li>• substantial favourable effects and substantial adverse effects clauses in Condition B of the licence.</li> </ul>

## A4 Household retail

### A4.1 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 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.](#)
- [Policy chapter A7.](#)

Table A4.1 lists the representations we have received that are specific to Northumbrian Water's household retail control and sets out where to find more information on our responses in this document.

**Table A4.1 Draft determination representations received specific to the household retail control of Northumbrian Water**

Area	Representations received	Detailed commentary in this company-specific appendix
Outcomes, performance commitments and incentives	Northumbrian Water Northumbrian Forum and Essex and Suffolk Forum. Environment Agency CC Water	Annex 4
Outcome delivery and reporting	None	Annex 4
Allocation of costs	Northumbrian Water	Section 4.3.1 and Annex 1
Adjustments	Northumbrian Water	Section A4.3.2 and A6.5
New costs	Northumbrian Water	Section A4.3.3

## A4.2 Outcomes, performance commitments and incentives

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

We summarise the outcomes, PCs and ODIs for the household retail control for Northumbrian Water in table A4.2 below.

For some PCs and incentives 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 any interventions in table A4.2.

Full detail of the household retail outcomes, PCs and incentives, and our consideration of relevant representations, is provided in annex 4.

**Table A4.2 Household retail outcomes, performance commitments and incentives**

Company proposal			Update to draft determination
Outcome	Performance commitment	Incentive type	
We provide excellent service and impress our customers	NWL independent overall customer satisfaction score survey	Reputational	No intervention
	SIM <sup>1</sup>	Financial – reward and penalty	No intervention

Company proposal			Update to draft determination
Outcome	Performance commitment	Incentive type	
	Domestic customer satisfaction, net promoter score	Reputational	No intervention
Our customers consider the services they receive to be value for money	NWL independent value for money survey	Reputational	No intervention
	Satisfied with value for money of water services NW (the Consumer Council for Water, or CCWater)	Reputational	No intervention
	Satisfied with value for money of sewerage services NW (CCWater)	Reputational	No intervention
	Satisfied with value for money of water services ESW (CCWater)	Reputational	No intervention
Our customers are well informed about the services they receive and the value of water	NWL independent survey on keeping our customers informed	Reputational	No intervention
We protect and enhance the environment in delivering our services, leading by example	Greenhouse gas emissions	Reputational	No intervention
	Annual environmental performance and activity	Reputational	No intervention

Company proposal			Update to draft determination
Outcome	Performance commitment	Incentive type	
	Delivering a consolidated Customer Information and Billing (CIB) system	Penalty only	We have introduced a penalty only incentive to protect customers in the event that Northumbrian Water does not deliver, or is late in delivering, its consolidated Customer Information and Billing (CIB) system.

**Notes:**

1. We have required all companies to include a PC based on the SIM.

## A4.3 Costs

Our assessment of the industry ACTS, and therefore Northumbrian Water's costs, has changed since we made our May draft determinations. The change reflects the additional retail cost information that we have received from companies receiving their draft determinations in August and our assessment of those costs. It also reflects changes following representations from all companies. We have updated our view of costs for Northumbrian Water under the 'equivalence of treatment' principle.

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. Historic 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.

### A4.3.1 Allocation of costs

In Table A4.3 below, we summarise our final assessment of Northumbrian Water's cost allocation methodology.

**Table A4.3 Our assessment of Northumbrian 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 wrote to the company on 29 August 2014 to notify them of an outstanding cost allocation action and to provide external assurance of its cost allocation following our review of its June cost allocation submission. We required the company to address this action by 3 October 2014. We are satisfied that the company has addressed this action. Therefore, we have used the company’s cost allocation between retail and wholesale and between household and non-household retail to set our final determination.

### **A4.3.2 Adjustments**

The adjustments proposed by Northumbrian Water and the amounts we have included in our draft and final determination are quantified in Table A4.5. Our approach to assessing adjustment claims is set out in policy chapter A5.

Northumbrian Water is seeking:

- pension deficit repair costs;
- an adjustment for doubtful debt driven by deprivation;
- an adjustment for business rates, and;
- an adjustment for third party operating costs

### **Pension deficit repair costs**

In the final determination we have included an adjustment to the ACTS 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”](#).

### **Doubtful debt and debt management driven by deprivation**

We approve Northumbrian Water’s proposal for an ACTS adjustment for doubtful debt driven by deprivation, but with an amendment to the adjustment value. The

value of the approved adjustment is £15.5 million. A summary of our assessment is set out in Table A4.4 and we include further details in annex 2.

**Table A4.4 Northumbrian Water’s proposals 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
Doubtful debt	29.0	Pass	Pass	Pass	Pass (based on original value of £15.5m)

**Note:**

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

### Business rates and third party operating costs

The requested adjustment for business rates is immaterial and has been added onto the base operating expenditure as a new cost. Third party operating expenditure is not funded through the price control and is therefore not included as part of the ACTS calculation

**Table A4.5 Household retail adjustments (£ million, nominal prices)**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
<b>Adjustments included in final determination</b>						
Doubtful debt	3.100	3.100	3.100	3.100	3.100	15.500
Pension deficit repair costs	0.562	0.562	0.562	0.562	0.562	2.808
Business rates	Not included as adjustment – forms part of new costs					
Third party opex	Not funded as part of price control					
<b>Adjustments included in final determination</b>	<b>3.662</b>	<b>3.662</b>	<b>3.662</b>	<b>3.662</b>	<b>3.662</b>	<b>18.308</b>



### A4.3.3 New costs

In its business plan, Northumbrian Water included new costs related to an investment in a customer information and billing (CIB) system. We did not accept these costs for the draft determination. The company provided further evidence to support these new costs in its representation on its draft determination. Table A4.5 summarises our assessment of the company's new costs.

**Table A4.5 Northumbrian Water proposals for household retail new costs**

	New costs assessment criteria				
Value (£m over 2015-20)	Materiality	Need	Options and CBA	Robustness of costs	Customer protection
2.4	3.0%	Pass	Pass	Pass	Pass

Northumbrian Water tested customer acceptability of the bill impact resulting from these investments. The company also proposed a shortfall mechanism in the event that the system was not delivered. As the shortfall mechanism is not being carried forward, we have introduced an ODI as an alternative mechanism to ensure customers are protected in the event of non-delivery of the benefits of this investment. This is set out in section A4.2 above.

The value of the modification for the company's new costs is quantified in table A4.6.

**Table A4.6 New household retail costs (£/customer)**

	Value
Modification made to 2013-14 cost to serve for ACTS calculation	0.81

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

## A4.4 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.

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 A4.7 Household retail net margins (%)**

	2015-16	2016-17	2017-18	2018-19	2019-20
Household retail net margin	1.0%	1.0%	1.0%	1.0%	1.0%

Table A4.9 below sets out the components of the allowed household retail revenue.

**Table A4.8 Components of the allowed household retail revenue (nominal prices)**

	2013-14	2015-16	2016-17	2017-18	2018-19	2019-20
<b>Company cost to serve (£/customer)</b>						
Unmetered single service customers	21.9					
Unmetered water and wastewater customers	28.4					
Metered water only customers	24.5					
Metered wastewater only customers	24.5					
Metered water and wastewater customers	33.7					
<b>Industry ACTS (£/customer)</b>						
Unmetered single service customers	21.47					

	2013-14	2015-16	2016-17	2017-18	2018-19	2019-20
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					
Allowed cost to serve <sup>1</sup> (£/customer)						
Unmetered single service customers		22.1	22.3	22.4	22.5	22.5
Unmetered water and wastewater customers		28.7	29.0	29.1	29.2	29.3
Metered water only customers		24.8	25.0	25.0	25.1	25.2
Metered wastewater only customers		24.8	25.0	25.0	25.1	25.2
Metered water and wastewater customers		34.0	34.3	34.4	34.5	34.6
Total allowed (£m)						
Cost to serve (excluding net margin)		51.3	52.1	52.8	53.3	53.9
Forecast household		578.5	599.4	621.7	643.2	664.4

	2013-14	2015-16	2016-17	2017-18	2018-19	2019-20
wholesale charge (including forecast RPI <sup>2</sup> ) <sup>3</sup>						
Household retail revenue (including an allowance for the net margin) <sup>4</sup>		57.1	58.1	59.0	59.8	60.6

**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.

## A4.5 Uncertainty mechanisms

We outline our approach to uncertainty mechanisms in policy chapter A7.

Northumbrian Water did not propose any household retail uncertainty mechanisms beyond those that will already form part of the regulatory framework for 2015-20.

## A5 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 Northumbrian Water’s non-household retail price control.

### A5.1 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 A5.1 lists the representations we have received that are specific to Northumbrian Water’s non-household retail control and sets out where to find more information on our responses in this document.

We did not formally make our draft determination of Northumbrian Water’s non-household control until August. We therefore received the representations on this element of its draft determination at the same time as other companies in October. These included representations on the form of the non-household control, an issue we invited views on after we made our May draft determinations.

**Table A5.1 Draft determination representations received specific to the non-household retail control of Northumbrian Water**

Area	Representations received	Detailed commentary in this company-specific appendix
Net margins	Northumbrian Water	Section A5.3
Cost proposals	Northumbrian Water	Section A5.4
Form of control	Northumbrian Water	Section A5.5

## A5.2 Indicative non-household retail total revenue

Table A5.2 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 that we have set 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 A5.2 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	9.7	9.9	10.0	10.2	10.3

**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.

## A5.3 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.

## A5.4 Cost proposals

In its representation, the company proposed a change to its cost allocations between different non-household retail customer types. This included changing the basis of the cost allocation of account management (an issue we had raised in the draft determination) and consolidating the number of sewerage customer types from eight to three. 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.

As set out in the 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. All cost figures (unless otherwise specified) are five-year totals. 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. For Northumbrian Water, we have adjusted the company's proposals from £0.550 million over the control period, to £0.450 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 accept increases above the materiality threshold, as we did not consider the supporting information to be sufficient.

In its representation, the company provided further detail of its proposed customer contact and billing system, and a forecast of market operator running costs. The company forecasted market operator running costs over 2015-20 of £1.203 million. The company stated that it had taken these costs from an Ofwat letter sent in April 2014. However, since April the market operator running cost forecast has changed, as per the '[Consultation on Ofwat's section 13 proposal to modify the licences of all appointees in England and Wales – condition R1](#)' (published in July 2014), the latest forecast of market operator contributions to be recovered from Northumbrian Water's non-household retail function are £0.772 million.

This is £0.431 million lower than the figures the company used, and substantially closes the gap between the company's proposals and the materiality threshold of 5.3% (the company's costs would increase by 5.4% over the period).

A number of uncertainties exist regarding the remainder of the company's cost proposals:

- as stated in A4.3.3, the company's market testing and benchmarking evidence for its customer contact and billing system was not definitive, for example, little information was provided regarding the comparators used; and

- the company allocated 10% of the costs of the system to non-household retail and 90% to household, without providing a robust justification for the allocation. An allocation using customer numbers, or total retail costs would imply an 8% to 9% allocation to non-household retail. While an allocation error of this magnitude would not materially affect the household retail control, it could prove material for the non-household retail control.

Given these uncertainties, and how close the company's new costs are to the materiality threshold, we have decided that in the round it is appropriate to adjust the company's costs down to the materiality threshold. Allowing the company to recover costs up to the materiality threshold should cover the majority of the proposed customer contact and billing system costs.

In total, we have adjusted the company's proposed costs from £25.213 million over the control period to £24.666 million.

## **A5.5 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.

## **A5.6 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 Northumbrian 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 A5.3 Non-household retail average controls per customer**

Customer type	Units	2015-16	2016-17	2017-18	2018-19	2019-20
Cust type 01, Unmeasured, Unmeas Water N, Unmeasured	£	18.05	18.32	18.62	18.95	19.31
	%	6.0%	6.0%	6.0%	6.0%	6.0%
	£ (r)	38.28	39.29	40.41	41.53	42.69
Cust type 02, Unmeasured, Unmeas Water S, Unmeasured	£	24.10	24.70	25.37	26.13	26.98
	%	3.7%	3.7%	3.7%	3.7%	3.7%
	£ (r)	47.56	49.06	50.76	52.52	54.38
Cust type 03, Measured, Meas Water N std, Measured	£	31.51	31.44	31.37	31.31	31.24
	%	3.9%	3.9%	3.9%	3.9%	3.9%
	£ (r)	59.36	60.19	60.99	61.86	62.66
Cust type 04, Measured, Meas Water N f20, Measured	£	1,019.47	1,019.30	1,019.14	1,018.99	1,018.83
	%	1.8%	1.8%	1.8%	1.8%	1.8%
	£ (r)	1,597.62	1,610.60	1,623.23	1,662.35	1,695.02
Cust type 05, Measured, Meas Water N fx, Measured	£	2,466.14	2,465.95	2,465.76	2,465.57	2,465.40
	%	1.5%	1.6%	1.5%	1.5%	1.5%
	£ (r)	3,954.15	4,006.38	4,058.15	4,095.06	4,129.64
Cust type 06, Measured, Meas Water N f+, Measured	£	2,497.01	2,496.71	2,496.44	2,496.17	2,495.88
	%	0.8%	0.8%	0.8%	0.8%	0.8%
	£ (r)	6,271.09	6,400.44	6,527.40	6,661.32	6,787.78
Cust type 07, Measured, Meas Water S std, Measured	£	24.19	24.14	24.09	24.04	23.99
	%	3.3%	3.3%	3.3%	3.3%	3.3%
	£ (r)	49.84	50.52	51.19	51.94	52.58
Cust type 08, Measured, Meas Water S f20, Measured	£	659.43	659.18	658.93	658.69	658.44
	%	1.1%	1.1%	1.1%	1.1%	1.1%
	£ (r)	1,190.64	1,210.14	1,226.55	1,243.46	1,267.41

Customer type	Units	2015-16	2016-17	2017-18	2018-19	2019-20
Cust type 09, Measured, Meas Water S fx, Measured	£	2,462.26	2,462.05	2,461.88	2,461.67	2,461.46
	%	1.3%	1.3%	1.3%	1.3%	1.3%
	£ (r)	4,092.40	4,142.05	4,309.38	4,369.46	4,424.17
Cust type 10, Measured, Meas Water S f+, Measured	£	2,478.98	2,478.72	2,478.54	2,478.21	2,477.99
	%	0.8%	0.8%	0.8%	0.8%	0.8%
	£ (r)	5,657.37	5,751.98	5,675.01	5,769.37	5,855.59
Cust type 11, Unmeasured, Unmeas Sew, Unmeasured	£	21.26	21.57	21.91	22.27	22.67
	%	4.6%	4.6%	4.6%	4.6%	4.5%
	£ (r)	42.49	43.78	45.17	46.65	48.22
Cust type 12, Measured, Meas Sew – std, Measured	£	30.81	30.68	30.56	30.45	30.33
	%	2.3%	2.3%	2.3%	2.3%	2.3%
	£ (r)	62.51	63.27	64.01	64.82	65.57
Cust type 13, Measured, Meas Sew – LU, Measured	£	2,380.76	2,380.67	2,380.62	2,380.56	2,380.49
	%	1.0%	1.0%	1.0%	1.0%	1.0%
	£ (r)	4,583.34	4,663.03	4,741.05	4,801.08	4,853.15
Cust type 14, Measured, Trade Effluent – std, Measured	£	241.47	240.81	240.17	239.53	238.89
	%	1.4%	1.4%	1.4%	1.4%	1.4%
	£ (r)	441.72	447.68	453.40	459.32	464.84
Cust type 15, Measured, Ind Water, Measured	£	2,665.40	2,665.09	2,664.84	2,664.48	2,664.18
	%	0.8%	0.7%	0.8%	0.8%	0.7%
	£ (r)	7,493.12	7,612.38	7,745.92	7,876.41	8,002.22
Cust type 16, Measured, Trade Effluent – Special Agreement, measured	£	2,574.45	2,573.74	2,573.05	2,572.47	2,571.81
	%	0.7%	0.7%	0.7%	0.7%	0.7%
	£ (r)	9,036.20	9,166.35	9,370.98	9,546.65	9,749.44

## A6 Appointee financeability and affordability

In this section, we discuss at an appointee level:

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

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

### 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 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 A6.1 lists the representations we have received that are specific to Northumbrian Water's draft determination at an appointee level and sets out where to find more information on our responses in this document.

**Table A6.1 Representations specific to Northumbrian Water**

Area	Company-specific representations	Detailed commentary in this company-specific appendix
Bills and K factor	None	N/a

Area	Company-specific representations	Detailed commentary in this company-specific appendix
Appointee level uncertainty and gain share mechanisms	None	N/a
RoRE range	Northumbrian Water	Section A6.4
Financeability	Northumbrian Water	Section A6.5
Affordability	CCWater	Section A6.6

## A6.2 Bills and K factors

Table A6.2 below sets out the allowed revenues we have assumed in our final determination for Northumbrian Water to deliver for its customers on its:

- statutory duties; and
- associated PCs.

It also sets out the average customer bills on the basis of the final determination.

**Table A6.2 Northumbrian Water’s final determination – K factors, allowed revenues and customer bills<sup>1</sup>**

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Wholesale water – allowed revenues (£m) <sup>2</sup>	384.4	385.3	386.3	387.2	388.2	1,931.4
Wholesale water – K (%) <sup>3</sup>	0.0%	0.8%	0.4%	0.1%	0.1%	-
Wholesale wastewater – allowed revenues (£m) <sup>2</sup>	274.0	274.8	275.6	276.4	277.2	1,378.0
Wholesale wastewater – K (%) <sup>3</sup>	0.0%	0.9%	0.4%	0.1%	0.1%	-

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Retail household allowed revenue (£m)	57.1	58.1	59.0	59.8	60.6	294.5
Retail non-household expected revenue (£m)	9.7	9.9	10.0	10.2	10.3	50.2
Average household bill – water (£)	186	186	187	186	186	-
Average household bill – wastewater (£)	196	197	197	196	196	-
Average household bill – combined (£) <sup>4, 5</sup>	364	364	364	364	364	-

**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 Northumbrian 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. 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.
4. 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 Northumbrian Water's household and non-household customer base. In practice, this will depend upon the structure of wholesale charges implemented by Northumbrian Water.

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 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 Northumbrian Water in the table below.

**Table A6.3 Northumbrian Water’s allowed wholesale revenue for 2014-15**

Northumbrian water	Wholesale water	Wholesale wastewater
Allowed wholesale revenue 2014-15 (£ million)	405.5	289.0

### A6.3 Uncertainty and gain share mechanisms

We outline our approach to uncertainty mechanisms and “pain and gain share” in policy chapter A7. Northumbrian Water has not proposed any appointee level uncertainty mechanisms beyond those that will already form part of the regulatory framework for 2015-20.

### A6.4 Return on regulatory equity range

Northumbrian 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.<sup>3</sup> We have identified the RoRE impact separately for ODIs, totex performance, financing and the SIM. We note that Northumbrian Water’s actual returns may differ from notional returns due to differences between notional and actual capital structure and notional and actual cost of debt and level of cost efficiency compared to allowed totex and household retail ACTS.

As set out in table A6.4 below, Northumbrian Water provided one representation on the draft determination RoRE range.

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<sup>3</sup> 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.

**Table A6.4 Representations specific to Northumbrian Water’s risk and reward**

Respondent	Summary of comment	Ofwat response
Northumbrian Water	Northumbrian Water considers that the overall package in the draft determination does not represent an acceptable balance of risk and reward, in part due to an incentive framework skewed towards penalties. The company proposed to amend the ODI range.	We have amended ODIs as a result of comparative and company-specific assessments, and corrected the calculation of ODIs for errors in the company’s calculations, which significantly overstated the level of reward and penalty. ODIs now have an upside of +0.4% and a downside ODI risk of -1.6%, providing an overall RoRE range of -4.3% to +2.6%. This is not dissimilar to the RoRE ranges of other companies.

**Table A6.5 Whole company RoRE range**

	Lower bound (%) – appointee	Upper bound (%) – appointee
Overall	-4.3%	+2.6%
ODIs	-1.6%	+0.4%
Totex	-1.9%	+1.9%
Financing	-0.4%	+0.2%
SIM	-0.4%	+0.2%

**Commentary:**

The whole company RoRE range is from 1.4% to 8.4%, with a base case of 5.7%, with overall impacts from -4.3% to +2.6%. This is a reduction in the appointee range from the draft determination of -5.2% to +3.2%, due to a decrease in ODI rewards and a cap on ODI penalties in the water control. 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. Northumbrian Water stated that the draft determination did not provide an acceptable balance of risk and reward. The final determination RoRE Range is not out of line with other companies

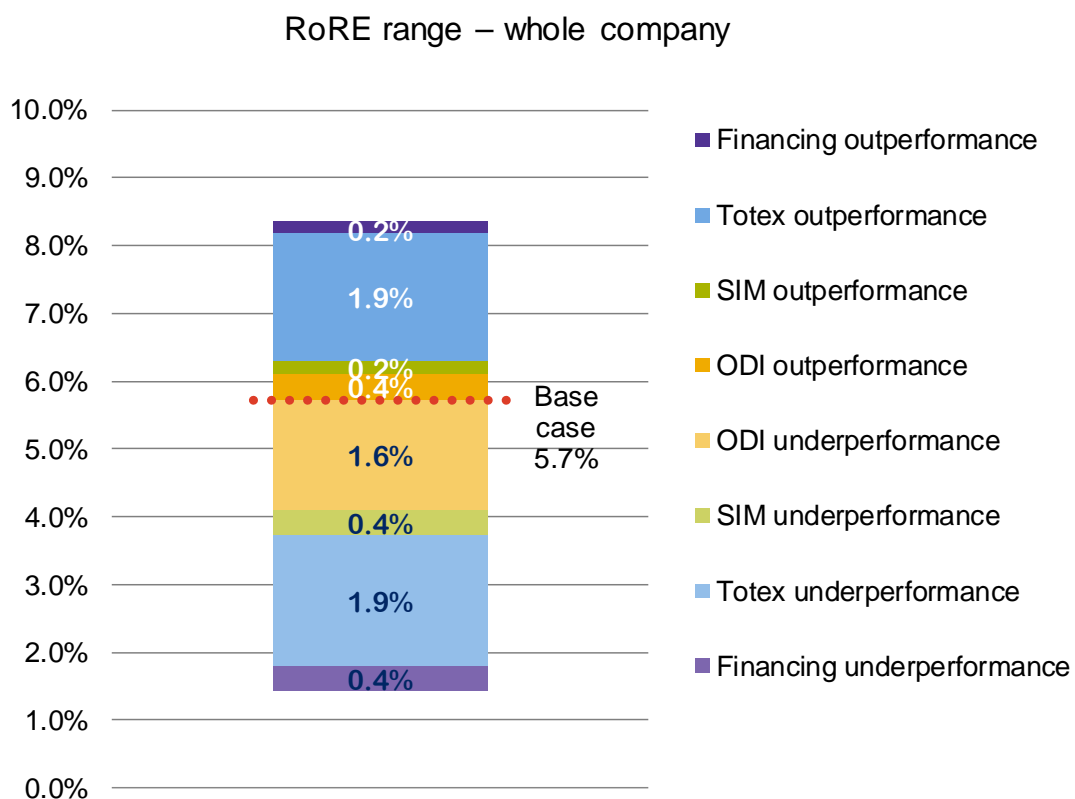
The totex risk range from -1.9% to +1.9% is unchanged from the draft determination. It was modelled by Northumbrian Water by combining the macro scenario variables as set out in the PwC guidance with totex delivery risk variance. The overall range is consistent with historic costs variation.

The final ODI risk range proposed by Northumbrian Water in response to the draft

	Lower bound (%) – appointee	Upper bound (%) – appointee
determination, and subsequent queries, was from -2.0% to +0.4%. This was a reduction on the -2.6% to +0.8% in the draft determination, which reflected our comparative interventions on ODIs and company-specific interventions to correct the calculation of incentive rates. We have adjusted this to -1.6% to +0.4% to take account of the interventions discussed in annex 4 and particularly, in the downside case, the effect of capping in wholesale water (which limits the downside on water ODIs from 2.4% to 2%). This reduces the overall appointee ODI impact to -1.6% (prior to capping the appointee ODI range is -1.8% to +0.4%).		
Financing risk impacts from -0.4% to +0.2% are unchanged from the draft determination. These were assessed using scenarios of +100 and -50 basis points on the cost of new debt. The SIM risk range of -0.4% to +0.2% is also unchanged from the draft determination. This was estimated using an assumption of maximum rewards and penalties (+0.5% to -1% of revenue).		

The composition of the RoRE range for Northumbrian Water at an appointee level is shown in Figure A6.1 below.

**Figure A6.1 Northumbrian Water’s RoRE range – appointee**



**Source:** Our calculations based on information from Northumbrian Water.

**Note:** Numbers presented based on calibration of the ODIs against an assumed menu choice of a 50% sharing factor



## A6.5 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 A6.6 below notes the comments that we have received in relation to financeability and sets out our response.

**Table A6.6 Representations specific to Northumbrian Water's financeability**

Respondent	Summary of comment	Ofwat response
Northumbrian Water	<p>The company provided informed customer support for PAYG and RCV run-off rates and consequently the level of bills in 2015-20 and the trade-off with financeability. Northumbrian Water undertook research which showed 94% customer acceptability of the proposed profile of bills over 2015-25 (this was separate to an earlier piece of research on the level of bills).</p> <p>Following our request, the company has altered the recovery of infrastructure renewals expenditure so that it is through PAYG rather than RCV run-off.</p>	<p>We have accepted the amendments in PAYG and RCV run-off and the level of the allowed return reduction passed through to customer bills in 2015-20 as the company has informed customer support.</p>

Respondent	Summary of comment	Ofwat response
Northumbrian Water	The cumulative impact of the draft determination interventions affects the financeability of the plan on an actual basis.	Financeability should be assessed pre-legacy adjustments based on an efficient notional company, that is, Ofwat's view of allowed totex and ACTS, consistent with the established approach that we and the Competition and Markets Authority (previously the Competition Commission) have used previously. It is for companies to manage any impact arising from inefficient costs or legacy adjustments.

In table A6.7 below, we set out the notional financeability ratios associated with Northumbrian Water's business plan, draft determination and final determination

**Table A6.7 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 our final determination (average 2015-20)	
	Company calculation	Ofwat calculation	Draft determination	Final determination
Cash interest cover (ICR)	2.95	3.53	3.53	3.54
Adjusted cash interest cover ratio (ACICR)	1.33	1.32	1.32	1.84
Funds from operations(FFO)/debt	10.33%	11.78%	11.81%	11.48%
Retained cash flow/debt	7.16%	9.12%	9.13%	8.84%
Gearing	64.93%	61.10%	60.82%	62.01%
Dividend cover (profit after tax/dividends)	0.22	2.12	2.08	2.04

Financial ratios for notional company	Financial ratio calculations based on the company business plan (average 2015-20)		Financial ratio calculations based on our final determination (average 2015-20)	
	Company calculation	Owat calculation	Draft determination	Final determination
paid)				
Regulatory equity/regulated earnings for the regulated company <sup>4</sup>	17.06	18.06	18.20	17.34
RCV/EBITDA	8.97	8.93	8.98	9.07

**Commentary:**

Northumbrian Water stated that its May business plan was financeable in the round, given a position where some ratios were marginally below required levels before adjustments for performance over 2010-15. The position improves when the adjustments are included.

There are some differences between our and the company's calculations of financial ratios for the company's business plan. The key explanations for the differences are:

- The lower gearing in the Owat calculation arises from a lower dividend yield, consistent with our allowed cost of equity. Northumbrian has assumed a higher dividend yield, which results in higher gearing. This results in higher FFO/debt and retained cashflow/debt ratios under our calculation.
- The Owat calculations assume a higher level of index linked debt, which will tend to increase the financial ratios.

There are also technical differences in the calculations of cash interest cover, adjusted cash interest cover ratios, dividend cover ratio and regulated equity/regulated earnings which further contribute to the differences.

Our draft determination financial ratios were similar to those submitted by the company in its business plan. While we noted that the AICR in 2016-17 was low, partly due to an expected tax payment, we stated that it was important to consider the level and the trend in ratios over the period and consequently we were less concerned with low ratios in an individual year and Northumbrian Water had a number of options for managing this one-off payment. We therefore did not consider intervention was required.

<sup>4</sup> The regulatory equity/regulatory earnings ratio is now defined on the basis of earnings after real interest and tax; previously, this has been defined on the basis of nominal interest for the early draft determinations. The use of real interest is more consistent with this measure as an economic measure of equity returns.

## Commentary:

Subsequent to the draft determination, Northumbrian Water changed its plan to recover infrastructure renewals expenditure (IRE) through PAYG rather than RCV run-off. This increased the AICR while leaving bill levels unchanged.

In its subsequent representation to our draft determination, Northumbrian Water stated that the draft determination did not represent an acceptable overall balance of risk and reward due to the low cost of capital, tight financial ratios and an incentive framework skewed towards penalties. With the proposed amendments set out in its representation Northumbrian Water stated that (even after adjustments that reflect performance over 2010-15) financial ratios do not show significant levels of headroom above credit rating guidance threshold levels. The financial ratios included in its response are similar to those for the draft determination, although the change to the IRE recovery increases the AICR to an average of 1.9 (pre 2010-15 performance adjustments). Northumbrian Water stated that even with these changes the financial metrics, based on rating agency definitions, fall below thresholds for its target credit rating of BBB+/Baa1 in 2016-17. In all other years, ratios are above thresholds with an improving trend. Northumbrian Water stated that, on this basis, its Board considers that it is financeable, assuming no changes to the allowed return or proposed PAYG rates. Northumbrian Water provided evidence that it had engaged with its CCG on bill profiles and financeability and the CCG accepted the company's use of PAYG to profile the benefits of the reduced allowed return between 2015 and 2020 and future periods. Northumbrian Water also provided evidence of customer support, with 94% of customers supporting a smooth bill profile over 2015 to 2025.

After taking into account the reduction in the allowed return in the final determination, the financial ratios for our final determination are similar to those for the draft determination, albeit with a significant improvement in the AICR reflecting the change in IRE recovery.

We consider that Northumbrian Water's final determination provides it with an appropriate package of risk and reward as set out in table A6.5. The introduction of the capping of ODI rewards and penalties to a maximum of 2% helps to ensure that the balance of risk and reward is not unduly skewed to the downside, while retaining incentives for company outperformance. Further, the recalculation of ODI rewards and penalties since draft determination has resulted in a significant reduction in level of expected rewards and penalties. Taking account of these changes, we consider that the risk and reward package provides appropriate balance of reward and penalties. The levels of financial ratios are consistent with those the company has previously satisfied itself and so would allow an efficient company to finance its functions. We are also satisfied that at the notional level, the company has sufficient headroom to manage the impact of risk on its financeability. Therefore, we are not intervening in this area.

As explained in policy chapter A8, companies have been allowed to use new tools in the form of 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.

Table A6.8 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. The increase in PAYG and reduction of RCV run-off reflects Northumbrian Water change to recover IRE through PAYG rather than RCV run-off.

**Table A6.8 Impact on the longer term**

	PAYG rate	RCV run-off	RCV growth (%) – 1 Apr 2015 to 31 Mar 2020
Company December plan	47.6%	6.1%	2.8%
Company May plan	50.0%	6.1%	-0.3%
Draft determination	50.0%	6.1%	0.5%
Final determination	61.4%	4.6%	0.7%

## A6.6 Affordability

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

Table A6.9 sets out the change in household bill profile between the company's December and May business plans, and the draft and final determination.

**Table A6.9 Household bill profile (£)**

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Company December plan	368	368	368	368	368	368
Company May plan	368	365	365	365	365	365
Ofwat calculation for May plan	368	363	365	366	367	366
Ofwat calculation for draft determination – pre-reprofiling	368	362	362	362	362	362

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Ofwat calculations for draft determination	368	362	362	362	362	362
<b>Ofwat calculations for final determination</b>	<b>368</b>	<b>364</b>	<b>364</b>	<b>364</b>	<b>364</b>	<b>364</b>

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 (lines 3, 4 and 6 of Table A6.9) are not directly comparable to the company plans (lines 1 and 2 of Table A6.9).

The final determination leads to a reduction in bills in 2015-20. We have reprofiled bills so that there is a reduction in the first year with broadly flat bills for the remainder of the period, consistent with Northumbrian Water's customer research supporting stable bills.

The following text sets out the reasons why this final determination is assessed as affordable. It describes key changes in relation to Northumbrian Water's December business plan that we assessed as affordable, and how we have taken into account later representations.

## A6.6.1 Acceptability

**Table A6.10 Ofwat response to representations**

Respondent	Summary of comment	Ofwat response
CCWater <sup>1</sup>	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 to the research that the company undertook on its revised business plan, which was that 75% found the plan acceptable. The company's plan has been developed with input from its CCG. The CCG's role was to help ensure the 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.

**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.

In its December plan, Northumbrian Water's customer research concluded that 75% of household and non-household customers found the proposed price and service package to be acceptable.

In its May resubmission, the company's proposed bills were around £2 lower than those put forward in the December plan. The combined impact of our interventions and the adjustments made by the company in its representation (for example, the inclusion of a new obligation at Whitburn) mean that bills are around £4 per year lower in the final determination compared to the company's December plan.

There is no evidence that the scale of the service package being offered has been reduced since the December submission. We therefore conclude that the company's plan remains acceptable to the majority of its customers.

In our draft determination, we asked the company to provide further evidence that it had engaged with its customers on the use of PAYG and the passing through of the

lower allowed return. Northumbrian Water responded by providing comprehensive evidence of customer and CCG support for its use of PAYG in the draft determination.

### A6.6.2 Identification of affordability issues and appropriate support measures

The company has a comprehensive range of affordability measures in place, and outlines in its business plan how it will both increase the coverage of these schemes and add new initiatives. The key measures are summarised in the following table:

**Table A6.11 Key affordability measures**

Measure	Current coverage (no of customers)	Forecast 2019-20 coverage
WaterSure	3,727	5,980
Water direct	24,537	29,667
Flexible payment plans	15,962	20,000
Debt advice – in house	15,962	20,000
Debt advice – 3rd party	10,886	20,000
Tailored assistance for vulnerable customers	17,668	Not target led
Win-win tariff	New	10,000
Arrears write-off scheme	New	2,000 (10,000 over 5 year period)
Free water efficiency audits	New	1,500 p.a. (dependent on success of 2015 trial)
Targeted metering for struggling customers	New	10,000

### A6.6.3 Longer-term affordability

In its December 2013 submission, the company explained that its adjustments to PAYG had been designed not to have an adverse impact on bills post 2020.

For the May business plan, Northumbrian Water stated it had increased the PAYG rate to the natural rate to balance bill reductions in 2015-20 with the need to maintain financeability.



Northumbrian Water's subsequent amendments to the recovery of IRE through PAYG and RCV run-off do not affect bills.

We found convincing evidence that the company had engaged with its CCG on the issue of how allowed returns and PAYG interact, and that the CCG had strongly challenged the company to provide assurances that its actions were not detrimental to either financeability or affordability concerns. Customer surveys show 94% acceptability for the proposed bill profile (rather than level) over the 2015-25 period. We therefore do not consider that there are issues with longer-term affordability.

#### **A6.6.4 Longer-term affordability – ODIs**

In the August draft determinations, we proposed that companies introduce a set of common ODI measures subject to comparative assessment. Under the 'equivalence of treatment' principle for non-enhanced companies, we informed Northumbrian Water that it was subject to the comparative assessments. The company and the CCG broadly agreed with the proposed amendments to the ODI package.

In its representations to the draft determination, the company presented sufficient and convincing evidence that it updated its ODIs in line with the comparative approach. This reduced the ODI range from a range of -2.6% to +0.8% to a range of -2.0% to +0.4%. The CCG states the rebalancing in favour of penalties and away from rewards is likely to be welcomed by customers, but recognises that the potential level of penalty outside our original guidance of +/- 1-2% and is one of the highest for the industry. We are capping penalties and rewards to 2% of RoRE and so this will limit the size of penalties paid by the company.

## **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.

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 <sup>1</sup>	Unmodelled costs adjustment	Deep dives	Final determination threshold	Deep dives fully or partially not added <sup>2</sup>
1198.2	154.1	-6.1	7.2	1,353.3	None

**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 the implicit allowance.

**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
107.6	17.8	27.6	1.1	0.0	154.1

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

Plan <sup>1</sup>	Final determination threshold	Gap <sup>2</sup>	2010-15 v plan
1,362.3	1,353.3	9.0	-22.7

**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							
Supply demand balance	42.8	0.0	Partial pass	N/a	N/a	Partial pass	7.2

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

Basic cost threshold	Policy additions <sup>1</sup>	Unmodelled costs adjustment	Private sewage pumping stations	NEP5	Private sewer model update delta	Deep dive	Final determination threshold	Deep dives fully or partially not added
948.3	75.2	-16.8	9.9	9.1	-5.6	6.3	1,026.4	None

**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
48.0	11.4	15.0	0.8	0.0	75.2

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

Plan <sup>1</sup>	Final determination threshold	Gap <sup>2</sup>	2010-15 v plan
1,010.9	1,026.4	-15.5	46.3

**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 (£ million)**

Company proposal		Assessment				Final determination allowance	
Claim	Amount sought	Implicit allowance	Need	Cost-benefit analysis	Robust costs	Assessment	Amount allowed
<b>Deep dives</b>							
National Environment Program 5 (NEP5)	9.1	0.0	Pass	Pass	Fail	Pass	9.1
New item: Whitburn unsatisfactory intermittent discharge (UID)	16.5	0.0	Pass	N/a	N/a	Partial pass	6.3

## **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.

#### **Doubtful debt adjustment summary**

- In its December plan the company proposed a doubtful debt adjustment of £15.5 million.
- Following feedback from the risk-based review, the company removed the adjustment for doubtful debt in the revised business plan. Subsequently, no adjustment for doubtful debt was included at the draft determination.
- The company resubmitted a revised claim for £29 million in the representations to the draft determination.
- We have accepted the claim for a doubtful debt for final determination. However, we have used the amount Northumbrian Water proposed in its December plan, as the company did not provide sufficient evidence to support the increased claim.

We approve Northumbrian Water's proposal for an ACTS adjustment for doubtful debt driven by deprivation, but with an amendment to the adjustment value.

#### **Materiality**

The company's proposed adjustment of £29 million is material at 10.3% of household retail operating expenditure plus depreciation over 2015-20. This is higher than the £15.5 million sought by Northumbrian Water in its original business plan submission.

#### **Beyond efficient management control**

Northumbrian Water's evidence on its management practices for preventing and recovering bad debt is sufficient and convincing that the higher bad debts faced by the company are beyond efficient management control.

## **Impacts company in a materially different way to other companies**

In its representations on its draft determination, Northumbrian Water submitted additional modelling analysis and evidence to demonstrate that deprivation impacts the company in a different way to other companies. This modelling was reviewed independently and has been found to be sufficient and convincing<sup>5</sup>. We have therefore concluded that Northumbrian Water has provided sufficient and convincing evidence that deprivation affects the company in a materially different way to other companies.

## **Value of the proposed adjustments**

Northumbrian Water has not provided sufficient or convincing evidence to explain why the adjustment value it is seeking (£29.0 million) is almost double the adjustment value sought in its original business plan (£15.5 million).

Northumbrian Water's original business plan proposed an adjustment of £15.5 million on the grounds that this would bring its debt costs into line with what they would be if levels of deprivation in the Northumbrian Water areas of supply were in line with the industry average. We have concluded that Northumbrian Water's revised modelling evidence corroborates this original adjustment value but that Northumbrian Water has not provided sufficient evidence (beyond the modelling outputs) that the higher adjustment value is necessary and justified.

Consequently, we determine that Northumbrian Water has provided sufficient and convincing evidence to justify an adjustment for bad debt, but insufficient evidence to justify the higher adjustment value.

Therefore, we have approved the adjustment claim, but with an amendment to the adjustment value which results in a total adjustment of £15.5 million over 2015-20.

The adjustments proposed by Northumbrian Water and the amounts we have included in our draft and final determination are quantified in Table AA2.1.

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<sup>5</sup> A note describing PwC's review of Northumbrian Water's modelling approaches is published alongside our draft determination and can be found on our website

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

	2015-16	2016-17	2017-18	2018-19	2019-20	Total
<b>Adjustments proposed in Northumbrian Water's May business plan</b>						
Pension deficit repair costs	0.764	0.764	0.764	0.764	0.764	3.822
Business rates	0.252	0.252	0.252	0.252	0.252	1.262
Third party opex	0.839	0.839	0.839	0.839	0.839	4.197
<b>Adjustments included in business plan</b>	<b>1.856</b>	<b>1.856</b>	<b>1.856</b>	<b>1.856</b>	<b>1.856</b>	<b>9.281</b>
<b>Adjustments included in draft determination</b>						
Pension deficit repair costs	0.562	0.562	0.562	0.562	0.562	2.808
Business rates	Not included as adjustment – forms part of new costs					
Third party opex	Not funded as part of price control					
<b>Adjustments included in draft determination</b>	<b>0.562</b>	<b>0.562</b>	<b>0.562</b>	<b>0.562</b>	<b>0.562</b>	<b>2.808</b>
<b>Adjustments proposed in Northumbrian Water's representations</b>						
Doubtful debt	5.800	5.800	5.800	5.800	5.800	29.000
Pension deficit repair costs	0.743	0.743	0.743	0.743	0.743	3.715
Business rates	0.252	0.252	0.252	0.252	0.252	1.262
Third party opex	0.839	0.839	0.839	0.839	0.839	4.197
<b>Adjustments included in business plan</b>	<b>7.635</b>	<b>7.635</b>	<b>7.635</b>	<b>7.635</b>	<b>7.635</b>	<b>38.174</b>
<b>Adjustments included in final determination</b>						
Doubtful debt	3.100	3.100	3.100	3.100	3.100	15.500
Pension deficit repair costs	0.562	0.562	0.562	0.562	0.562	2.808



	2015-16	2016-17	2017-18	2018-19	2019-20	Total
Business rates	Not included as adjustment – forms part of new costs					
Third party opex	Not funded as part of price control					
<b>Adjustments included in final determination</b>	<b>3.662</b>	<b>3.662</b>	<b>3.662</b>	<b>3.662</b>	<b>3.662</b>	<b>18.308</b>

**Note:** There will be no automatic indexation for retail price controls to RPI. The value of Northumbrian Water's bad debt adjustment in its original business plan totalled £15.5m, but the company sought a revised adjustment totalling £29.0m in its representations on its draft determination.

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

Table AA2.2 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 Table AA2.3 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	24.60	24.87	25.03	25.16	25.28
Unmetered wastewater only customer	24.60	24.87	25.03	25.16	25.28
Unmetered water and wastewater customer	31.97	32.33	32.53	32.70	32.86
Metered only water customer	27.55	27.82	27.99	28.13	28.26
Metered wastewater only customer	27.56	27.82	27.98	28.13	28.27
Metered water and wastewater customer	37.88	38.24	38.46	38.65	38.82

**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	304.3	291.7	278.5	265.4	252.8
Unmetered wastewater only	33.7	33.0	32.3	31.6	30.8
Unmetered water and wastewater	721.7	706.5	691.3	676.0	660.8
Metered water only	427.7	444.3	461.4	478.7	495.7
Metered wastewater only	35.3	37.3	39.4	41.5	43.6
Metered water and wastewater	340.8	361.3	381.9	402.6	423.4

Table AA2.4 below notes the representations that we have received that are specific to this aspect of the household retail control of Northumbrian Water and sets out our response.

**Table AA2.4 Representations specific to the household retail adjustments for Northumbrian Water**

Respondent	Summary of comment	Ofwat response
Northumbrian Water	The company submitted a new adjustment for doubtful debt levels driven by deprivation of £29 million, which was not included in the May business plan. It has provided additional evidence to support the adjustment.	We have partially accepted the company's proposed adjustment for doubtful debt – see above for more details.
Northumbrian Water	The company provided additional evidence in the representations to support the Customer Information Billing System investment case, which was disallowed at draft determination.	We have allowed the company's proposal – see above for more details.
CCG	The CCG provided support for the adjustment for doubtful debt resulting from the level of deprivation in the region.	We have partially accepted the company's proposed adjustment for doubtful debt – see above for more details.

## **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 determinations 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 Northumbrian 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 this final determination.

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 determinations that are specific to Northumbrian 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 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 A4. Representations that are specific to reconciling 2010-15 performance for Northumbrian Water, and any consequential impact on our final determination, are summarised in the table below.

**Table AA3.1 Draft determination representations received specific to reconciling 2010-15 performance for Northumbrian Water**

Area	Respondent	Summary of comment	Ofwat response
SIM	None	N/a	N/a
RCM	Northumbrian Water	<p>The company has updated its 2013-14 actuals and 2014-15 forecasts and has submitted additional information in relation to the interventions we made in the draft determination.</p> <p><b>2009-10 number of households billed property numbers</b></p> <p>Northumbrian Water has provided more information to explain why it has made a change to the 2009-10 property numbers from that reported in its JR10.</p>	<p>We accept the company's representation and have removed the intervention we applied at the draft determination.</p>
		<p><b>Forecasted 2014-15 tariff basket revenue</b></p> <p>In its representation, it has explained:</p> <ul style="list-style-type: none"> <li>the detailed methodology for revenue forecasting;</li> <li>why the PR09 to actual variance grows between 2013-14 and 2014-15; and</li> <li>the areas that have the most sensitivity for revenue forecasts and why its assumptions are appropriate.</li> </ul>	<p>We accept the company's representation and have removed the intervention we applied at the draft determination.</p>

Area	Respondent	Summary of comment	Ofwat response
		<b>Outturn financial year average RPI</b> There are no longer inconsistencies with the outturn financial year average RPI between table A9 and the company's updated populated RCM model.	The intervention is no longer applicable for the final determination.
		<b>FD09 assumptions</b> The company considers that Ofwat has made an error with the PR09 data used in the model because it has excluded a category of non-household customers 'Band B – non-identified customers' from the final determination assumptions. However, Northumbrian Water states that the materiality of this issue is not significant to the RCM calculation.	We have reviewed this and consider that the intervention remains for the final determination.
Operating expenditure incentive allowance	Northumbrian Water	The company considers that to properly take account of the Dagenham Common Supplies programme error in the OIA, the actual operating costs the company incurred during the period on this scheme should also be excluded from actual opex when calculating opex outperformance.	We accept the company's proposal and have recalculated the OIA with these specific costs excluded.

Area	Respondent	Summary of comment	Ofwat response
Change protocol	Northumbrian Water	<p><b>Trunk mains cleaning</b></p> <p>The company made a representation regarding the shortfall proposed at the draft determination for trunk mains cleaning output to reduce discolouration contacts by 1,000 per year.</p>	In response to our query, the company provided further information to demonstrate that the FD09 output target of 0.93 contacts per 1,000 population will be delivered. We have therefore removed the £3.6 million shortfall that we applied at the draft determination. Therefore, the intervention is not applicable for the final determination. However, we expect the company to demonstrate completion of this activity as part of our review of performance in July 2015 and that the 0.93 target has been delivered.
	Northumbrian Water	<p><b>Sedgeleth Sewage Treatment Works (STW) flow 1 – logging down</b></p> <p>The company accepts our position that offsetting the Sedgeleth logging down with logging up for schemes at Barkershaugh, Chester-le-Street and Chilton &amp; Windlestone STWs is inappropriate owing to the different cost drivers.</p> <p>The company also provided an update of its actual expenditure based on our COPI values.</p>	Our final determination retains the approach adopted in the draft determination, which was to consider the Sedgeleth claim in isolation and not offset costs by investment on other schemes driven by different obligations. The only change from the draft determination resulted from our acceptance of the company's updated actual expenditure figures.

Area	Respondent	Summary of comment	Ofwat response
	Northumbrian Water	<p><b>Newbiggin STW bathing water scheme – logging down</b></p> <p>The company accepts our position that offsetting the Newbiggin logging down with logging up for schemes at Seaham and Saltburn was inappropriate.</p> <p>The company also provided an update of its actual expenditure based on our COPI values.</p>	Our final determination retains the approach adopted in the draft determination, which was to consider Newbiggin STW separately from the other two bathing water schemes. As the costs are higher than the triviality threshold, we have treated it as a logging down item. The only change from the draft determination resulted from our acceptance of the company's updated actual expenditure figures.
	Northumbrian Water	<p><b>Sewer flooding non delivery of 2010 – 2015 outputs – logging down</b></p> <p>The company has carried out a review of the outputs proposed in 2014-15 and has identified that 50 solutions rather than 43 should be logged down as these are not required.</p> <p>The company also provided an update of its actual expenditure based on our COPI values.</p>	We have accepted the company's revised forecast delivery information provided which has been the subject of external assurance. Consequently, for the final determination the value of the log down is based on the assumption that 50 solutions are no longer required.



Area	Respondent	Summary of comment	Ofwat response
	Northumbrian Water	<p><b>Sewer flooding non delivery of 2010-15 outputs – shortfall</b></p> <p>The company has carried out a review of the outputs proposed for 2014-15 and assessed the risk of not completing them in the year. The company has a total programme of 527 solutions with 79 outputs due for completion in March 2015 that are at highest risk of not being completed.</p>	<p>We have accepted the company's revised forecast delivery information provided which has been the subject of external assurance. Consequently, for the final determination the value of the shortfall is based on the assumption that 79 properties will be delivered late.</p>
Service standard outputs	Northumbrian Water	<p>The company provided evidence in its response to queries (NES-LEGACY-001 and 001a) to confirm that the service standard outputs have been achieved.</p>	<p>Having considered the evidence provided in the company's query responses, we are satisfied that the service standard outputs have been achieved. There are therefore no changes for the final determination.</p>

Area	Respondent	Summary of comment	Ofwat response
Serviceability performance	Northumbrian Water	The company disagrees with our assessments of sewerage infrastructure serviceability. The company represented on the basis of the shortfall being at an indicator level, had not taken into account the good performance of some of the other indicators in the basket. The company also provided updated data to show that performance in 2014-15 is likely to outturn at the reference level.	<p>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.</p> <p>The poor performance of 2011-12 and 2012-13 was recovered in 2013-14 and forecast data for 2014-15 confirms the sustained improved performance, which advocates the removal of shortfall. The performance in 2014-15 will be reviewed in 2015 as part of our reconciliation of performance in that year.</p>
CIS	None	N/a	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 of the final revenue adjustments.
Other adjustments	Northumbrian Water	The company highlights that Ofwat failed to make an error correction in the draft determination for the Dagenham supply pipe scheme from PR09.	We have now made this adjustment.

## Summary of 2010-15 adjustments

All companies were required to put in 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 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 determinations. The table also shows other adjustments, such as those relating to tax resulting from the company's actual performance during the 2010-15 period.

The changes we have made in the final determination compared to our draft determination are as a result of accepting the company's representation view of legacy adjustments and additional evidence on performance. This incorporated updated actuals for 2013-14 and forecasts for 2014-15 and a number of changes the company made in direct response to our draft determination feedback particularly in response to our application of shortfalls.

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

	Water service		Wastewater service	
	Company view	Ofwat view	Company view	Ofwat view
SIM	4.274	4.274	2.914	2.914
RCM	25.545	34.887	29.611	28.791
OIA – post-tax	8.309	9.443	3.059	3.059
CIS	5.858	5.601	-10.709	-16.341
Tax refinancing benefit clawback	0.000	0.000	0.000	0.000
Other tax adjustments	0.000	0.000	0.000	0.000
Equity injection clawback	0.000	0.000	0.000	0.000
Other adjustments	14.268	14.268	0.000	0.000

	Water service		Wastewater service	
	Company view	Ofwat view	Company view	Ofwat view
Total wholesale legacy adjustments	58.253	68.473	24.874	18.423

**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 AA3.15. 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 Table A2.6 and Table A3.6. Totals may not add up due to rounding.

## SIM

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

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

**Table AA3.3 SIM annualised rewards (£ million)**

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water	Company view	0.855	0.855	0.855	0.855	0.855	4.274
	Ofwat view	0.855	0.855	0.855	0.855	0.855	4.274
Wastewater	Company view	0.583	0.583	0.583	0.583	0.583	2.914
	Ofwat view	0.583	0.583	0.583	0.583	0.583	2.914

## RCM

Table AA3.4 below shows the company view and our view of the company's RCM. Table AA3.5 summarises our interventions in relation to Northumbrian Water's proposed 2010-15 RCM adjustments.

As part of its June submission, the company updated its view of the RCM adjustment amounts from £35.3 million to £25.5 million for water and from £28.9 million to £29.6

million for sewerage. These changes reflect the company's draft determination updated with 2013-14 actuals. As part of its representation, Northumbrian Water updated its view of the RCM adjustments to £35.2 million for water and £28.9 million for sewerage.

In its representation, Northumbrian Water submitted additional information in relation to the interventions we made in the draft determination concerning 2009-10 number of households billed property numbers, forecasted 2014-15 tariff basket revenue, FD09 assumptions, and outturn financial year average RPI.

The company has provided sufficient evidence to allow us to remove the interventions we made in the draft determination except that relating to the FD09 assumptions. There remain differences between the company's view and that set out in our FD09 determinations within the RCM model. For the final determination, we have therefore retained this intervention and included Ofwat's view of the FD09 determinations in the RCM adjustments.

For the RCM, we apply the vanilla wholesale WACC (real; pre-tax cost of new 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 AA3.4 RCM annualised adjustments for 2015-20 (£ million)**

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water	Company view	5.109	5.109	5.109	5.109	5.109	25.545
	Ofwat view	6.977	6.977	6.977	6.977	6.977	34.887
Wastewater	Company view	5.922	5.922	5.922	5.922	5.922	29.611
	Ofwat view	5.758	5.758	5.758	5.758	5.758	28.791

**Table AA3.5 Interventions on proposed 2010-15 RCM adjustments**

Area of intervention	What we did	Why we did it
2009-10 number of households billed property numbers	Our draft determination included the number of households billed in 2009-10 submitted by the	The company has demonstrated in its DD representation the need and justification to rebase its

Area of intervention	What we did	Why we did it
	company in table 7 and 13 of its June return. We have reviewed the company's representation on our DD intervention and have accepted the company's rebased property numbers for 2009-10.	2009-10 property numbers due to reporting changes.
Forecasted 2014-15 tariff basket revenue	Our assumptions for the draft determination did not include the company's forecasted 2014-15 revenues for both the water and sewerage services. We uplifted tariff basket revenues in 2014-15, such that the variance in 2014-15 between FD09 and actual tariff basket revenues is restricted to the same levels as in 2013-14 for both the water and sewerage services. We have reviewed the company's representation on our DD intervention and have accepted the company's forecasted 2014-15 revenues for both the water and sewerage services.	At the draft determination, we had concerns with the company's 2014-15 revenues forecasts because the company had projected a widening revenue shortfall that was not explained. We are no longer concerned because the company has provided additional evidence in its DD representation to support its 2014-15 revenues forecast. We have not intervened on its 2014-15 revenues forecast for final determination.
FD09 assumptions – Measured Non-household's revenue for the Measured Non-household group immediately above and below the 50ML threshold	<p>Our final determination includes Ofwat's view of the FD09 determinations.</p> <p>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 FD09 revenue forecasts that come from the tariff basket model, which we used for PR09.</p>	<p>There are differences between the company's and our view of the FD09 assumptions used in the company's populated RCM model.</p> <p>The company applied different assumptions for 'FD09 Measured Non-household's revenue for the Measured Non-household group immediately above and below the 50ML threshold' compared with our view of its FD09 assumptions.</p> <p>In its representation, the company stated that while it was not material on the RCM, it</p>

Area of intervention	What we did	Why we did it
		<p>considered that we did not include the band B non-identified customers in our FD09 assumptions. We cannot be certain that band B is a group that lies immediately either side of the tariff basket threshold, therefore we have not included it in the FD09 assumptions. We have therefore not changed our approach from the draft determination for this area.</p> <p>Our assumptions for the final determination include the 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'.</p>
<p>Outturn financial year average RPI:</p>	<p>Our assumptions for the final determination include the data that the company submitted in its revised business plan table A9 to calculate our view of the RCM adjustment using our published RCM feeder model.</p>	<p>At the draft determination, we had concerns on the data inconsistencies for outturn financial year average RPI between the data submitted in the company's revised business plan table A9 and the company's populated RCM spreadsheet. The company has recognised this in its draft determination representation and has updated its RCM model to correct for the data inconsistency.</p>

## Operating expenditure incentive allowance (OIA)

Table AA3.6 below summarises the company's view and our view of the incentive allowances for 2015-20. Table AA3.6 summarises our interventions in relation to Northumbrian Water's proposed 2010-15 OIA adjustments.

Our final determination view is different to our draft determination, as we have accepted the company's revised OIA of £9.4 million submitted in its representation. This includes updated actuals for 2013-14 and an additional adjustment to remove actual expenditure associated with the Dagenham Common Supplies programme.

**Table AA3.6 Operating expenditure incentive allowances for 2015-20 (£ million)**

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
<b>Water service</b>							
Incentive allowance (post-tax)	Company view	4.154	4.154	0.000	0.000	0.000	8.309
	Ofwat view	5.449	3.993	0.000	0.000	0.000	9.443
<b>Wastewater service</b>							
Incentive allowance (post-tax)	Company view	3.059	0.000	0.000	0.000	0.000	3.059
	Ofwat view	3.059	0.000	0.000	0.000	0.000	3.059



**Table AA3.7 Interventions on proposed 2010-15 OIA adjustments**

Area of intervention	What we did	Why we did it
Water	We have accepted the company's representation to exclude actual costs of £8.7 million associated with the PR09 Dagenham Common Supplies programme from the overall actual total opex used in the calculation of the OIA.	We accept that that to properly take account of this error, the actual operating costs the company incurred during the period on this scheme should also be excluded from actual opex. We consider the company's proposal to be a fair and logical approach, which we have accepted in our final determination.
Wastewater	We agree with the company view of OIA adjustments for the wastewater service.	The company's representation contains an updated view of logging up/down and shortfall adjustments to opex following our draft determination. The company's revised adjustments now include post efficiency logging up/down opex adjustments for private sewers and Sedgeleth STW Flow1 scheme with FD09 enhancement efficiencies correctly applied.

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

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

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

As explained in Table AA3.20, the difference between the company view and Ofwat's view of logging up in the water service is due to the exclusion of the company's claim for Dagenham Common Supplies programme. The small difference between the company view and Ofwat's view in the wastewater service is due to our inclusion of a logging down claim for Sedgely STW.

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

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

2009-10 to 2014-15 – post-efficiency capex	Water service		Wastewater service		Total service	
	Company view	Ofwat view	Company view	Ofwat view	Company view	Ofwat view
Logging up (two-sided)	0.000	0.000	36.418	12.525	36.418	12.525
Logging down (two-sided)	0.000	0.000	0.000	-19.924	0.000	-19.924
Shortfalls (one-sided)	0.000	0.000	0.000	-8.405	0.000	-8.405

**Note:**

We exclude shortfalls for serviceability from the CIS reconciliation, but instead make direct adjustments to the RCV in 2015-16. We do this to allow the actual capex the company incurred in seeking to maintain serviceability to be reflected in the rewards or penalties earned through the scheme, but to also ensure customers are not required to pay for the regulatory output the company has failed to deliver.

**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
Logging up	14.270	0.000	13.610	13.610	27.880	13.610
Logging down	0.000	0.000	0.000	0.012	0.000	0.012
Shortfalls	0.000	0.000	0.000	0.000	0.000	0.000
Shortfalls for serviceability	0.000	0.000	0.000	0.000	0.000	0.000

**Table AA3.10 Interventions on proposed 2010-15 change protocol adjustments**

Area of intervention	What we did	Why we did it
Trunk main cleaning	<p>For the final determination, we obtained additional information and assurance from the company that it will deliver the 2014-15 performance target of 0.93 discolouration contacts per 1,000 population supplied.</p> <p>Given this projected performance, we have removed the £3.6 million shortfall applied at the draft determination for the final determination.</p> <p>However, we expect the company to demonstrate completion of this activity as part of our review of performance in July 2015 and that the 0.93 target has been delivered.</p>	<p>The company provided a monthly breakdown of discolouration data from 2010 to the present date, as well as details of the work undertaken and the planned work for remainder of the period. The discolouration data shows an improving trend, a reduction in discolouration contacts and a projected achievement of the 2014-15 target.</p>
Sedgeleth STW (Flow1) scheme	<p>In the December plan, the company justified its exclusion of the deferred scheme at Sedgeleth STW as a logging down item on the grounds that, once the offsetting costs of three new P removal schemes had been taken into account, the resultant net cost did not breach the triviality threshold (2% of service turnover). As the obligation driving investment at Sedgeleth was different to that at the three new sites, the proposed amalgamation did not align with our approach to the aggregation of changes. Accordingly, we considered Sedgeleth</p>	<p>Northumbrian Water did not provide any justification in any of its submissions for combining Sedgeleth with the three new P removal schemes the Environment Agency has requested be completed in AMP5. Therefore, our view is that, in line with our policy, the schemes should be treated separately owing to the different cost drivers involved.</p> <p>A small difference compared to the draft determination is due to the company updating actual expenditure based on our COPI values.</p>

Area of intervention	What we did	Why we did it
	STW in isolation and, as the associated costs were higher than the triviality threshold, we treated it as a logging down item.	
Newbiggin STW bathing water scheme	<p>The company justified its exclusion of the withdrawn scheme at Newbiggin STW as a logging down item in Table S13 on the grounds that once the offsetting costs of two AMP6 bathing water schemes had been taken into account the resultant net cost did not breach the triviality threshold (2% of service turnover). Our view is that for the two schemes to be treated as potential offsetting items, the company would need to demonstrate inclusion of the schemes within the NEP AMP5 programme (for which there would need to be explicit support from the Environment Agency and Defra). Failing that, we consider the two schemes should be included in the ‘transitional investment’ programme which allows early investment of AMP6 schemes. Accordingly, we have considered Newbiggin STW in isolation and, as the associated costs are higher than the triviality threshold, have treated it as a logging down item.</p>	<p>Northumbrian Water did not use the ‘transitional investment’ approach which we introduced for issues such as these (that is, where companies have to commence investment on AMP6 schemes in AMP5), nor provided evidence of Defra support (in accordance with change protocol requirements) that would enable us to process the Saltburn and Seaham schemes as potential offsetting logging up items. There is no presumption that this Defra support would be forthcoming automatically as the latest prediction for the Seaham Beach and Saltburn bathing waters (published by Defra in November 2014) are ‘Sufficient’ and ‘Good’ respectively (without any further improvement scheme). Without these schemes, the net log down may no longer be trivial.</p> <p>Our final determination adjustment for this claim is the same as the company’s in that it treats this claim on an individual logging down basis. The difference compared to the draft determination is due to:</p> <ol style="list-style-type: none"> <li>the company updating actual expenditure based on our COPI values; and</li> <li>applying efficiencies based on the allocation</li> </ol>

Area of intervention	What we did	Why we did it
		of expenditure between infrastructure (90%) and non-infrastructure (10%) as assumed at PR09. The company used the same figures but allocated the 90% to non-infrastructure. We assume the company incorrectly reversed the allocation when completing business plan Table S13.
Sewer flooding non-delivery of AMP5 outputs	We are accepting the revised forecast delivery information provided by Northumbrian Water. The company has carried out a review of the outputs proposed in 2014-15 and has identified that 50 solutions should be logged down as these are not required. This has resulted in a small reduction in the scale of the log down we included in the draft determination. Additionally, we are accepting the company's proposed shortfall in respect of 79 outputs that have been identified as being at highest risk of missing the March 2015 deadline for completion.	Northumbrian Water has carried out a review of the outputs proposed for 2014-15 and assessed the risk of not completing them by the end of the year. This review has also been the subject of external assurance. Recent outturn and forecast information provided by Northumbrian Water in October supported that provided by the company as part of its representation.

We have not intervened for the following claims:

- Private sewers (Logging up – sewerage service)
- Sewer flooding (reduction in PR09 shortfall) – At PR09 we applied a shortfall to the company for sewer flooding outputs not delivered. The shortfall applied was based upon the then current position and the forecast end point, which was that the

company would miss the net reduction set at PR04 by 653 properties. This resulted in a shortfall of £68 million. The company reassessed its end of AMP4 figures at the start of AMP5 and gave the final position as 416 properties rather than 653. The difference in the number equates to some £25 million at (2007-08 prices). We have accepted the company's pre-efficiency adjustments for this claim to reconcile the finalised register positions with the shortfall we applied at PR09. However, we have treated this outside the CIS reconciliation and included this amount in the calculation of the 2009-10 outperformance adjustment to the RCV, as included in Table AA3.21.

## Service standard outputs

Service standards are regulatory outputs that we set out in the 2009 final determination (FD09) supplementary reports<sup>[2]</sup>. Where companies have not reported progress on these service standards before submitting business plans, we would have expected them to do so within the price review process.

Following queries (NES-LEGACY-001 and 001a), the company provided satisfactory evidence that it has achieved the service standards for exceptional items, odour and resilience as set out in the 2009 final determination and therefore we have not applied a shortfall.

## Serviceability performance

Table AA3.11 below summarises our serviceability assessments for Northumbrian Water and Table AA3.12 quantifies the value and impact of any serviceability shortfall on the RCV. Table AA3.13 summarises our interventions in relation to Northumbrian Water's proposed adjustments for serviceability.

The changes we have made in the final determination compared to our draft determination relate to the removal of the shortfall for flooding other causes. Although there are no interventions in this area, this is conditional on the company demonstrating performance at the reference level in 2014-15.

**Table AA3.11 Serviceability assessments for 2010-15**

		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

<sup>[2]</sup> 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. 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."



		2010-11	2011-12	2012-13	2013-14	2014-15
Wastewater infrastructure	Company view	Marginal	Stable	Stable	Stable	Stable
	Ofwat view	Marginal	Marginal	Marginal	Stable	Stable
Wastewater non-infrastructure	Company view	Stable	Stable	Stable	Stable	Stable
	Ofwat view	Stable	Stable	Stable	Stable	Stable

**Note:**

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.

**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	0.0	0.0
	Ofwat view	0.0	0.0	0.0

**Table AA3.13 Interventions on proposed 2010-15 serviceability adjustments**

Area of intervention	What we did	Why we did it
Sewerage Infrastructure – flooding other causes	For the final determination, we have removed the £1.9 million (post-efficiency) shortfall applied at the draft determination on condition company achieving forecast performance for 2014-15. We will consider a shortfall adjustment at the next price control should the company fail to demonstrate that it has achieved a forecast performance for 2014-15 on flooding other causes.	<p>The company has had two breaches of the upper control limit for 2011-12 and 2012-13 and performance for 2013-14 was below the upper control limit. The company has provided data to show that performance in 2014-15 is likely to outturn at the reference level, which may result in a stable assessment. The improvement has been achieved through a focused serviceability action plan. However, if the projected performance is not achieved we will consider a shortfall adjustment in 2015.</p> <p>Any shortfalls arising from the review in 2015 will be applied at the next price control.</p>

## The 2009 agreed overlap programme

As the company did not propose an overlap programme at PR09, our 2009 final determination did not contain any agreed projects that would need to be reviewed in this price review. Therefore, we have not assessed any scheme progress or costs under this mechanism.

## The 2014-15 transition programme

Table AA3.14 below confirms Northumbrian Water's proposed transition programme. There are no interventions in this area.

**Table AA3.14 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	0.0	0.0%	0.0%
Wastewater service	5.4	4.7%	1.0%

## CIS

Table AA3.15 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 AA3.16 then sets out the profiled values of the revenue adjustments in each year 2015-20, Table AA3.17 shows the components of the opening RCV which are included in the CIS adjustment, and Table AA3.15 summarises our interventions in relation to Northumbrian Water's proposals.

There are no representations in this area from Northumbrian Water.

**Table AA3.15 CIS true-up adjustments**

		Water service	Wastewater service	Total service
Restated FD09 CIS bid ratio <sup>1</sup>	Company view	103.061	101.386	
	Ofwat view	103.061	106.354	
Out-turn CIS ratio	Company view	85.681	102.367	
	Ofwat view	85.601	107.766	
Incentive reward/penalty (%) <sup>2</sup>	Company view	4.053	-0.701	
	Ofwat view	4.076	-1.766	
Reward/penalty (£m)	Company view	29.236	-3.742	25.494
	Ofwat view	29.429	-8.951	20.477
Adjustments to 2015-20 revenue (£m) <sup>3</sup>	Company view	6.081	-16.665	-10.584
	Ofwat view	5.601	-16.341	-10.739
RCV adjustment (£m) <sup>4</sup>	Company view	-149.011	-4.865	-153.876
	Ofwat view	-149.011	-4.865	-153.876

**Notes:**

1. The restated FD09 CIS bid ratio takes account of the adjustments for the change protocol (Table AA3.8).
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 AA3.17, we show how the components of this agree to those shown in Table A2.6 and Table A3.6.

**Table AA3.16 Profiled revenue adjustments from the CIS reconciliation (£ million)**

		2015-16	2016-17	2017-18	2018-19	2019-20	Total
Water	Company view	5.858	0.000	0.000	0.000	0.000	5.858
	Ofwat view	5.601	0.000	0.000	0.000	0.000	5.601
Wastewater	Company view	-10.708	0.000	0.000	0.000	0.000	-10.708
	Ofwat view	-16.341	0.000	0.000	0.000	0.000	-16.341

**Table AA3.17 CIS components of the opening RCV adjustment (£ million)**

	Water service	Wastewater service
Adjustment for actual expenditure 2010-15	-149.011	10.939
Net adjustment from logging up and logging down	0.000	-7.399
Adjustment for shortfalls	0.000	-8.405
RCV adjustment	-149.011	-4.865

**Table AA3.18 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, 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 of the final revenue adjustments.
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.
Data inconsistencies	In carrying out our assessment, we have used the values from tables A9.	We identified minor inconsistencies between the revised business tables and the company's populated CIS model on the COPI financial year values for 2013-14 and 2014-15.

## Other adjustments

Table AA3.19 and Table AA3.20 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.

There are no changes from our draft determination and there are no interventions in this area.

**Table AA3.19 Other revenue adjustments 2015-20 (£ million)**

	Water service		Wastewater service	
	Company view	Ofwat view	Company view	Ofwat view
Tax refinancing benefit clawback	0.000	0.000	0.000	0.000
Other tax adjustments	0.000	0.000	0.000	0.000
Equity injection clawback	0.000	0.000	0.000	0.000
Other adjustments	14.268	14.268	0.000	0.000

**Table AA3.20 Interventions on proposed other revenue adjustments**

Area of intervention	What we did	Why we did it
Other adjustments – Dagenham Common supplies	We accept the company's proposed profile of revenue adjustments totalling £14.3 million to correct an error Ofwat made at FD09, whereby the costs of the Dagenham Common Supplies programme had been excluded from the FD09 determinations.	Following PR09, we committed in writing to correct for this at the next price review by including these costs as revenue adjustments for the next price limit period. Allowing for indexation, we have reviewed the company's costs against the PR09 forecasts and we have checked that the company has applied appropriate FD09 operating efficiency improvements. We therefore accept the company's proposed

Area of intervention	What we did	Why we did it
		profile of revenue adjustments totalling £14.3 million.

There is a minor change from our draft determination in relation to our adjustment for actual expenditure in 2009-10.

Table AA3.21 and Table AA3.22 below confirm the assumptions included in this final determination with respect to other adjustments to the opening RCV.

There is a minor change from our draft determination in relation to our adjustment for actual expenditure in 2009-10.

**Table AA3.21 Other adjustments to the opening RCV (£ million)**

	Water service		Wastewater service	
	Company view	Ofwat view	Company view	Ofwat view
Land sales	-3.200	-2.789	-2.900	-2.506
2009-10 adjustment	0.000	8.369	0.000	9.030
Enhanced rewards	0.000	0.000	0.000	0.000
Other adjustments	0.000	0.000	0.000	0.000

**Table AA3.22 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 the business plan sales figures in our RCV midnight adjustment model.	This provided a consistent approach with all companies
2009-10 adjustment (water)	We calculated the 2009-10 adjustment using the capex figures from the June return.	This provided a consistent approach with all companies.

Area of intervention	What we did	Why we did it
2009-10 adjustment (wastewater)	We have included £23.893 million in the 2009-10 calculation to correct for a shortfall that was applied in excess at FD09.	The company proposed a logging up of £28.889 million (pre efficiency) to reflect the effect of an incorrect estimate of properties on the sewer flooding register at the end of 2009-10 on which a shortfall at FD09 was made. We have reviewed and agree with the figure provided by the company. However, the wastewater service was capped by more than £40 million at PR09 – so this input does not alter the overall RCV adjustment for 2009-10.

## **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 we are proposing for Northumbrian Water. We then set out in detail these PCs and ODIs for the company's wholesale water, wholesale wastewater 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 determination in relation to the PCs and ODIs proposed for Northumbrian 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. Representations that are specific to PCs and ODIs for Northumbrian 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 determination as a result of comparative assessments in six areas for wholesale water and wholesale wastewater respectively.



- Tables AA4.3 and AA4.4 consider representations received on the interventions we proposed in our draft determination as a result of our company-specific assessments for wholesale water and wholesale wastewater respectively.
- Table AA4.5 considers representations received on the interventions we made in our draft determination as a result of our company-specific assessments for household retail.
- Table AA4.6 lists the PCs that were proposed by companies but that have been removed as part of our final determination.
- Table AA4.7 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/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
W-B1: Satisfaction with taste and odour of tap water	<p><b>Comparative assessment</b></p> <p>Tightened PC level to 1,248 from 2017-18 with a linear glidepath in intervening years.</p> <p>Penalty deadband tightened from 1,724 to 1,405 in 2015-16 and 2016-17 and removed thereafter.</p> <p>Penalty collar amended so penalty range maintained as in Northumbrian Water's submission.</p>	The company agreed with our interventions following comparative assessments and following the correction we issued on 12 September 2014 (to adjust the collar and cap to keep the penalty and reward ranges the same as the figures before intervention).	<p>Tighten the PC level further to 903 from 2017-18 with a linear glidepath in intervening years with consequential changes to the deadbands, cap and collar.</p> <p>Reduce the proposed reward and penalty rates by a factor of 4 and 3½ times respectively.</p>	<p>We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations.</p> <p>Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rate, which resulted in them being reduced by 80%. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which partially offset our correction for its incentive rates.</p>

PC/ODI affected	What we did at draft determination/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
W-B2: Overall drinking water compliance	<p><b>Draft determination</b></p> <p>Increased the PC level to 99.94%.</p> <p>Eliminated the penalty deadband.</p> <p>Increased the penalty collar to 99.910%.</p> <p><b>Comparative assessment</b></p> <p>Increased the PC level to 100% from 2017-18.</p> <p>Penalty deadband increased to 99.960% from 2017-18.</p> <p>Penalty collar increased to 99.930% from 2017-18 in order to maintain penalty range as in Northumbrian Water's submission.</p>	<p>The company agreed with our interventions following the comparative assessments, subject to aligning it with the three-year average approach used in assessing asset health measures.</p> <p>CCWater agreed with our intervention.</p>	<p>Reduce the penalty deadband to 99.950% from 2017-18.</p> <p>Reduce the penalty collar to 99.920% from 2017-18.</p> <p>Allow the company to use its three-year average approach based on Ofwat's annual figures in the final determination.</p>	<p>We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations.</p> <p>The company's three-year average approach retains the underlying commitment to achieve 100% by 2017-18.</p>

PC/ODI affected	What we did at draft determination/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
W-B3: Discoloured water complaints	<p><b>Draft determination</b></p> <p>Removed reward aspects of financial incentive</p> <p><b>Comparative assessment</b></p> <p>PC enhanced from 4,600 to 4,424 (2015-16), 4,247 (2016-17) and 4,071 from 2017-18</p> <p>Penalty deadband enhanced to 4,600 2015-17, removed from 2017-18.</p> <p>Definition of measure to exclude incidents.</p>	<p>The company proposed to reintroduce rewards but to base them on willingness to pay.</p> <p>The company agreed with our interventions following the comparative assessments, subject to aligning it with the 3-year average approach used in assessing asset health measures.</p> <p>The company adopted the definition used by Ofwat in the comparative assessments.</p>	<p>Tighten the PC level further to 2962 from 2017-18 with a linear glidepath in intervening years with consequential changes to the deadbands, cap and collar.</p> <p>Adopt the company's proposal for a reward.</p> <p>Reduce the proposed reward rate by 80%.</p> <p>Allow the company to use its three-year average approach based on Ofwat's annual figures in the final determination.</p>	<p>We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations.</p> <p>The company proposed a new reward rate based on customer willingness to pay.</p> <p>Northumbrian Water had not followed our methodology for setting rewards. We corrected the company's reward rate, which resulted in it being reduced by 80%. We accepted the company could use a central estimate of willingness to pay in its rate calculation, although this did not affect our correction due to rounding.</p> <p>The company's three-year average approach retains the underlying commitment to achieve upper quartile by 2017-18.</p>

PC/ODI affected	What we did at draft determination/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
W-C1: Interruptions to water supply for more than three hours (average time per property per year)	<p><b>Comparative assessment</b></p> <p>Penalty deadband enhanced to 10 minutes for 2015-19.</p> <p>Penalty collar amended so penalty range maintained as per company's submission.</p>	Northumbrian Water agreed with our interventions following comparative assessments	<p>We have reverted to Northumbrian Water's original proposals for the penalty deadband and penalty collar</p> <p>Reduce the reward rate by a factor of 5 and the penalty rate by a factor of approximately 3½.</p>	<p>We revised our comparative assessment for final determinations based on stakeholder representations on draft determinations. This increased the upper quartile level from 10 minutes to 12 minutes. As Northumbrian Water's original penalty deadband was at a level better than upper quartile, no intervention was required.</p> <p>Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rate, which resulted in them being reduced by 80%. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which partially offset our correction for its penalty rate.</p>

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

PC/ODI affected	What we did at draft determination/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
S-B2: Properties flooded internally	<p><b>Draft determination</b></p> <p>Tightened penalty deadband to 426 incidents per year.</p> <p>Reduce penalty collar to 509 incidents per year.</p> <p><b>Comparative assessment</b></p> <p>PC enhanced from 300 to 238 (2015-16), 175 (2016-17) and 113 (2017-20).</p> <p>Penalty deadband enhanced from 426 to 300 (2015-17) and removed thereafter.</p> <p>Reward deadband enhanced from 237 to 113 from 2015-16. Reward range maintained as per our submission.</p>	<p>The company proposed the upper quartile level should be higher than 113 at 160 properties.</p> <p>The company proposed the PC should be achieved by 2019-20 rather than from 2017-18 due to its challenging nature.</p> <p>The Environment Agency supported the changes to the deadband, collar and cap in the draft determination.</p> <p>The CCG stated Ofwat should look at the run-rate for sewer flooding from April-September 2014 to see if the company is delivering against its plan for 2014-15, rather than assume a lower number.</p>	<p>We recalculated the upper quartile level as 186 properties per year for Northumbrian Water and set that as the PC level from 2017-18 to 2019-20 with appropriate changes to the deadbands.</p> <p>We maintained the size of the reward and penalty ranges.</p> <p>We reduced the proposed reward and penalty rates by a factor of approximately 4.</p>	<p>We revised our comparative assessment proposals for final determinations based on stakeholder representations on draft determinations. This resulted in a less demanding target than Northumbrian Water had suggested. We therefore did not lengthen the glide path for achieving upper quartile performance as the company requested.</p> <p>Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rate. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which slightly offset our correction.</p>

PC/ODI affected	What we did at draft determination/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
S-C2: pollution incidents (category 3)	<p><b>Draft determination</b> Removed reward aspects of financial incentive.</p> <p><b>Comparative assessment</b> Penalty deadband enhanced from 153 to 120 from 2017-18. Penalty range maintained as per our submission.</p>	<p>The company agreed with our interventions following the comparative assessments, subject to aligning it with the three-year average approach used in assessing asset health measures.</p> <p>The company proposes a reward based on willingness to pay.</p> <p>The Environment Agency wants to see the penalty deadband tightened from 153 to 127 incidents.</p>	<p>Increase the penalty deadband from 120 to 122 from 2017-18.</p> <p>Allow the company to use its three-year average approach based on Ofwat's annual figures in the final determination.</p> <p>Accept the company's proposal for a reward, but we reduced the proposed reward rate by a factor of just over 4.</p>	<p>We revised our comparative assessment for final determinations based on stakeholder representations on draft determinations. This increased the upper quartile level for Northumbrian Water slightly from 120 to 122 incidents per year. As the company was performing at better than upper quartile the penalty deadband was set at upper quartile at draft determination so we have updated the penalty deadband to reflect the change in the upper quartile.</p> <p>Northumbrian Water's three-year average approach retains the underlying commitment to achieve upper quartile by 2017-18.</p> <p>The company proposed a new reward rate based on customer</p>

PC/ODI affected	What we did at draft determination/subsequent comparative assessments	Representations	What we did at final determination	Why we did it
				<p>willingness to pay.</p> <p>Northumbrian Water had not followed our methodology for setting its reward. We corrected the company's reward rate. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which slightly offset our correction.</p> <p>The comparative assessments mean we are setting the penalty deadband at a slightly more demanding level than the Environment Agency suggested.</p>

**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
W-A1: asset health –	Removed reward aspects of financial	The company proposed to reintroduce rewards to the asset	We adopted the company proposals.	The company addressed our concerns that it had provided



PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
water	incentive.	<p>health basket but with three changes:</p> <ul style="list-style-type: none"> <li>Remove rewards for reducing mains bursts.</li> <li>Rewards based on willingness to pay.</li> <li>Rewards only available if performance is at least good on all four asset health measures.</li> </ul> <p>The Environment Agency supported the rewards being contingent on the company's performance being at least 'good' across all four asset health measures.</p>	We reduced by 80% the proposed rewards for asset health.	<p>insufficient evidence that customers were willing to pay for improvements by removing rewards for mains bursts and proposing new reward rates for discoloured water and poor pressure based on customer willingness to pay.</p> <p>The company also addressed our concern about the overall basket by including a requirement for all measures to be at least good for a reward to be earned.</p> <p>Northumbrian Water had not followed our methodology for setting rewards. We corrected the company's reward rates, which resulted in them being reduced by 80%.</p>
W-C2: Properties experiencing poor water pressure	Removed reward aspects of financial incentive.	The company proposed to reintroduce rewards but to base them on willingness to pay.	<p>We adopted company's proposal for a reward</p> <p>We reduced by 80% the proposed reward</p>	<p>The company proposed a new reward rate based on customer willingness to pay.</p> <p>Northumbrian Water had not followed our methodology for setting rewards. We corrected the company's reward rate, which resulted in it being reduced by 80%.</p>

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
W-C3: Water mains bursts	Removed reward aspects of financial incentive.	The company agreed with our intervention.	Confirm approach adopted at draft determination.	No objections to draft determination proposals.
W-C4: Leakage (MI/d) NW	Widened reward deadband to 131 MI/d. Reduce reward cap to 111 MI/d.	The company agreed with our intervention. The Environment Agency agreed with our intervention. CCWater agreed with our intervention.	Confirm approach adopted at draft determination We reduced by 80% the proposed reward and penalty.	No objections to draft determination proposals. Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rates, which resulted in them being reduced by 80%.
W-C5: Leakage (MI/d) ESW	Widened reward deadband to 56 MI/d. Reduce reward cap to 46 MI/d.	The company agreed with our intervention. The Environment Agency agreed with our intervention.	Confirm approach adopted at draft determination. We reduced by 80% the proposed reward and penalty.	No objections to draft determination proposals. Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rates, which resulted in them being reduced by 80%.

**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
S-A1: asset health – wastewater	Removed reward aspects of financial incentive.	<p>Company proposed to reintroduce rewards to the asset health basket but with three changes:</p> <ul style="list-style-type: none"> <li>• No reward for sewer collapses.</li> <li>• Rewards based on willingness to pay.</li> <li>• Rewards only available if performance achieves at least 'good' on all four asset health measures.</li> </ul> <p>Environment Agency: We support rewards being contingent on the company's performance being at least 'good' across all four asset health measures.</p>	<p>We adopted the company proposals.</p> <p>We reduced by almost 80% the proposed rewards for asset health.</p>	<p>The company addressed our concerns that it had provided insufficient evidence that customers were willing to pay for improvements by removing rewards for sewer collapses and proposing new reward rates for repeat sewer flooding and pollution incidents based on customer willingness to pay.</p> <p>The company also addressed our concern about the overall basket by including a requirement for all measures to be at least good for a reward to be earned.</p> <p>Northumbrian Water had not followed our methodology for setting rewards. We corrected the company's reward rates, which resulted in them being reduced by 80%. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which slightly offset our correction.</p>

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
S-B1: Properties flooded externally	<p>Tightened penalty deadband to 1,497 incidents per year.</p> <p>Tighten reward deadband to 1,139 incidents per year.</p> <p>Reduce penalty collar to 1,664 incidents per year.</p>	<p>Company agreed with our intervention.</p> <p>The Environment Agency supported the changes to the deadband, collar and cap in the draft determination.</p>	<p>Confirm approach adopted at draft determination.</p> <p>We reduced the proposed reward and penalty rate by approximately 2½ times and 5 times respectively.</p>	<p>No objections to draft determination proposals.</p> <p>Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rates. We accepted the company could use a central estimate of willingness to pay in its rate calculations, which offset our correction for the reward rate.</p>
S-B3: Repeat sewer flooding	<p>Lowered the PC level to 323 incidents in line with Northumbrian Water's December business plan.</p> <p>Set the penalty deadband and penalty collar at the same level as in the company's December business plan.</p> <p>Remove reward aspects of financial incentive.</p>	<p>The company proposes the PC should be 496 (20% improvement on its current performance).</p> <p>The company proposes the penalty collar should be 761.</p> <p>The company proposes the penalty deadband should be 620 (current performance).</p> <p>The Environment Agency supported our intervention in the draft determination to reinstate the company's</p>	<p>We set the PC level at 496.</p> <p>We set the penalty collar at 761.</p> <p>We set the penalty deadband at 620.</p> <p>We accepted the company's proposal for a reward.</p> <p>We reduced the proposed reward rate by a factor of just over 4.</p>	<p>Northumbrian Water worsened its PC level from 323 to 589 incidents between its December 2013 and May 2014 business plan on the basis that it mistakenly adjusted for the unusually wet year of 2012-13 in its calculation. The company improved its PC level to 496 incidents ahead of its draft determination. Since the draft determination, the company has not changed its PC level but has improved its penalty deadband from 659 to 620 incidents.</p>

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
		<p>December 2013 proposal.</p> <p>CCWater asked the company to provide evidence for its proposed approach and Ofwat to consider it fully.</p> <p>The company proposes applying rewards to this PC based on willingness to pay for internal sewer flooding.</p>		<p>On the basis that the company has improved its PC level and penalty deadband from its early May proposals and given that the company has emphasised that this measure does not exclude extreme weather events we are prepared to accept the company's revised proposals.</p> <p>The company proposed a new reward rate based on customer willingness to pay.</p> <p>Northumbrian Water had not followed our methodology for setting its reward. We corrected the company's reward rate. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which slightly offset our correction.</p>
S-B4: sewer collapses	Removed reward aspects of financial incentive.	<p>Company agreed with our intervention.</p> <p>The Environment Agency strongly supports this PC.</p>	Confirm approach adopted at draft determination.	No objections to draft determination proposals.
S-B5: transferred	Changed from a reputational to a penalty	Company agreed with our intervention apart from	We accepted the company's proposal for a	The company explained that the transferred network is shorter, the

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
drains and sewers internal sewer flooding	<p>only incentive.</p> <p>Lowered the PC level to 228 incidents.</p> <p>Set the penalty deadband at 1½ standard deviations above the PC level.</p> <p>Set the penalty collar at three standard deviations above the PC level.</p>	<p>proposing the penalty collar should be at 381 and proposing a reward based on willingness to pay.</p> <p>Northumbrian Water proposes a reward for this PC</p> <p>The Environment Agency supports this ODI on transferred drains and sewers.</p>	<p>penalty collar of 381.</p> <p>We accept the company's proposal for a reward, but we reduced the proposed reward and penalty by a factor of approximately 4.</p>	<p>planned totex lower and the uncertainty greater than the pre-existing network so the maximum penalty should not be larger than for the pre-existing network.</p> <p>The company has demonstrated that the reward is based on willingness to pay and that the reward deadband and cap are appropriate.</p> <p>Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rate. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which slightly offset our correction.</p>
S-B6: transferred drains and sewers external sewer flooding	<p>Changed from a reputational to a penalty only incentive.</p> <p>Lowered the PC level to 2931 incidents.</p> <p>Set the penalty deadband at 1½</p>	<p>Company agreed with our intervention apart from proposing the penalty collar should be at 3548 and proposing a reward based on willingness to pay.</p> <p>The Environment Agency</p>	<p>We accepted the company's proposal for a penalty collar of 3548.</p> <p>We accept the company's proposal for a reward, but we reduced the proposed reward and penalty rates by</p>	<p>The company explained that the TDS network is shorter, the planned totex lower and the uncertainty greater than the pre-existing network so the maximum penalty should not be larger than for the pre-existing network PC.</p> <p>The company has demonstrated that</p>

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
	<p>standard deviations above the PC level.</p> <p>Set the penalty collar at three standard deviations above the PC level.</p>	<p>supports this ODI on transferred drains and sewers.</p>	<p>approximately 2½ times and 5 times respectively.</p>	<p>the reward is based on willingness to pay and that the reward deadband and cap are appropriate.</p> <p>Northumbrian Water had not followed our methodology for setting rewards and penalties. We corrected the company's reward and penalty rate. We accepted the company could use a central estimate of willingness to pay in its rate calculation, which partially offset our correction for the reward rate.</p>
S-B7: transferred drains and sewer collapses	<p>Lowered the PC level to 84 incidents.</p>	<p>Company agreed with our intervention.</p> <p>The Environment Agency would support a financial penalty on this PC.</p>	<p>Confirm approach adopted at draft determination.</p>	<p>We did not add a penalty to this PC because we consider S-B5 and S-B6 provide sufficient incentive for the company to improve its transferred drains and sewers. At the next price review, transferred sewer collapses should be included in the standard sewer collapse measure.</p>
S-C1: sewage treatment works	<p>N/a</p>	<p>The Environment Agency supports the PC of 100% but would support tightening the penalty deadband.</p>	<p>Tighten the penalty deadband and collar so that penalty 1 applies at two failures and penalty 2</p>	<p>We accept the Environment Agency's argument that Northumbrian Water should be achieving 100% compliance, which is its PC level. To</p>

PC/ODI affected	What we did at draft determination	Representations	What we did at final determination	Why we did it
discharge compliance			applies at three or more failures.	increase the incentive on the company to achieve 100% we have tightened the penalty deadband and collar back to Northumbrian Water's December 2013 proposal.
S-C3: bathing water compliance	Removed reward aspect of financial incentive.	The Environment Agency stated that the company's PC is not compatible with all designated bathing waters meeting the regulatory "sufficient" standard by the end of 2016.  CCWater agreed with the removal of a reward for bathing water compliance.	Confirm approach adopted at draft determination  Reduce the proposed penalty rate by 80%.	Northumbrian Water had not followed our methodology for setting its penalty. We corrected the company's penalty rate.  We are not amending this PC beyond the adjustment to the penalty rate as companies' legal obligations as water and/or sewerage undertakers continue to apply regardless of their PCs and ODIs.
S-C4: Whitburn CSO scheme	N/a	N/a	Add a new PC and penalty-only ODI for the Whitburn CSO scheme	The new obligation at Whitburn arose after Northumbrian Water submitted its revised business plan. The penalty-only incentive is to ensure customers are compensated in the event the company does not deliver this scheme.



**Table AA4.5 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
New PC on delivering a consolidated Customer Information and Billing (CIB) system	N/a	N/a	Include a new PC on delivering its consolidated Customer Information and Billing (CIB) system.	We have introduced this PC to protect customers in the event that Northumbrian Water does not deliver, or is late in delivering, its consolidated Customer Information and Billing (CIB) system.

**Table AA4.6 Performance commitments proposed by the company that we have removed from this final determination**

Performance commitment	Reason for its removal
<b>Household retail</b>	
R-A1 Business customer satisfaction, net promoter score	This PC is in the household retail control but relates to business customers. We have therefore removed it.

**Table AA4.7 Performance commitments excluded from the commentary tables because we received no representations to our draft determination on them and we made no interventions at draft determination or through the comparative assessments**

Wholesale water	Wholesale wastewater	Household retail
W-D1: NWL independent overall customer satisfaction score	S-D1: Northumbrian independent overall customer satisfaction score	R-B1 NWL independent overall customer satisfaction score survey
W-D2: SIM	S-D2: SIM	R-B2 SIM
W-D3: Domestic customer satisfaction, net promoter score	S-D3: domestic customer satisfaction, net promoter score	R-B3 Domestic customer satisfaction, net promoter score
W-E1: NWL independent survey on keeping customers informed	S-E1: Northumbrian independent survey on keeping customers informed	R-C1 NWL independent value for money survey
W-F1: Greenhouse gas emissions	S-F1: greenhouse gas emissions	R-C2 Satisfied with value for money of water services NW (CCWater)
W-F2: Annual environmental performance report	S-F2: annual environmental performance report	R-C3 Satisfied with value for money of sewerage services NW (CCWater)
		R-C4 Satisfied with value for money of water services ESW (CCWater)
		R-D1 NWL independent survey on keeping our customers informed
		R-E1 Greenhouse gas emissions
		R-E2 Annual environmental performance and activity

## Summary of ODIs

For each outcome proposed, companies were asked to identify one or more measures 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). Under the company's current licence, the adjustment to price controls for financial rewards and penalties will occur at the end of the control period (either as an RCV or revenue adjustment to future price controls).

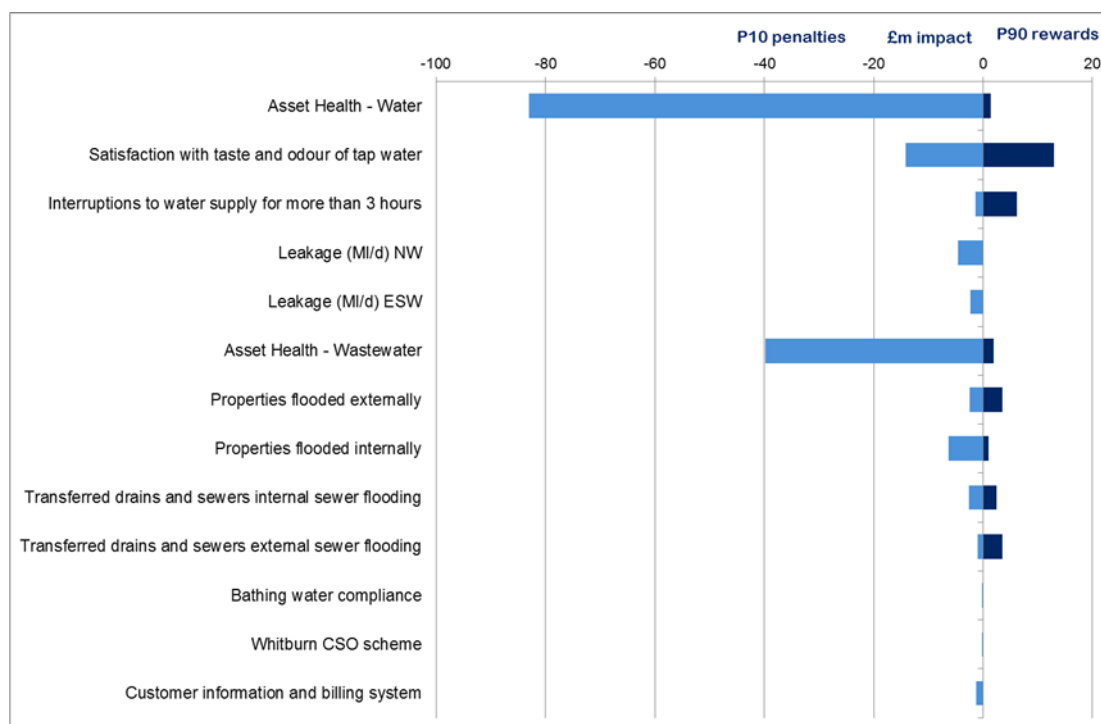
Below, we provide an overview of the PCs and ODIs. Table AA4.8 shows the balance between reward and penalty, penalty only and reputational incentives in the package of incentives for the company. Figure AA4.1 shows the potential financial impact of each of the financial incentives.

**Table AA4.8 The composition of the package of ODIs**

	Reward and penalty	Penalty only	Non-financial incentive
Wholesale water	8	2	5
Wholesale wastewater	8	4	6
Household retail	1	1	9
Total	17	7	20

**Note:** Northumbrian Water includes one reward and penalty incentive and five non-financial incentives in all three elements.

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 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 A2.4 of policy chapter A2.

There are a number of specific exclusions from the cap/collar. For Northumbrian Water the only exclusion is the Whitburn CSO scheme because this relates to a special cost claim.

In the remainder of this chapter, we provide the following information on each PC we are proposing as part of this final determination:

- the name and detailed definition of the PC;
- the type of incentive;
- the PC level;
- for financial incentives:
  - the limits on rewards and penalties (caps and collars) and neutral zones (deadbands) as applicable<sup>6</sup>; and
  - the incentive rates;

<sup>6</sup> 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.

- additional details on the measure; and
- where Ofwat has 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.

The remainder of this Annex sets out the detailed PCs and ODIs.

## **Wholesale water outcome A: we deliver water and sewerage services that meet the needs of current and future generations in a changing world**

### **Performance commitment W-A1: asset health – water**

#### **Detailed definition of performance measure**

The company's asset health approach replaces the serviceability approach. The asset health measures enable the company to monitor, protect and provide incentives for the long-term sustainable stewardship of its assets. The company's asset health measures of success (MoS) for the water service are:

- discoloured water complaints (W-B3);
- poor water pressure (W-C2);
- mains bursts (W-C3); and
- drinking water compliance (W-B2).

Further details of the individual components of asset health are provided in the relevant sections of this annex under the references above.

This MoS (W-A1) describes the overall asset health approach including the things that are common to all four measures and how financial reward is linked to the individual and collective performance of the MoS:

- Unsatisfactory performance (that is, worse than the penalty deadband) in any of the four measures will attract a penalty.
- A reward is only available for two of the water asset health measures: discoloured water (W-B3) and poor water pressure (W-C2). Rewards for these measures are not available if a penalty is triggered in any of the other water asset health measures at an assessment point.

**Incentive type** Financial – reward and penalty.

The asset health MoS (W-A1) does not attract any financial penalty/reward in its own right, but sets out the rules of the approach as they apply to the four water asset health MoS.

All four measures in asset health are separately subject to penalties. Two measures are subject to reward (discoloured water complaints and poor water pressure), but

only if a penalty has not been triggered in another water asset health measure when the assessment is being made.

### Performance commitments

PCs are given separately for the four water asset health MoS.

### Incentive rates

Incentive rates are given separately for the four water asset health MoS.

Two principles are common to all Northumbrian Water's asset health MoS.

- Asset health rewards are triggered for each unit of outperformance for example, for each unit reduction in discoloured water complaints beyond the reward deadband up to the reward cap.
- Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

### Additional details

Necessary detail on measurement units	See individual asset health measures as listed above.
Frequency of PC measurement and any use of averaging	<p>Northumbrian Water will report performance each year (regulatory year being April – March) from 2015-16, though assessment for penalties and rewards will only occur from 2018-19.</p> <p>The measures within asset health are all three-year averages. The PC is a three-year average position and the reported performance in each year will be a three-year average position.</p>

<p><b>Timing and frequency of rewards/penalties</b></p>	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Rewards/penalties will apply to the separate measures from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<p><b>Form of reward/penalty</b></p>	<p>RCV adjustment for the separate measures in accordance with asset health rules. The adjustment will be made in 2020-21 and depreciated over 16 years.</p> <p>Values for penalty and reward are described in the individual MoS.</p>
<p><b>Any other information or clarifications relevant to correct application of incentive</b></p>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>



## Wholesale water outcome B: we supply clean, clear drinking water that tastes good

### Performance commitment W-B1: Satisfaction with taste and odour of tap water

**Detailed definition of performance measure** This is the number of complaints received from customers because they are dissatisfied with the taste or odour of their tap water. The measure matches DWI reporting guidance for calculating the number of taste and odour related customer contacts. This includes only counting the first contacts from a customer (repeat contacts and incidents are excluded). The measure is assessed on calendar year performance.

**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
PCs	No./ year	1402	1236	1069	903	903	903
Penalty collar	No. of contacts		>1534	>1534	>1032	>1032	>1032
Penalty deadband	No. of contacts		>1405	>1405	>903	>903	>903
Reward deadband	No. of contacts		<903	<903	<903	<903	<903
Reward cap	No. of contacts		<645	<645	<645	<645	<645

#### Incentive rates

Incentive type	Incentive rate (£m/contact/year)
Penalty	0.023
Reward	0.010

## Additional details

Necessary detail on measurement units	The number of complaints received from customers because they are dissatisfied with the taste or odour of their tap water. The measure matches DWI reporting guidance for calculating the number of taste and odour related customer contacts. This includes only counting the first contacts from a customer (repeat contacts and incidents are excluded).
Frequency of PC measurement and any use of averaging	The measure is assessed on calendar year performance each year from 2014-2015. 2015 calendar year performance will be reported in 2015-16, calendar year performance 2016 will be reported in 2016-17 and so on through the period.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 5 years.
Any other information or clarifications relevant to correct application of incentive	

## Performance commitment W-B2: Overall drinking water compliance

**Detailed definition of performance measure:** The mean zonal percentage compliance from the regulatory sampling programme, based on current regulation and standards (including the tightening of the lead standard in 2013) as reported to the DWI.

**Incentive type:** Financial – penalty only

Note that this MoS is part of water asset health (W-A1). Therefore, if this MoS is in a penalty position, no reward can be earned for discoloured water complaints (W-B3) or poor water pressure (W-C2). See W-A1 for further details.

## Performance commitments

Annual	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	99.940	>99.940	>99.940	100.000	100.000	100.000
Penalty collar	%		<99.910	<99.910	<99.920	<99.920	<99.920
Penalty deadband	%		<99.940	<99.940	<99.950	<99.950	<99.950

Under the asset health approach, the annual figures shown in the table above will be assessed using a rolling three-year average. The table below sets out the PCs based on the three-year average positions for the annual figures above. The reported performance in each year (to establish any penalty) will be a three-year average position. 2015-16 and 2016-17 are for illustrative purposes as penalties only apply from 2017-18 to 2019-20.

Rolling three-year average	Unit	Starting level	Committed performance levels – expressed as three year average				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty collar	%		<99.910	<99.910	<99.913	<99.917	<99.920
Penalty deadband	%		<99.940	<99.940	<99.943	<99.947	<99.950

## Incentive rates

Incentive type	Incentive rate
Penalty 1	£3,953,125 lump sum at each assessment point
Penalty 2	An additional £3,953,125 lump sum over and above penalty 1 at each assessment point

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

## Additional details

<b>Necessary detail on measurement units</b>	This measure is based on up to 39 parameters which are determined by the DWI. Samples are collected in Water Quality Zones from defined supply points and customer taps. The percentage compliance score is calculated (to three decimal places) from the number of determinants taken minus the number of determinants that failed the relevant drinking water standard in each Water Quality Zone. It is calculated by averaging the mean zonal percentage compliance from the regulatory sampling programme. Each parameter is weighted equally. The measure of success is based on current regulation and standards (2014).
<b>Frequency of PC measurement and any use of averaging</b>	<p>The company will report performance each year from 2015-16. The measure is the company's performance for the calendar year.</p> <p>Calendar year performance for 2015 will be reported in 2015-16, calendar year performance 2016 will be reported in 2016-17 and so on through the period.</p> <p>The PCs are expressed as annual targets to align with Ofwat's comparative audit, however the assessment for asset health measures are all three-year averages.</p>
<b>Timing and frequency of rewards/penalties</b>	<p>The company will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Penalties for this measure will apply from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such, an assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 16 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-</p>

	<p>19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>
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## Performance commitment W-B3: Discoloured water complaints

**Detailed definition of performance measure** This is the number of complaints received from customers because they are dissatisfied with the appearance of their water because it is discoloured; described as black, orange or brown. This measure does not include complaints related to aerated or ‘milky’ water or creatures in the water. The measure matches DWI reporting guidance for calculating the number of discoloured water customer contacts. This includes only counting the first contact from a customer (repeat contacts and incidents are excluded). The measure is assessed on calendar year performance.

**Incentive type:** Financial – reward and penalty

Note that this MoS is part of water asset health (W-A1). Therefore, if this MoS is in a penalty position, no reward can be earned for poor water pressure (W-C2). Also a reward cannot be earned for this MoS if poor water pressure (W-C2), mains bursts (W-C3) or drinking water compliance (W-B2) are in penalty. See W-A1 for further details.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No./ year	4600	4054	3508	2962	2962	2962
Penalty collar	No./ year		>5544	>5544	>3906	>3906	>3906
Penalty deadband	No./ year		>4600	>4600	>2962	>2962	>2962

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Reward deadband	No./ year		<2962	<2962	<2962	<2962	<2962
Reward cap	No./ year		<2759	<2759	<2759	<2759	<2759

Under the asset health approach, the annual figures shown in the table above will be assessed using a rolling three year average. The PCs below are the three-year average positions for the annual figures above. The reported performance in each year (to establish any penalty) will be a three-year average position. 2015-16 and 2016-17 are for illustrative purposes as penalties only apply from 2017-18 to 2019-20.

	Unit	Starting level	Committed performance levels Expressed as three year average				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PC	No./year		4054	3781	3508	3144	2962
Penalty collar	No./year		>5544	>5544	>4998	>4452	>3906
Penalty deadband	No./year		>4600	>4600	>4054	>3508	>2962
Reward deadband	No./year		<2962	<2962	<2962	<2962	<2962
Reward cap	No./year		<2759	<2759	<2759	<2759	<2759

## Incentive rates

Incentive type	Incentive rate (£m/number/year)
Penalty 1	£3,953,125 lump sum at each assessment point
Penalty 2	An additional £3,953,125 lump sum over and above penalty 1 at each assessment point
Reward	0.002

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

Asset health rewards are triggered for each unit of outperformance for each unit reduction in discoloured water complaints beyond the reward deadband up to the reward cap.

### Additional details

<b>Necessary detail on measurement units</b>	This measure is aligned to DWI guidance for calculating the number of customer contacts relating to discoloured water, counting the first contact from each customer with repeat contacts being excluded. It excludes incidents.
<b>Frequency of PC measurement and any use of averaging</b>	<p>Northumbrian Water will report performance each year from 2015-16. The measure is the company's performance for the calendar year.</p> <p>Calendar year performance for 2015 will be reported in 2015-16, calendar year performance 2016 will be reported in 2016-17 and so on through the period.</p> <p>The assessment for asset health measures are all three-year averages. The reported performance in each year will be the three-year average position and will be compared against the three-year average figures in the table above to establish any reward or penalty.</p>
<b>Timing and frequency of rewards/penalties</b>	<p>The company will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Rewards/penalties will apply to this measure from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such an assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 16 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p>

The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.

The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.

The net impact of these changes would be applied to the 2020-21 RCV.



## Wholesale water outcome C: we provide a reliable and sufficient supply of water

### Performance commitment W-C1: Interruptions to water supply for more than 3 hours (average time per property per year)

**Detailed definition of performance measure** The measure is calculated using the total duration of all water supply interruptions of more than three hours divided by the number of properties the company supplies to give an average interruption time in minutes and seconds per year. The measure includes planned interruptions, unplanned interruptions and interruptions caused by the actions of third parties, for example resulting from a power cut. The measure will be assessed on the company's regulatory year performance.

**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
PCs	Minutes: seconds/ prop/year	07:17	06:50	06:23	05:56	05:29	05:00
Penalty collar	Minutes: seconds/ prop/year		>12:17	>11:45	>11:14	>10:42	>10:08
Penalty deadband	Minutes: seconds/ prop/year		>11:38	>11:11	>10:44	>10:17	>09:48
Reward deadband	Minutes: seconds/ prop/year		<06:50	<06:23	<05:56	<05:29	<05:00
Reward cap	Minutes: seconds/ prop/year		<03:05	<03:05	<03:05	<03:05	<03:05

## Incentive rates

Incentive type	Incentive rate (£m/second/year)
Penalty 1	-0.150
Reward	0.018

## Additional details

Necessary detail on measurement units	The measure is calculated using the total duration of all water supply interruptions of more than three hours divided by the number of properties the company supply to give an average interruption time in minutes and seconds per year. The measure includes planned interruptions, unplanned interruptions and interruptions caused by the actions of third parties, for example resulting from a power cut.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 5 years.
Any other information or clarifications relevant to correct application of incentive	The performance levels in the incentive rates table above for penalty and reward are the values for 2015-16. The ODI will reduce between 2015-16 and 2019-20 as can be seen in the first table.

## Performance commitment W-C2: Properties experiencing poor water pressure

**Detailed definition of performance measure** This measure is the number of properties regularly experiencing water pressure below the minimum **standard**.

**Incentive type** Financial – reward and penalty

This MoS is part of water asset health (W-A1). Therefore, if this MoS is in penalty no reward can be earned for discoloured water (W-B3). Also, a reward cannot be earned for this MoS if discoloured water (W-B3), mains bursts (W-C3) or drinking water compliance (W-B2) are in penalty. See W-A1 for further details.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No. of properties	257	216	216	216	216	216
Penalty collar	No. of properties		>257	>257	>257	>257	>257
Penalty deadband	No. of properties		>236	>236	>236	>236	>236
Reward deadband	No. of properties		<175	<175	<175	<175	<175
Reward cap	No. of properties		0	0	0	0	0

All numbers in this table are three-year averages.

### Incentive rates

Incentive type	Incentive rate (£m/number/year)
Penalty 1	£3,953,125 lump sum at each assessment point
Penalty 2	An additional £3,953,125 lump sum over and above penalty 1 at each assessment point
Reward	0.001

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

Asset health rewards are triggered for each unit of outperformance for each unit reduction in poor water pressure beyond the reward deadband up to the reward cap.

### Additional details

<b>Necessary detail on measurement units</b>	The minimum standard of service is applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap. The minimum standard for the pressure of mains water is 10m head at a flow of 9 litres per minute for a single property.
<b>Frequency of PC measurement and any use of averaging</b>	<p>Northumbrian Water will report performance each year from 2015-16.</p> <p>The measure is the company's performance for the regulatory year.</p> <p>The PCs in the table above are expressed as three-year averages.</p> <p>The assessment for asset health measures are all three-year averages. The PCs above are the three-year average positions. The reported performance in each year will be a three-year average position and will be compared against the figures in the table above to establish any reward or penalty.</p>
<b>Timing and frequency of rewards/penalties</b>	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Rewards/penalties will apply to this measure from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 16 years.
<b>Any other information or clarifications relevant to correct</b>	As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.

<b>application of incentive</b>	<p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>
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## Performance commitment W-C3: Water mains bursts

**Detailed definition of performance measure** This is the annual number of water mains bursts and is determined by the number of completed repairs to burst water mains.

**Incentive type** Financial – penalty only.

In addition, this MoS is part of water asset health (W-A1). Therefore, if this MoS is in penalty no reward can be earned for discoloured water complaints (W-B3) or poor water pressure (W-C2). See W-A1 for further details.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No./year	4586	4586	4586	4586	4586	4586
Penalty collar	No./year		>5366	>5366	>5366	>5366	>5366
Penalty deadband	No./year		>4976	>4976	>4976	>4976	>4976

## Incentive rates

Incentive type	Incentive rate
Penalty 1	£3,953,125 lump sum at each assessment point
Penalty 2	An additional £3,953,125 lump sum over and above penalty 1 at each assessment point

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

## Additional details

Necessary detail on measurement units	This is the annual number of water mains bursts and is determined by the number of completed repairs to burst water mains.
Frequency of PC measurement and any use of averaging	<p>Northumbrian Water will report performance each year from 2015-16.</p> <p>The measure is the company's performance for the regulatory year.</p> <p>The PCs in the table above are expressed as three-year averages.</p> <p>The assessment for asset health measures are all three-year averages. The PCs above are the three-year average positions. The reported performance in each year will be a three-year average position and will be compared against the figures in the table above to establish any reward or penalty.</p>
Timing and frequency of rewards/penalties	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Penalties for this measure will apply from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 16 years.

**Any other information or clarifications relevant to correct application of incentive**

As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.

The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.

The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.

The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.

The net impact of these changes would be applied to the 2020-21 RCV.

## Performance commitment W-C4: Leakage (MI/d) NW

### Detailed definition of performance measure

The measure is based on the volume of water leaking from the company's water supply assets. The annual average is applied to give a figure for megalitres per day (MI/d). It includes any uncontrolled losses between water treatment works and customers' internal stop taps. It does not include customers' internal plumbing losses.

**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
PCs	MI/d	141	139	137	137	137	137
Penalty collar	MI/d		>162	>160	>160	>160	>160
Penalty deadband	MI/d		>142	>140	>140	>140	>140

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Reward deadband	MI/d		<131	<131	<131	<131	<131
Reward cap	MI/d		<111	<111	<111	<111	<111

### Incentive rates

Incentive type	Incentive rate (£m/MI/day/year)
Penalty	0.113
Reward	0.113

### Additional details

Necessary detail on measurement units	The measure is based on the volume of water leaking from the company's water supply assets. The annual average is applied to give a figure for megalitres per day (MI/d). It includes any uncontrolled losses between water treatment works and customers' internal stop taps. It does not include customers' internal plumbing losses.
Frequency of PC measurement and any use of averaging	The measure will be assessed on the company's regulatory year performance.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 5 years.
Any other information or clarifications relevant to correct application of incentive	The company will calculate leakage MI/d to one decimal place, with rewards and penalties calculated accordingly.



## Performance commitment W-C5: Leakage (MI/d) ESW

### Detailed definition of performance measure

The measure is based on the volume of water leaking from the company's water supply assets. The annual average is applied to give a figure for megalitres per day (MI/d). It includes any uncontrolled losses between water treatment works and customers' internal stop taps. It does not include customers' internal plumbing losses.

**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
PCs	MI/d	66	66	66	66	66	66
Penalty collar	MI/d		>77	>77	>77	>77	>77
Penalty deadband	MI/d		>67	>67	>67	>67	>67
Reward deadband	MI/d		<56	<56	<56	<56	<56
Reward cap	MI/d		<46	<46	<46	<46	<46

### Incentive rates

Incentive type	Incentive rate (£m/MI/day/year)
Penalty	0.113
Reward	0.113

## Additional details

<b>Necessary detail on measurement units</b>	The measure is based on the volume of water leaking from the company's water supply assets. The annual average is applied to give a figure for megalitres per day (Ml/d). It includes any uncontrolled losses between water treatment works and customers' internal stop taps. It does not include customers' internal plumbing losses.
<b>Frequency of PC measurement and any use of averaging</b>	The measure will be assessed on the company's regulatory year performance.
<b>Timing and frequency of rewards/penalties</b>	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 5 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	The company will calculate leakage Ml/d to one decimal place, with rewards and penalties calculated accordingly.

## Wholesale water outcome D: we provide excellent service and impress our customers

### Performance commitment W-D1: NWL independent overall customer satisfaction score

#### Detailed definition of performance measure

This is a survey to ask customers about their overall satisfaction with the service the company provides. It is the annual score from the 'overall satisfaction' question taken from the independent domestic customer survey carried out on the company's behalf.

**Incentive type** Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	Score	8.2	8.2	8.2	8.2	8.2	8.2

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers score their satisfaction with the company's performance between 0 and 10, the greater the score, the greater the level of satisfaction. The annual average score is used as the MoS.
Frequency of PC	The measure will be assessed on regulatory year performance.

measurement and any use of averaging	
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment W-D2: Service incentive mechanism (SIM)

**Detailed definition of performance measure:** SIM indicates the level of customer concern with company service and how well the company deals with those concerns. It comprises a combined score of quantitative (contact volumes) and qualitative (survey of customers) figures. The penalty and reward is set by Ofwat. The company has changed the definition of the measure to match Ofwat's document '[Service incentive mechanism \(SIM\) for 2015 onwards – conclusions](#)' (3 April 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
PCs	No.	89.40	90.00	90.00	90.00	90.00	90.00

### Incentive rates

Incentive type	Incentive rate
Penalty and reward	Ofwat-led price control adjustments that are implemented at price reviews

## Additional details

Necessary detail on measurement units	<p>For qualitative SIM, an independent survey company is used to complete customer surveys each quarter and provide qualitative scores.</p> <p>The quantitative aspect of SIM is the number of unwanted customer contacts including repeats and complaints.</p> <p>The combined score is a calculated score out of 100, split 75%-25% for qualitative and quantitative scores.</p>
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	Any reward or penalty will be applied at the end of the regulatory period 2015-20.
Form of reward/penalty	Adjustment to revenue.
Any other information or clarifications relevant to correct application of incentive	<p>The calculation of this PC may change following more detailed methodology information from Ofwat.</p> <p>Penalty or reward is determined by Ofwat.</p>

## Performance commitment W-D3: Domestic customer satisfaction, net promoter score

**Detailed definition of performance measure:** The net promoter scores (NPS) measures the loyalty that exists between the company and its customers.

**Incentive type** Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	32	32	32	32	32	32

## Incentive rates

Incentive type	Incentive rate
Reputational	N/a

## Additional details

Necessary detail on measurement units	For domestic customers the “net promoter” results are taken from the independent domestic customer survey carried out on the company’s behalf. The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers answer the question “How likely is it that you would recommend us to a friend or colleague?” Customers will be asked to respond on a 0 to 10 point rating scale.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	To calculate the company’s NPS, the company will take the percentage of customers who are promoters and subtract the percentage who are detractors. The range of scores will be between -100% and +100%.

## Wholesale water outcome E: our customers are well informed about the services they receive and the value of water

### Performance commitment W-E1: NWL independent survey on keeping customers informed

**Detailed definition of performance measure:** This is a new measure which Northumbrian Water will develop during the 2015-16 to 2019-20 period. The measure will be the annual score from the 'informed' question taken from the independent domestic customer survey carried out on the company's behalf. Northumbrian Water considers there will be enough information to set the PC level in 2017.

**Incentive type** Reputational

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	New measure	TBC	TBC	TBC	TBC	TBC

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

<b>Necessary detail on measurement units</b>	This measure is the annual score from the “informed” question taken from the independent domestic customer survey carried out on the company’s behalf. Customers respond with a yes/no answer to whether the company has delivered all of the information they want. The company will report the % of customers who say yes. The survey consists of 300 completed interviews carried out quarterly (1,200 annually) in line with the Market Research Society code of conduct (internationally recognised as best practice).
<b>Frequency of PC measurement and any use of averaging</b>	The measure will be assessed annually on regulatory year performance.
<b>Timing and frequency of rewards/penalties</b>	N/a
<b>Form of reward/penalty</b>	n/a
<b>Any other information or clarifications relevant to correct application of incentive</b>	Northumbrian Water considers there is not enough information yet to set a PC for this measure. The company has stated that its PC level will be set at the company’s best performing year up to 2017. Performance bands will be set using the standard deviation of the three years’ performance to 2017.



## Wholesale water outcome F: we protect and enhance the environment in delivering services, leading by example

### Performance commitment W-F1: Greenhouse gas emissions

**Detailed definition of performance measure:** This is a measure of the annual amount of greenhouse gases the company produce.

**Incentive type** Reputational

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	ktCO <sub>2</sub> e	206	194	183	172	161	150

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The measurement is the annual operational greenhouse gas emissions based on the Carbon Accounting Workbook and is expressed in kilotonnes of carbon dioxide equivalent (ktCO <sub>2</sub> e).
Frequency of PC measurement and any use of averaging	The measure will be assessed on the company's regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment W-F2: Annual environmental performance report

**Detailed definition of performance measure:** This is a new measure which will be developed during the 2015-16 to 2019-20 period. The company's proposed measure of success is the annual Corporate Responsibility Advisory Group (CRAG) report on environmental performance and activities. This report is by an independent body and provides evidence of the company's activity and performance.

**Incentive type** Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	N/a	New measure	TBC	TBC	TBC	TBC	TBC

### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

### Additional details

Necessary detail on measurement units	Northumbrian Water states that the independent CRAG will hold the company to account, helping to validate, guide and challenge the company's sustainability strategy and activities. The CRAG is made up of senior representatives from partner organisations to reflect the key areas of the company's communities' strategy.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a

Any other information  
or clarifications  
relevant to correct  
application of incentive

The CRAG report will be published on-line. The first report will be published in 2015.

## **Wholesale wastewater outcome A: we deliver water and sewerage services that meet the needs of current and future generations in a changing world**

### **Performance commitment S-A1: asset health – wastewater**

#### **Detailed definition of performance measure**

The company's asset health approach replaces the serviceability approach. The asset health measures enable the company to monitor, protect and provide incentives for the long-term sustainable stewardship of its assets. The company's asset health measures of success (MoS) for the wastewater service are:

- sewage treatment works discharge compliance (S-C1);
- repeat sewer flooding (S-B3);
- pollution incidents (S-C2); and
- sewer collapses (S-B4).

Further details of the individual components of asset health are provided in the relevant sections of this annex under the references above.

This MoS (S-A1) describes Northumbrian Water's overall asset health approach including the issues that are common to all four measures and how financial reward is linked to the individual and collective performance of the MoS.

- Unsatisfactory performance (that is, worse than the penalty deadband) in any of the four measures will attract a penalty.
- A reward is only available for two of the wastewater asset health measures: repeat sewer flooding (S-B3) and pollution incidents (S-C2). Rewards for these measures are not available if a penalty is triggered in any of the other wastewater asset health measures at an assessment point.

**Incentive type:** Financial – reward and penalty.

The asset health MoS (S-A1) does not attract any financial penalty/reward in its own right, but sets out the rules of the approach as they apply to the four wastewater asset health MoS.

All four measures in asset health are separately subject to penalties. Two measures are subject to reward (repeat sewer flooding and pollution incidents), but only if a

penalty has not been triggered in another wastewater asset health measure when the assessment is being made.

## Performance commitments

PCs are given separately for the four wastewater asset health MoS.

## Incentive rates

Incentive rates are given separately for the four wastewater asset health MoS. Two principles are common to all Northumbrian Water asset health MoS.

- Asset health rewards are triggered for each unit of outperformance for example, for each unit reduction in repeat sewer flooding beyond the reward deadband up to the reward cap.
- Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

## Additional details

Necessary detail on measurement units	See individual asset health measures as listed above.
Frequency of PC measurement and any use of averaging	<p>Northumbrian Water will report performance each year (Regulatory year being April – March) from 2015-16, though assessment for penalties and rewards will only occur from 2018-19.</p> <p>The measures within asset health are all three-year averages. The PC is a three-year average position and the reported performance in each year will be a three-year average position.</p>

<p><b>Timing and frequency of rewards/penalties</b></p>	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016). Rewards/penalties will apply to the separate measures from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<p><b>Form of reward/penalty</b></p>	<p>RCV adjustment for the separate measures in accordance with asset health rules. The adjustment will be made in 2020-21 and depreciated over 16 years.</p> <p>Values for penalty and reward are described in the individual MoS.</p>
<p><b>Any other information or clarifications relevant to correct application of incentive</b></p>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health wastewater basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>

## Wholesale wastewater outcome B: we provide a sewerage service that deals effectively with sewage and heavy rainfall

### Performance commitment S-B1: Properties flooded externally

#### Detailed definition of performance measure

The measure is the number of properties where water containing sewage escapes (no matter how small) from the company's network and enters the curtilage of a property.

#### 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
PCs	No. props/year	1318	1318	1318	1318	1318	1318
Penalty collar	No. props/year		>1,664	>1,664	>1,664	>1,664	>1,664
Penalty deadband	No. props/year		>1,497	>1,497	>1,497	>1,497	>1,497
Reward deadband	No. props/year		<1,139	<1,139	<1,139	<1,139	<1,139
Reward cap	No. props/year		<639	<639	<639	<639	<639

#### Incentive rates

Incentive type	Incentive rate (£m/property/year)
Penalty	-0.003

Incentive type	Incentive rate (£m/property/year)
Reward	0.002

### Additional details

Necessary detail on measurement units	External property flooding during severe weather events (that is, greater than 20 year storm return period) is excluded, unless the cause was a regulatory collapse or equipment failure where no severe weather exclusion applies.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 5 years.
Any other information or clarifications relevant to correct application of incentive	Flooding due to assets transferred in October 2011 is excluded from this performance measure (see S-B6).

## Performance commitment S-B2: Properties flooded internally

### Detailed definition of performance measure

The measure is the number of properties where water containing sewage escapes (no matter how small a quantity) from the company's network and enters the inside of a property.

### 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
PCs	No. props/year	300	262	224	186	186	186
Penalty collar	No. props/year		383	383	269	269	269
Penalty deadband	No. props/year		300	300	186	186	186
Reward deadband	No. props/year		186	186	186	186	186
Reward cap	No. props/year		89	89	89	89	89

## Incentive rates

Incentive type	Incentive rate (£m/property/year)
Penalty	-0.017
Reward	0.013

## Additional details

Necessary detail on measurement units	This measure is a combination of the two 2010-2015 serviceability measures for Overloaded and Other Causes flooding. Internal property flooding during severe weather events (that is, greater than 20 year storm return period) is excluded, unless the cause was a regulatory collapse or equipment failure where no severe weather exclusion applies.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.

<b>Timing and frequency of rewards/penalties</b>	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 5 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	Flooding due to assets transferred in October 2011 is excluded from this performance measure (see S-B5).

## Performance commitment S-B3: Repeat sewer flooding

### Detailed definition of performance measure

The measure is the number of times during the year that properties have flooded with water containing sewage where the property or its curtilage has flooded at least once in the last 10 years. Flooding during all rainfall conditions is included, that is, there is no exclusion for extreme weather events.

### Incentive type

Financial – reward and penalty

This MoS is part of wastewater asset health (S-A1). Therefore, if this MoS is in penalty no reward can be earned for pollution incidents (S-C2). Also a reward cannot be earned for this MoS if pollution incidents (S-C2), sewage treatment works discharge compliance (S-C1) or sewer collapses (S-B4) are in penalty. See S-A1 for further details.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No. props/ year	496	496	496	496	496	496

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty collar	No. props/year		>761	>761	>761	>761	>761
Penalty deadband	No. props/year		>620	>620	>620	>620	>620
Reward deadband	No. props/year		<237	<237	<237	<237	<237
Reward cap	No. props/year		<140	<140	<140	<140	<140

### Incentive rates

Incentive type	Incentive rate (£m/property/year)
Penalty 1	£2,210,937 lump sum at each assessment point
Penalty 2	An additional £2,210,937 lump sum at each assessment point
Reward	0.013

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

Asset health rewards are triggered for each unit of outperformance for each unit reduction in repeat sewer flooding beyond the reward deadband up to the reward cap.

### Additional details

Necessary detail on measurement units	<p>The measure is the number of times during the year that properties have flooded with water containing sewage where the property or its curtilage has flooded at least once in the last 10 years. Flooding during all rainfall conditions is included, that is, there is no exclusion for extreme weather events.</p> <p>The measure does not include flooding from the assets transferred in October 2011.</p>
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<p><b>Frequency of PC measurement and any use of averaging</b></p>	<p>Northumbrian Water will report performance each year from 2015-16.</p> <p>The measure is the company's performance for the regulatory year.</p> <p>The PCs in the table above are expressed as three-year averages.</p> <p>The assessment for asset health measures are all three-year averages. The PCs above are the three-year average positions. The reported performance in each year will be a three-year average position and will be compared against the figures in the table above to establish any reward or penalty.</p>
<p><b>Timing and frequency of rewards/penalties</b></p>	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Rewards/penalties will apply to this measure from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<p><b>Form of reward/penalty</b></p>	<p>RCV adjustment in 2020-21 depreciated over 16 years.</p>
<p><b>Any other information or clarifications relevant to correct application of incentive</b></p>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health wastewater basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>

## Performance commitment S-B4: sewer collapses

### Detailed definition of performance measure

This measure is the company's annual number of regulatory sewer collapses excluding hard blockages. The measure does not include assets transferred in October 2011 (S-B7).

### Incentive type

Financial – penalty only.

In addition, this MoS is part of wastewater asset health (S-A1). Therefore, if this MoS is in penalty no reward can be earned for repeat sewer flooding (S-B3) or pollution incidents (S-C2). See S-A1 for further details.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No. / year	58	58	58	58	58	58
Penalty collar	No. / year		>80	>80	>80	>80	>80
Penalty deadband	No. / year		>70	>70	>70	>70	>70

### Incentive rates

Incentive type	Incentive rate
Penalty 1	£2,210,937 lump sum at each assessment point
Penalty 2	An additional £2,210,937 lump sum at each assessment point

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

## Additional details

<b>Necessary detail on measurement units</b>	This measure is the company's annual number of regulatory sewer collapses excluding hard blockages. The measure does not include assets transferred in October 2011.
<b>Frequency of PC measurement and any use of averaging</b>	<p>Northumbrian Water will report performance each year from 2015-16.</p> <p>The measure is the company's performance for the regulatory year.</p> <p>The PCs in the table above are expressed as three-year averages.</p> <p>The assessment for asset health measures are all three-year averages. The PCs above are the three-year average positions. The reported performance in each year will be a three-year average position and will be compared against the figures in the table above to establish any reward or penalty.</p>
<b>Timing and frequency of rewards/penalties</b>	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Penalties for this measure will apply from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.</p>
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 16 years.

**Any other information or clarifications relevant to correct application of incentive**

As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.

The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.

The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.

The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.

The net impact of these changes would be applied to the 2020-21 RCV.

## Performance commitment S-B5: transferred drains and sewers internal sewer flooding

### Detailed definition of performance measure

The measure is the number of properties where water containing sewage escapes (no matter how small a quantity) from the TDS and enters the inside of a property.

### 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
PCs	No. props/ year	228	228	228	228	228	228

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty collar	No. props/ year		>381	>381	>381	>381	>381
Penalty deadband	No. props/ year		>298	>298	>298	>298	>298
Reward deadband	No. props/ year		<158	<158	<158	<158	<158
Reward cap	No. props/ year		<61	<61	<61	<61	<61

### Incentive rates

Incentive type	Incentive rate (£m/property/year)
Penalty	-0.017
Reward	0.013

### Additional details

Necessary detail on measurement units	Internal property flooding during severe weather events (that is, greater than 20 year storm return period) is excluded, unless the cause was a regulatory collapse or equipment failure where no severe weather exclusion applies in line with the 2010-15 serviceability definition.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 5 years.



Any other information or clarifications relevant to correct application of incentive

N/a

## Performance commitment S-B6: transferred drains and sewers external sewer flooding

### Detailed definition of performance measure

The measure is the number of properties where water containing sewage escapes (no matter how small) from transferred drains and sewers (TDS) and enters the curtilage of a property.

### 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
PCs	No. props/ year	2931	2931	2931	2931	2931	2931
Penalty collar	No. props/ year		>3548	>3548	>3548	>3548	>3548
Penalty deadband	No. props/ year		>3381	>3381	>3381	>3381	>3381
Reward deadband	No. props/ year		<2481	<2481	<2481	<2481	<2481

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Reward cap	No. props/year		<1981	<1981	<1981	<1981	<1981

### Incentive rates

Incentive type	Incentive rate (£m/property/year)
Penalty	-0.003
Reward	0.002

### Additional details

Necessary detail on measurement units	External property flooding during severe weather events (that is, greater than 20 year storm return period) is excluded, unless the cause was a regulatory collapse or equipment failure where no severe weather exclusion applies.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 5 years.
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment S-B7: transferred drains and sewer collapses

**Detailed definition of performance measure** The measure is the number of sewer collapses, excluding hard blockages, on TDSs. Collapses on the company's 'public' network are excluded as they are included in the asset health wastewater measure of success.

**Incentive type** Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No./year	84	84	84	84	84	84

### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

### Additional details

Necessary detail on measurement units	Collapses on the company's "public" network are excluded, as they are included as an asset health wastewater measure of success.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Wholesale wastewater outcome C: we help to improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife

### Performance commitment S-C1: sewage treatment works discharge compliance

#### Detailed definition of performance measure

This measure is the company's compliance with discharge consents set by the Environment Agency from sewage treatment works. It is a measure of the capability of the company's sewage treatment works to treat and dispose of sewage in line with the company's discharge permit conditions.

#### Incentive type

Financial – penalty only.

In addition, this MoS is part of wastewater asset health (S-A1). Therefore, if this MoS is in penalty no reward can be earned for repeat sewer flooding (S-B3) or pollution incidents (S-C2). See S-A1 for further details.

#### Performance commitments

	Unit	Starting level	Committed performance levels				
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No. / year	0	0	0	0	0	0
Penalty collar	No. / year		>2	>2	>2	>2	>2
Penalty deadband	No. / year		>1	>1	>1	>1	>1

## Incentive rates

Incentive type	Incentive rate
Penalty 1	£2,210,937 lump sum at each assessment point
Penalty 2	An additional £2,210,937 lump sum at each assessment point

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

## Additional details

Necessary detail on measurement units	The measure includes compliance with all numeric consents. The measure of success excludes non-sanitary failures (that is, failures not related to sewage, such as industrial chemicals, metals or hazardous substances) and technical breaches (for example a sample that has failed because it has been collected from the wrong location).
Frequency of PC measurement and any use of averaging	<p>Northumbrian Water will report performance each year from 2015-16.</p> <p>The measure is the company's performance for the calendar year.</p> <p>Calendar year performance for 2015 will be reported in 2015-16, calendar year performance 2016 will be reported in 2016-17 and so on through the period.</p> <p>The PCs in the table above are expressed as three-year averages.</p> <p>The assessment for asset health measures are all three-year averages. The PCs above are the three-year average positions. The reported performance in each year will be a three-year average position and will be compared against the figures in the table above to establish any reward or penalty.</p>
Timing and frequency of rewards/penalties	<p>Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).</p> <p>Penalties for this measure will apply from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at</p>

	three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020.
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 16 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>

## Performance commitment S-C2: pollution incidents (category 3)

### Detailed definition of performance measure

This measure is the number of category 3 pollution events the company have caused. It includes the total number of category 3 pollution events from a discharge or escape of a pollutant from the company's water and sewerage assets affecting rivers or coastal waters (defined by Environment Agency guidance 16\_02, version 6).

### Incentive type

Financial – reward and penalty.

This MoS is part of wastewater asset health (S-A1). Therefore, if this MoS is in penalty no reward can be earned for repeat sewer flooding (S-B3). Also a reward cannot be earned for this MoS if repeat sewer flooding (S-B3), sewage treatment

works discharge compliance (S-C1) or sewer collapses (S-B4) are in penalty. See S-A1 for further details.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No. / year	115	115	115	115	115	115
Penalty collar	No. / year		>191	>191	>160	>160	>160
Penalty deadband	No. / year		>153	>153	>122	>122	>122
Reward deadband	No. / year		<77	<77	<77	<77	<77
Reward cap	No. / year		<57	<57	<57	<57	<57

Under the asset health approach, the annual figures shown in the table above will be assessed using a rolling three-year average. The table below sets out the PCs based on the three-year average positions for the annual figures above. The reported performance in each year (to establish any penalty) will be a three-year average position. 2015-16 and 2016-17 are for illustrative purposes as penalties only apply from 2017-18 to 2019-20.

		Starting level	Committed performance levels Expressed as three year average				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	No. / year	115	115	115	115	115	115
Penalty collar	No. / year		>191	>191	>181	>170	>160
Penalty deadband	No. / year		>153	>153	>143	>132	>122
Reward deadband	No. / year		<77	<77	<77	<77	<77
Reward cap	No. / year		<57	<57	<57	<57	<57

## Incentive rates

Incentive type	Incentive rate (£m/incident/year)
Penalty 1	£2,210,937 lump sum at each assessment point
Penalty 2	An additional £2,210,937 lump sum at each assessment point
Reward	0.016

Under the asset health approach, the annual figures shown in the table above will be assessed using a rolling three year average. See ‘Additional details’ for equivalent three year average figures.

Asset health penalties are triggered in two steps. Any deterioration beyond the penalty deadband will trigger application of penalty 1. Any deterioration beyond the penalty collar will trigger penalty 2. Both rates are fixed amounts, not linked to the number of units of deterioration but purely to breaching of the control limits.

Asset health rewards are triggered for each unit of outperformance for each unit reduction in pollution incidents beyond the reward deadband up to the reward cap.

## Additional details

Necessary detail on measurement units	The measure includes pollution failures on all assets, water and wastewater. The measure uses the Environment Agency’s definition of category 3 pollution events.
Frequency of PC measurement and any use of averaging	<p>Northumbrian Water will report performance each year from 2015-16.</p> <p>The measure is the company’s performance for the calendar year.</p> <p>Calendar year performance for 2015 will be reported in 2015-16, calendar year performance 2016 will be reported in 2016-17 and so on through the period.</p> <p>The PCs in the table above are expressed as annual targets to align with Ofwat’s comparative audit.</p> <p>The assessment for asset health measures are all three-year averages (see table above).</p>
Timing and frequency of rewards/penalties	Northumbrian Water will publish its performance for each measure within asset health separately from 2015-16 (2015-16 performance will be the average from April 2013 – March 2016).



	Rewards/penalties will apply to this measure from the first three-year period post 2015, that is, average performance from 2015-18, 2016-19, and 2017-20. As such assessment will be made at three points. In summer 2018, an assessment of 2015-18 performance will be made and applied to the shadow RCV for 2017-18. The same approach will be applied in summer 2019 and summer 2020
<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 16 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	<p>As a measure of long-term asset stewardship, to evaluate asset health, the company assesses the three-year rolling average for each measure in the asset health water basket.</p> <p>The three-year average performance for 2015-18 would result in a shadow RCV adjustment made in summer 2018, to the 2017-18 shadow RCV.</p> <p>The three-year average performance for 2016-19 would result in a shadow RCV adjustment made in summer 2019, to the 2018-19 shadow RCV.</p> <p>The three-year average performance for 2017-20 would result in a shadow RCV adjustment made in summer 2020, to the 2019-20 shadow RCV.</p> <p>The net impact of these changes would be applied to the 2020-21 RCV.</p>

## Performance commitment S-C3: bathing water compliance

### Detailed definition of performance measure

This is the number of designated bathing waters that meet the regulatory 'sufficient' standard based on the results of the independent testing of seawater by the Environment Agency during the bathing water season.

### 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
PCs	No. of bathing waters/year	32	32	32	32	34	34
Penalty collar	No. of bathing waters/year		31	31	31	31	31
Penalty deadband	No. of bathing waters/year		<31	<31	<31	<32	<33

## Incentive rates

Incentive type	Incentive rate (£/bathing waters/year)
Penalty	0.111

## Additional details

Necessary detail on measurement units	The European revised Bathing Water Directive (rBWD) uses two parameters to assess bathing water quality: Escherichia coli and intestinal enterococci. According to the results bathing waters are assessed by the Environment Agency as excellent, good, sufficient or poor.
Frequency of PC measurement and any use of averaging	The measure is assessed on calendar year performance each year from 2014 2015. 2015 calendar year performance will be reported in 2015-16, calendar year performance 2016 will be reported in 2016-17 and so on through the period.
Timing and frequency of rewards/penalties	Annually. The first assessment will be made for 2015-16 in summer 2016. An adjustment would then be made to the 2015-16 shadow RCV.

<b>Form of reward/penalty</b>	RCV adjustment in 2020-21 depreciated over 5 years.
<b>Any other information or clarifications relevant to correct application of incentive</b>	The assessment is on a rolling programme of four years of weekly bathing season sample data (that is, 80 samples), although shorter timescales are allowed when there are valid reasons, such as significant change affecting water quality (for example new infrastructure to reduce spills). Performance will be reported as a number of beaches assessed as sufficient. The company has 34 designated bathing water beaches in total. The calculated penalty will not apply if the Environment Agency confirms that NWL assets and activities are not responsible for the bathing water failing to meet the required standard (for example an 'abnormal situation').

## Performance commitment S-C4: Whitburn combined sewer overflow (CSO) scheme

### Detailed definition of performance measure

This PC relates to Northumbrian Water's Whitburn wastewater treatment works scheme. The scheme is needed to reduce the frequency of combined sewer overflow (CSO) discharges through the Whitburn long sea outfall and deal with an unsatisfactory intermittent discharge (UID). The ODI compensates customers in the event of late or non-delivery of the scheme. Northumbrian Water plans for delivery of the scheme by 31 December 2017.

### 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
PCs	Delivery/ Non-delivery	Non-delivery	Non-delivery	Non-delivery	Delivery	Delivery	Delivery

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty collar	Delivery/ Non-delivery		Non-delivery	Non-delivery	Non-delivery	Non-delivery	Non-delivery
Penalty deadband	Delivery/ Non-delivery		Non-delivery	Non-delivery	Non-delivery	Non-delivery	Non-delivery

### Incentive rates

Incentive type	Incentive rate
Penalty for late delivery (per year from 2018-19)	£0.2m
Penalty for non-delivery	£4m

### Additional details

Necessary detail on measurement units	“Delivery” is measured by whether Northumbrian Water has delivered the scheme it has been funded for through price limits and that the completed scheme is operating.
Frequency of PC measurement and any use of averaging	The measure is assessed on an annual basis. Project completion assessed at PR19.
Timing and frequency of rewards/penalties	Penalties to be determined at PR19 milestone based on the extent of completion of the scheme and, if relevant, the expected date of completion of the scheme. If substantive progress toward delivery cannot be demonstrated at PR19, such that the scheme is not expected to be completed by the end of 2019-20 the full non-delivery penalty will apply.
Form of reward/penalty	RCV adjustment in 2020-21 depreciated over 16 years.
Any other information or clarifications relevant to correct application of incentive	<p>This is a pass/fail incentive type. If the scheme is not expected to complete by the end of 2019-20 the full penalty will apply (but not the late delivery penalties).</p> <p>The late delivery penalty applies to 2018-19 and 2019-20 and pro rata to delivery which is a fraction of a year late. It also applies pro-rata to January to March 2018 (that is, a £0.05m penalty for non-delivery for those 3 months).</p>

## Wholesale wastewater outcome D: we provide excellent service and impress our customers

### Performance commitment S-D1: NWL independent overall customer satisfaction score

#### Detailed definition of performance measure

This is a survey to ask customers about their overall satisfaction with the service the company provide. It is the annual score from the 'overall satisfaction' question taken from the independent domestic customer survey carried out on the company's behalf.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	Score	8.2	8.2	8.2	8.2	8.2	8.2

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers score their satisfaction with the company's performance between 0 and 10, the greater the score, the greater the level of satisfaction.
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Frequency of PC measurement and any use of averaging	The measure will be assessed on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment S-D2: SIM

### Detailed definition of performance measure

SIM indicates the level of customer concern with company service and how well the company deals with those concerns. It comprises a combined score of quantitative (contact volumes) and qualitative (survey of customers) figures. The penalty and reward is set by Ofwat. The company have changed the definition of the measure to match Ofwat's document 'Service incentive mechanism (SIM) for 2015 onwards – conclusions' (3 April 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
PCs	No.	89.40	90.00	90.00	90.00	90.00	90.00

## Incentive rates

Incentive type	Incentive rate
Penalty and reward	N/a

## Additional details

Necessary detail on measurement units	<p>For qualitative SIM, an independent survey company is used to complete customer surveys each quarter and provide qualitative scores.</p> <p>The quantitative aspect of SIM is the number of unwanted customer contacts including repeats and complaints.</p> <p>The combined score is a calculated score out of 100, split 75-25 for qualitative and quantitative scores.</p>
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	Any reward or penalty will be applied at the end of the regulatory period 2015-20.
Form of reward/penalty	Adjustment to revenue.
Any other information or clarifications relevant to correct application of incentive	<p>The calculation of this PC may change following more detailed methodology information from Ofwat.</p> <p>Penalty or reward is determined by Ofwat.</p>

## Performance commitment S-D3: domestic customer satisfaction, net promoter score

**Detailed definition of performance measure:** The net promoter scores (NPS) measures the loyalty that exists between **Northumbrian Water** and the company's customers.

**Incentive type:** Reputational.

## Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	32	32	32	32	32	32

## Incentive rates

Incentive type	Incentive rate
Reputational	N/a

## Additional details

Necessary detail on measurement units	For domestic customers the “net promoter” results are taken from the independent domestic customer survey carried out on the company’s behalf. The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers answer the question “How likely is it that you would recommend us to a friend or colleague?” Customers will be asked to respond on a 0 to 10 point rating scale.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	To calculate the company’s NPS, the company will take the percentage of customers who are promoters and subtract the percentage who are detractors. The range of scores will be between -100% and +100%.



## Wholesale wastewater outcome E: our customers are well informed about the services they receive and the value of water

### Performance commitment S-E1: NWL independent survey on keeping customers informed

#### Detailed definition of performance measure

This is a new measure that Northumbrian Water will develop during the 2015-16 to 2019-20 period. The measure will be the annual score from the 'informed' question taken from the independent domestic customer survey carried out on the company's behalf. Northumbrian Water considers there will be enough information to set the PC level in 2017.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	New measure	TBC	TBC	TBC	TBC	TBC

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	This measure is the annual score from the "informed" question taken from the independent domestic customer survey carried out on the company's behalf. Customers respond with a yes/no answer to whether the company have delivered all of the information they want. The company will report the % of
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	customers who say yes. The survey consists of 300 completed interviews carried out quarterly (1,200 annually) in line with the Market Research Society code of conduct (internationally recognised as best practice).
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	Northumbrian Water considers there is not enough information yet to set a PC for this measure. The company has stated that its PC level will be set at the company's best performing year up to 2017. Performance bands will be set using the standard deviation of the three years' performance to 2017.

## Wholesale wastewater outcome F: we protect and enhance the environment in delivering services, leading by example

### Performance commitment S-F1: greenhouse gas emissions

#### Detailed definition of performance measure

This is a measure of the annual amount of greenhouse gases the company produce.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	ktCO <sub>2</sub> e	206	194	183	172	161	150

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The measurement is the annual operational greenhouse gas emissions based on the Carbon Accounting Workbook and is expressed in kilotonnes of carbon dioxide equivalent (ktCO <sub>2</sub> e).
Frequency of PC measurement and any use of averaging	The measure will be assessed on the company's regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a

Any other information or clarifications relevant to correct application of incentive

N/a

## Performance commitment S-F2: annual environmental performance report

### Detailed definition of performance measure

This is a new measure that Northumbrian Water will develop during the 2015-16 to 2019-20 period. The company's measure of success is the annual Corporate Responsibility Advisory Group (CRAG) report on environmental performance and activities. This report is by an independent body and provides evidence of the company's activity and performance.

### Incentive type

Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	N/a	New measure	TBC	TBC	TBC	TBC	TBC

### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

## Additional details

Necessary detail on measurement units	Northumbrian Water states that the independent CRAG will hold the company to account, helping to validate, guide and challenge the company's sustainability strategy and activities. The CRAG is made up of senior representatives from partner organisations to reflect the key areas of the company's communities' strategy.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	The CRAG report will be published on-line. The first report will be published in 2015.

Note: we removed retail outcome A and PC R-A1 as they related to business customers and therefore should not be part of the retail household control.

## Retail outcome B: we provide excellent service and impress our customers

### Performance commitment R-B1: NWL independent overall customer satisfaction score

#### Detailed definition of performance measure

This is a survey to ask customers about their overall satisfaction with the service the company provide. It is the annual score from the 'overall satisfaction' question taken from the independent domestic customer survey carried out on the company's behalf.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	Score	8.2	8.2	8.2	8.2	8.2	8.2

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers score their satisfaction with the company's performance between 0 and 10, the greater the score, the greater the level of satisfaction.
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Frequency of PC measurement and any use of averaging	The measure will be assessed on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment R-B2: SIM

### Detailed definition of performance measure

SIM indicates the level of customer concern with company service and how well the company deals with those concerns. It comprises a combined score of quantitative (contact volumes) and qualitative (survey of customers) figures. The penalty and reward is set by Ofwat. The company has changed the definition of the measure to match Ofwat's document 'Service incentive mechanism (SIM) for 2015 onwards – conclusions' (3 April 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
PCs	No.	89.40	90.00	90.00	90.00	90.00	90.00

## Incentive rates

Incentive type	Incentive rate
Penalty and reward	N/a

## Additional details

Necessary detail on measurement units	For qualitative SIM, an independent survey company is used to complete customer surveys each quarter and provide qualitative scores.  The quantitative aspect of SIM is the number of unwanted customer contacts including repeats and complaints.  The combined score is a calculated score out of 100, split 75-25 for qualitative and quantitative scores.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	Any reward or penalty will be applied at the end of the regulatory period 2015-20.
Form of reward/penalty	Adjustment to revenue.
Any other information or clarifications relevant to correct application of incentive	The calculation of this PC may change following more detailed methodology information from Ofwat.  Penalty or reward is determined by Ofwat.

## Performance commitment R-B3: domestic customer satisfaction, net promoter score

### Detailed definition of performance measure

The net promoter scores (NPS) measures the loyalty that exists between Northumbrian Water and the company's customers. This measure relates to domestic customers.



**Incentive type**

Reputational.

**Performance commitments**

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	32	32	32	32	32	32

**Incentive rates**

Incentive type	Incentive rate
Reputational	N/a

**Additional details**

Necessary detail on measurement units	For domestic customers the “net promoter” results are taken from the independent domestic customer survey carried out on the company’s behalf. The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers answer the question “How likely is it that you would recommend us to a friend or colleague?” Customers will be asked to respond on a 0 to 10 point rating scale.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	To calculate the company’s NPS, the company will take the percentage of customers who are promoters and subtract the percentage who are detractors. The range of scores will be between -100% and +100%.

## Retail outcome C: our customers consider the services they receive to be value for money

### Performance commitment R-C1: NWL independent value for money survey

#### Detailed definition of performance measure

This is a survey to ask customers about their overall satisfaction with the service the company provides. It is the annual score from the 'value for money' question taken from the independent domestic customer survey carried out on the company's behalf.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	Score	7.9	7.9	7.9	7.9	7.9	7.9

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The research consists of 300 completed interviews carried out quarterly (1,200 annually) in line with Market Research Society code of conduct (internationally recognised as best practice). Customers score their satisfaction with the company's performance between one and ten, the greater the score, the greater the level of satisfaction.
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Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment R-C2: satisfied with value for money of water services NW (CCWater)

### Detailed definition of performance measure

CCWater publishes annual research on customers' perceptions of their water and sewerage companies. One element relates to value for money and the company will adopt this measure as it is assessed across both NW and ESW and the company's water and wastewater services. This provides further granularity than the 'value for money' research that the company commissions itself. This measure relates to water services in the company's NW region.

### Incentive type

Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	83	83	83	83	83	83

## Incentive rates

Incentive type	Incentive rate
Reputational	N/a

## Additional details

Necessary detail on measurement units	Percentage of customers who are satisfied with value for money for Northumbrian Water's water services in the company's NW region in the CCWater research.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment R-C3: satisfied with value for money of sewerage services NW (CCWater)

### Detailed definition of performance measure

CCWater publishes annual research on customers' perceptions of their water and sewerage companies. One element relates to value for money and the company will adopt this measure as it is assessed across both NW and ESW and the company's water and wastewater services. This provides further granularity than the 'value for money' research that the company commissions its self. This measure relates to sewerage services in the company's NW region.

**Incentive type**

Reputational.

**Performance commitments**

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	84	84	84	84	84	84

**Incentive rates**

Incentive type	Incentive rate
Reputational	N/a

**Additional details**

Necessary detail on measurement units	Percentage of customers who are satisfied with value for money for sewerage services in the company's NW region in the CCWater research.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	N/a

## Performance commitment R-C4: satisfied with value for money of water services ESW (CCWater)

### Detailed definition of performance measure

CCWater publishes annual research on customers' perceptions of their water and sewerage companies. One element relates to value for money and the company will adopt this measure as it is assessed across both NW and ESW and the company's water and wastewater services. This provides further granularity than the 'value for money' research that the company commissions itself. The measure relates to water services in the company's ESW region.

### Incentive type

Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	73	73	73	73	73	73

### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

### Additional details

Necessary detail on measurement units	Percentage of customers who are satisfied with value for money for the company's water services in its ESW region in the CCWater research.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a

Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	

## Retail outcome D: our customers are well informed about the services they receive and the value of water

### Performance commitment R-D1: NWL independent survey on keeping customers informed

#### Detailed definition of performance measure

This is a new measure that Northumbrian Water will develop during the 2015-16 to 2019-20 period. The measure will be the annual score from the 'informed' question taken from the independent domestic customer survey carried out on the company's behalf. Northumbrian Water considers there will be enough information to set the PC level in 2017.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	%	New measure	TBC	TBC	TBC	TBC	TBC

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a



## Additional details

Necessary detail on measurement units	This measure is the annual score from the “informed” question taken from the independent domestic customer survey carried out on Northumbrian Water’s behalf. Customers respond with a yes/no answer to whether the company have delivered all of the information they want. The company will report the % of customers who say yes. The survey consists of 300 completed interviews carried out quarterly (1,200 annually) in line with the Market Research Society code of conduct (internationally recognised as best practice).
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	Northumbrian Water considers there is not enough information yet to set a PC for this measure. The company has stated that its PC level will be set at the best performing year up to 2017. Performance bands will be set using the standard deviation of the three years’ performance to 2017.

## Retail outcome E: we protect and enhance the environment in delivering services, leading by example

### Performance commitment R-E1: greenhouse gas emissions

#### Detailed definition of performance measure

This is a measure of the annual amount of greenhouse gases the company produce.

#### Incentive type

Reputational.

#### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	ktCO <sub>2</sub> e	206	194	183	172	161	150

#### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

#### Additional details

Necessary detail on measurement units	The measurement is the annual operational greenhouse gas emissions based on the Carbon Accounting Workbook and is expressed in kilotonnes of carbon dioxide equivalent (ktCO <sub>2</sub> e).
Frequency of PC measurement and any use of averaging	The measure will be assessed on the company's regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a

Any other information or clarifications relevant to correct application of incentive

N/a

## Performance commitment R-E2: Annual environmental performance report

### Detailed definition of performance measure

This is a new measure that Northumbrian Water will develop during the 2015-16 to 2019-20 period. The company's proposed measure of success is the annual Corporate Responsibility Advisory Group (CRAG) report on environmental performance and activities. This report is by an independent body to provide evidence of the company's activity and performance.

### Incentive type

Reputational.

### Performance commitments

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
PCs	N/a	New measure	TBC	TBC	TBC	TBC	TBC

### Incentive rates

Incentive type	Incentive rate
Reputational	N/a

## Additional details

Necessary detail on measurement units	Northumbrian Water states that the independent CRAG will hold the company to account, helping to validate, guide and challenge the company's sustainability strategy and activities. The CRAG is made up of senior representatives from partner organisations to reflect the key areas of the company's communities' strategy.
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on regulatory year performance.
Timing and frequency of rewards/penalties	N/a
Form of reward/penalty	N/a
Any other information or clarifications relevant to correct application of incentive	The CRAG report will be published on-line. The first report will be published in 2015.

## Retail outcome F: we are an efficient and innovative company

### Performance commitment R-F1: Delivering a consolidated Customer Information and Billing (CIB) system

#### Detailed definition of performance measure

Under the cost to serve methodology Northumbrian Water will recover the forecast depreciation on its proposed new consolidated Customer Information and Billing (CIB) system based on the projected spend in its business plan. This new ODI protects customers by returning half of any funding for this scheme (via payments for depreciation) back to customers if the outturn costs of the scheme are lower than allowed for in price limits. It allows Northumbrian Water to retain half of any excess funding so that there is an incentive for it to make cost savings on the CIB system and to share them with customers. This ODI also penalises the company for not delivering the CIB system on time by 31 March 2018.

#### 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
PCs	£ million cumulative depreciation	0	N/a	N/a	N/a	N/a	5.493
	Delivery/non-delivery	Non-delivery	Non-delivery	Non-delivery	Delivery	Delivery	Delivery
Penalty 1 collar	£ million cumulative depreciation		N/a	N/a	N/a	N/a	0
Penalty 1 deadband	£ million cumulative depreciation		N/a	N/a	N/a	N/a	5.493

		Starting level	Committed performance levels				
	Unit	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Penalty 2 collar	Delivery/non-delivery		N/a	N/a	Non-delivery	Non-delivery	Non-delivery
Penalty 2 deadband	Delivery/non-delivery		N/a	N/a	Non-delivery	Non-delivery	Non-delivery

### Incentive rates

Incentive type	Incentive rate
Penalty 1	£0.5 per £1 of cumulative depreciation
Penalty 2	£1.25 million per year of non-delivery

### Additional details

Necessary detail on measurement units	<p>The calculation of the performance measure is the cumulative depreciation charge allowed for in price limits for the delivery of the new CIB system.</p> <p>Delivery is measured by 80% of Northumbrian Water's directly billed customers being handled through the new consolidated CIB system. Performance will be monitored through Northumbrian Water's standard approach for PC/ODI reporting to the CCG. Should the delivery programme fall materially behind programme, this will be disclosed in the company's annual regulatory report.</p>
Frequency of PC measurement and any use of averaging	The measure will be assessed annually on the company's regulatory year performance.
Timing and frequency of rewards/penalties	Annually. The company's first assessment will be made for 2015-16. Penalty 1 will only apply in 2019-20. Penalty 2 will only apply from 2017-18 onwards.
Form of reward/penalty	Revenue adjustment.
Any other information or clarifications relevant to correct application of incentive	Penalty rate 1 applies at the end of 2019-20. Penalty rate 1 returns half of any funding for the CIB system (via payments for depreciation) back to customers if the outturn costs of the programme are lower than assumed in Northumbrian Water's

business plan.

Penalty rate 2 applies cumulatively that is, if the CIB system is not delivered until 1 June 2019 a penalty of £1.25m applies once for non-delivery in 2018-19 and pro rata for non-delivery between 1 April 2019 and 1 June 2019.

Both Penalty rate 1 and Penalty rate 2 can apply at the same time. For example, if Northumbrian Water did not spend anything on the new CIB system in 2015-16 to 2019-20 the company would be required to pay half of all the cumulative depreciation funded in price limits back to customers (Penalty 1) and the company would be required to pay 2 times Penalty rate 2 to customers.

## Outcome delivery and reporting

In policy chapter A2, we outline a framework against which we have assessed Northumbrian Water's proposals in relation to outcome delivery and reporting.

The table below summarises Northumbrian Water's proposed approach to the measurement, reporting and governance of outcomes and our assessment of this approach.

**Table AA4.9 Northumbrian Water's proposals for outcome delivery and reporting**

Northumbrian Water's proposals	Our assessment
<p>In its business plan submitted in May, Northumbrian Water stated that it has developed quality-controlled data methodologies for all its PCs. The company proposes to measure PC data using the existing processes and procedures established for current regulatory key performance indicator (KPI) reporting. The company has designated a formal data owner, data reviewer and senior manager reviewer for each PC.</p> <p>The company will monitor and manage its PCs using monthly and quarterly company scorecards. These will be reviewed by the Board, Executive Management Team and Water Forum (CCG).</p>	<p>In our methodology statement, we set out our expectation that companies should demonstrate that their proposed PCs can be measured and recorded 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.</p> <p>Northumbrian Water has provided sufficient evidence demonstrating the approach it will undertake to ensure the PCs will be measured and reported consistently, and the proposed governance and assurance processes. Therefore, we have accepted the</p>

Northumbrian Water's proposals	Our assessment
<p>The Board Audit Committee will oversee the reporting assurance processes. The performance data and incentive calculations will be subject to internal audit scrutiny and independent technical assurance.</p> <p>To keep customers informed of the progress they are making, the company will publish an annual performance review. This will set out performance against each measure. This report will also detail the rewards the company has earned for outperformance and similarly the penalties that they have incurred for underperformance.</p>	<p>company's proposal.</p> <p>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.</p>



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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